Copyright Statement

The digital copy of this thesis is protected by the Copyright Act 1994 (New Zealand).

This thesis may be consulted by you, provided you comply with the provisions of the Act and the following conditions of use:

- Any use you make of these documents or images must be for research or private study purposes only, and you may not make them available to any other person.
- Authors control the copyright of their thesis. You will recognise the author's right to be identified as the author of this thesis, and due acknowledgement will be made to the author where appropriate.
- You will obtain the author's permission before publishing any material from their thesis.

To request permissions please use the Feedback form on our webpage. http://researchspace.auckland.ac.nz/feedback

General copyright and disclaimer

In addition to the above conditions, authors give their consent for the digital copy of their work to be used subject to the conditions specified on the Library Thesis Consent Form and Deposit Licence.

Note: Masters Theses

The digital copy of a masters thesis is as submitted for examination and contains no corrections. The print copy, usually available in the University Library, may contain corrections made by hand, which have been requested by the supervisor.
THE ART OF WAR
IN
PHARAONIC EGYPT

An Analysis of the Tactical, Logistic, and Operational Capabilities of the Egyptian Army
(Dynasties XVII-XX)

by

Brett H. Heagren

A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy in Ancient History, The University of Auckland, 2010
The primary objective of this thesis is to prove that by the New Kingdom the Egyptian army was practicing a rudimentary form of warfare known in current military circles as Operational Art. The acknowledgement of the concept of operational art has only been a recent development being tied closely to the awareness of an intermediate level of war, termed the operational level. It is at this level we find military actions that belong neither to the tactical nor strategic levels.

In order to ascertain whether the Egyptians did indeed practice this form of warfare, this study examines the military capabilities of the Egyptian army with particular emphasis on its tactical, logistic, and operational capabilities. Each of these areas is analysed in detail and with particular reference to the three primary strategic theatres where the Egyptians campaigned: Asia; Libya; and Nubia.

Overall, it is argued that the Egyptians appreciated the importance of operational level actions in their military encounters and that they themselves were practitioners of operational art especially by the New Kingdom. This would confirm that their military machine and doctrine had reached a high level of sophistication. This would also tend to argue that not only is the concept of an intermediate, operational, level of war a potentially timeless element, but that the temporal origins of operational art itself must be pushed back far earlier than previously thought.
To my wonderful and understanding wife, Yaowarat, who has supported me throughout, my two children Christopher and Samantha, and baby Alexandria who will always be in our hearts
ACKNOWLEDGEMENTS

Over the period of time I have been working on this thesis, I have had the support of many wonderful and kind people. First and foremost, I would like to thank my supervisor, Professor Anthony Spalinger, for his continued, unwavering support and guidance, and not to mention his unshakable confidence in me. Further thanks must also go to my long suffering Head of Department, Dr Marcus Wilson, who has been equally supportive, as has our Departmental Secretary Pauline Brill and our Librarian John Young. Françoise Godet must also be thanked for the valuable formatting assistance she has provided me and for her continued encouragement. I would also like to extend a very special thank you for the valuable help and advice provided to me by Professor Milan Vego of the U.S. Naval War College of Rhode Island. Without his guidance with assisting me with my preliminary forays into operational warfare, I doubt if I would have been able to progress in this topic.

I have also been extremely fortunate to have received in terms of financial support the Foundation for Research Science and Technology Top Achiever Doctoral Scholarship as well as the University of Auckland Doctoral Scholarship. Further financial support was provided to me by the Faculty of Arts Research Fund and also the Department of Classics and Ancient History. It was only through this assistance was I able to embark, and continue, with this project. Also from a financially supportive role, I must give my wholehearted thanks to Gretchen Lutz-Spalinger for being very understanding with respect to balancing my thesis and work commitments.

I am also indebted to my many friends and colleagues who have provided me with valuable emotional support throughout this long journey. Thanks must especially go to my good friend Kenneth Porter, who has continued to encourage me throughout this project and has and continues to be a valuable confidante. A very special word of thanks must go to my family, my wife Yaowarat and my two children Christopher and Samantha. Finally, I must also thank my parents for if was not with their initial support in helping me through my early University days, I doubt I ever would have been able to reach this far.
# TABLE OF CONTENTS

ABSTRACT iii

DEDICATION v

ACKNOWLEDGEMENTS vii

TABLE OF CONTENTS ix

LIST OF FIGURES xiii

LIST OF TABLES xvii

ABBREVIATIONS xix

INTRODUCTION 1

## PART I

TACTICS

CHAPTER I: Battlefield Tactics 15

**Battlefield Tactics: Pictorial Evidence** 17

*The Army in Formation* 18

*King versus the Enemy Army* 44

*Hand-to-hand Combat* 57

*Missile Combat on Foot* 69

*Chariot Warfare* 74

*Scouting* 88

*Conclusions: The Question of Combined Arms Warfare* 89

CHAPTER II: Siege Warfare 97

**Late Predynastic Period - Old Kingdom** 100

*Late Predynastic and Early Dynastic Periods* 100
Old Kingdom 102

First Intermediate Period - Middle Kingdom 106

Second Intermediate Period - New Kingdom 115

Dynasty XVIII 116

Dynasty XIX 125

Dynasty XX 142

Ritual and the Fall of the City 146

Conclusions: Egyptian Assault Tactics 150

PART II
LOGISTICS

CHAPTER III: Logistics - Supply and Provision 159

Elements of Logistics 160

Types of Provisions (Supply needs and Rations) 161

A Soldier’s Rations 161

Fodder 179

Wood 182

Water 184

Logistics Supply Options 189

Living off the Land 189

Supply Trains 194

Transportation of Resources 207

Egypt’s Strategic Theatres: A Logistics Perspective 209

Asia 211

Nubia 223

Libya 231
Conclusions: The Geography of Logistics 239

CHAPTER IV: The Strategy of Logistics 243

Logistics Pertaining to the Three Levels of War 244

Strategic Level Logistics 245

Operational Level Logistics 253

Tactical Level Logistics 258

Logistics Networks 260

The Logistics Network in Asia 261

The Logistics Network in Libya 273

The Logistics Network in Nubia 283

Operational Level bases within Egypt 300

Counter Logistics 301

Treatment of Enemy Cities 304

Treatment of the Inhabitants 306

Treatment of Crops and Livestock 310

Logistic Defensive Strategies 317

Counter Logistics at the Three Levels of War 318

Conclusions: Logistics and Egyptian Warfare 324

PART III
OPERATIONAL LEVEL

CHAPTER V: The Operational Level and Egyptian Warfare 329

Operational Parameters 330

Space 330
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fig. 1.1</td>
<td>Tomb of <em>Hty</em> (Tomb IV)</td>
<td>19</td>
</tr>
<tr>
<td>Fig. 1.2</td>
<td>Tomb of an unidentified Nomarch (Magee Tomb 13; H11.1)</td>
<td>20</td>
</tr>
<tr>
<td>Fig. 1.3</td>
<td>Tomb of the nomarch Iti-ibi-iqer (I)</td>
<td>20</td>
</tr>
<tr>
<td>Fig. 1.4</td>
<td>Tomb of the nomarch Iti-ibi-iqer (II)</td>
<td>21</td>
</tr>
<tr>
<td>Fig. 1.5</td>
<td>Tomb of Ankhtify of Mo‘alla</td>
<td>22</td>
</tr>
<tr>
<td>Fig. 1.6</td>
<td>Tomb of Mesehti at Asyut - Egyptian (left) and Nubian (right) formations</td>
<td>22</td>
</tr>
<tr>
<td>Fig. 1.7</td>
<td>Tutankhamun’s Lion Hunt (without king’s chariot represented)</td>
<td>23</td>
</tr>
<tr>
<td>Fig. 1.8</td>
<td>Asiatic battle scene (left) and Nubian battle scene (right)</td>
<td>24</td>
</tr>
<tr>
<td>Fig. 1.9</td>
<td>Horemhab’s Nubian Campaign</td>
<td>25</td>
</tr>
<tr>
<td>Fig. 1.10</td>
<td>The Na‘arn division at Qadesh (Abydos “A”)</td>
<td>26</td>
</tr>
<tr>
<td>Fig. 1.11</td>
<td>The Amun (left) and Na‘arn (right) divisions at Qadesh (Abydos “A”)</td>
<td>27</td>
</tr>
<tr>
<td>Fig. 1.12</td>
<td>Egyptian and Sherden soldiers at Qadesh I (Abydos “A”)</td>
<td>27</td>
</tr>
<tr>
<td>Fig. 1.13</td>
<td>Egyptian and Sherden soldiers at Qadesh II (Abydos “A”)</td>
<td>28</td>
</tr>
<tr>
<td>Fig. 1.14</td>
<td>Na‘arn division at Qadesh (Luxor “L3”)</td>
<td>29</td>
</tr>
<tr>
<td>Fig. 1.15</td>
<td>Na'arn division at Qadesh (Luxor “L1”)</td>
<td>30</td>
</tr>
<tr>
<td>Fig. 1.16</td>
<td>King’s bodyguard and Amun division at Qadesh (Luxor “L1”)</td>
<td>31</td>
</tr>
<tr>
<td>Fig. 1.17</td>
<td>Ptah division at Qadesh (Luxor “L1”)</td>
<td>31</td>
</tr>
<tr>
<td>Fig. 1.18</td>
<td>Na‘arn (far left) and Amun (right) divisions at Qadesh (Karnak “K2”)</td>
<td>31</td>
</tr>
<tr>
<td>Fig. 1.19</td>
<td>Sherden and Egyptian Infantry at Qadesh (Karnak “K2”)</td>
<td>32</td>
</tr>
<tr>
<td>Fig. 1.20</td>
<td>The Na‘arn division at Qadesh (Abu Simbel “I”)</td>
<td>33</td>
</tr>
<tr>
<td>Fig. 1.21</td>
<td>Amun division at Qadesh (Abu Simbel “I”)</td>
<td>33</td>
</tr>
<tr>
<td>Fig. 1.22</td>
<td>Na‘arn division (Ramesseum “R1”)</td>
<td>34</td>
</tr>
</tbody>
</table>
Fig. 1.23: Egyptian Infantry and Chariots at Satuna (Luxor) 35

Fig. 1.24: Egyptian Infantry outside ṭrḥ and ṭ (left) and outside an unidentified city and Krmjn (right) 36

Fig. 1.25: Egyptian Infantry marching into battle: First Libyan War (Medinet Habu) 37

Fig. 1.26: Egyptian Infantry and auxiliaries marching into battle: First Libyan War (Medinet Habu) 38

Fig. 1.27: Egyptian army marching into battle: Sea Peoples Campaign (Medinet Habu) 39

Fig. 1.28: Egyptian Infantry and auxiliaries: Lion Hunt (Medinet Habu) 40

Fig. 1.29: Egyptian Infantry and auxiliaries: Second Libyan War: parts 1-4 (Medinet Habu) 41

Fig. 1.30: Egyptian Infantry and Chariots: Second Libyan War (Medinet Habu) 42

Fig. 1.31: Infantry supported by archers close in on the Libyans: Second Libyan War (Medinet Habu) 42

Fig. 1.32: Chariots move parallel down the line of the enemy troop formation (Schulman) 82

Fig. 1.33: Chariots seek out enemy flanks and rear (Mayer and Mayer-Opificius) 83

Fig. 1.34: Pursuit of the defeated enemy force (Mayer and Mayer-Opificius) 86

Fig. 3.1: Level of Hostility in Relation to Duration and Intensity of Exploitation 193

Fig 3.2: The Sinai Fortresses (after: E. Morris, The Architecture of Imperialism, 404-43) 217

Fig 4.1: Basic schematic of Egypt’s Asiatic logistics network (c. time of Thutmose III) 265

Fig. 4.2: Fortress network in Libya (Dynasty XIX) 276

Fig. 4.3: Fortress network in Nubia at the time of Sesostris I 286

Fig. 4.4: Northern part of the fortress network at the time of Sesostris III 290

Fig. 4.5: Southern part of the fortress network at the time of Sesostris III 293
Fig. 4.6: The fortress network in Nubia (c. Thutmose III)  297
Fig. 4.7: The fortress network in Nubia - late Dynasty XVIII early Dynasty XIX  299
Fig. 4.8: The three primary logistic targets  303
Fig. 5.1: Factor of Time – Offensive Military Actions  338
Fig. 5.2: Factor of Time – Defensive Military Actions  349
Fig. 5.3: The interplay of factors determining operational ability  377
Fig. 6.1: A possible instance of Operational Art  449
Fig. 6.2: Pre-battle manoeuvring at Qadesh  451
### LIST OF TABLES

Table 1.1: Key for following figures of Egyptian Troop Formations 18

Table 2.1: City assault scenes of Sety I (Karnak) 126
Table 2.2: City assault scenes of Ramesses II (Amara West) 127
Table 2.3: City assault scene of Ramesses II (Beit el-Wali) 127
Table 2.4: City assault scenes of Ramesses II (Karnak: West Side) 128
Table 2.5: City assault scenes of Ramesses II (Karnak: East Side) 130
Table 2.6: City assault scenes of Ramesses II (Luxor: East Wall) 131
Table 2.7: City assault scenes of Ramesses II (Luxor: West Wall) 132
Table 2.8: City assault scenes of Ramesses II (Ramesseum) 134
Table 2.9: City assault scene of Ramesses II (Ramesseum: East Wall) 135
Table 2.10: City assault scene of Ramesses II (Abu Simbel) 138
Table 2.11: City assault scenes of Ramesses II (Abydos) 139
Table 2.12: City assault scenes of Merenptah (Karnak) 140
Table 2.13: City assault scenes of Ramesses III (Medinet Habu) 143
Table 3.1: Provisions as listed on the Silsileh Stela 169
Table 3.2: Estimated Calorie and Protein Levels 172
Table 3.3: Estimated Daily Ration for an Egyptian Soldier 173
Table 3.4: Provisions as listed in Pap. Anastasi I 177
Table 6.1: Chariot as Tactical Centre of Gravity 426
Table 6.2: Archers as Tactical Centre of Gravity 428
Table 6.3: Infantry as Tactical Centre of Gravity 428
Table 6.4: Combined Arms Infantry division as Operational Centre of Gravity 431
Table 6.5: Independent Chariot Formation as Operational Centre of Gravity 432
Table 6.6: Military Alliances as a possible Centre of Gravity 433
Table 6.7: The Armed Forces as a Strategic Centre of Gravity 433
Table 6.8: Sequential Operations – Antef II 456
Table 6.9: Sequential Operations – Thutmose III 457
Table 6.10: Sequential Operations (I) – Amenhotep II 459
Table 6.11: Sequential Operations (II) – Amenhotep II 460
Table 6.12: Sequential Operations – Ramesses II 461
Table 6.13: Sequential Operations – Merenptah 462
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHL</td>
<td>Archaeology and History in Lebanon</td>
</tr>
<tr>
<td>AJA</td>
<td>American Journal of Archaeology</td>
</tr>
<tr>
<td>AJSLL</td>
<td>American Journal of Semitic Languages and Literature</td>
</tr>
<tr>
<td>ASAE</td>
<td>Annales du Service des Antiquités de l’Égypte</td>
</tr>
<tr>
<td>BACE</td>
<td>Bulletin of the Australian Centre for Egyptology</td>
</tr>
<tr>
<td>BAR</td>
<td>Biblical Archaeology Review</td>
</tr>
<tr>
<td>BASOR</td>
<td>Bulletin of the American Schools of Oriental Research</td>
</tr>
<tr>
<td>BIFAO</td>
<td>Bulletin de l’Institut Français d’Archéologie Orientale</td>
</tr>
<tr>
<td>BMSAES</td>
<td>British Museum Studies in Ancient Egypt and Sudan</td>
</tr>
<tr>
<td>BRE</td>
<td>Breasted, J., Ancient Records of Egypt</td>
</tr>
<tr>
<td>BSFE</td>
<td>Bulletin de la Société française d’égyptologie</td>
</tr>
<tr>
<td>CA</td>
<td>Classical Antiquity</td>
</tr>
<tr>
<td>CdE</td>
<td>Chronique d’Égypte, Musée royaux d’art et d'histoire</td>
</tr>
<tr>
<td>CQ</td>
<td>Classical Quarterly</td>
</tr>
<tr>
<td>CRIPEL</td>
<td>Cahiers de recherches de l'institut de Papyrologie et d’Egyptologie de Lille: Sociétés Urbaines en Égypte et au Soudan</td>
</tr>
<tr>
<td>EA</td>
<td>Egyptian Archaeology</td>
</tr>
<tr>
<td>EI</td>
<td>Eretz Israel</td>
</tr>
<tr>
<td>GM</td>
<td>Göttinger Miszellen</td>
</tr>
<tr>
<td>IEJ</td>
<td>Israel Exploration Journal, Jerusalem</td>
</tr>
<tr>
<td>JAOS</td>
<td>Journal of the American Oriental Society</td>
</tr>
<tr>
<td>JARCE</td>
<td>Journal of the American Research Center in Egypt</td>
</tr>
<tr>
<td>JAS</td>
<td>Journal of Archaeological Science</td>
</tr>
<tr>
<td>JEA</td>
<td>Journal of Egyptian Archaeology, Egypt Exploration Society</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Title</td>
</tr>
<tr>
<td>--------------</td>
<td>-------</td>
</tr>
<tr>
<td>JEOL</td>
<td>Jaarbericht van het Vooraziatisch-Egyptisch Genootschap “Ex Oriente Lux.”</td>
</tr>
<tr>
<td>JESHO</td>
<td>Journal of the Economic &amp; Social History of the Orient</td>
</tr>
<tr>
<td>JFQ</td>
<td>Joint Force Quarterly</td>
</tr>
<tr>
<td>JHS</td>
<td>Journal of Hellenic Studies</td>
</tr>
<tr>
<td>JMH</td>
<td>Journal of Modern History</td>
</tr>
<tr>
<td>JNES</td>
<td>Journal of Near Eastern Studies</td>
</tr>
<tr>
<td>JSAA</td>
<td>Journal of the Society of Archer-Antiquaries</td>
</tr>
<tr>
<td>JSSEA</td>
<td>Journal of the Society for the Study of Egyptian Antiquities</td>
</tr>
<tr>
<td>JSOT</td>
<td>Journal for the Study of the Old Testament, Sheffield</td>
</tr>
<tr>
<td>KRI</td>
<td>Kitchen, K. A., Ramesside Inscriptions: Historical and Biographical</td>
</tr>
<tr>
<td>MDAIK</td>
<td>Mitteilungen des Deutschen Archäologischen Instituts Abteilung Kairo</td>
</tr>
<tr>
<td>PEQ</td>
<td>Palestine Exploration Quarterly</td>
</tr>
<tr>
<td>RdE</td>
<td>Revue d'Égyptologie</td>
</tr>
<tr>
<td>RITA</td>
<td>Kitchen, K. A., Ramesside Inscriptions: Translated &amp; Annotated – Translations</td>
</tr>
<tr>
<td>RITANC</td>
<td>Kitchen, K. A., Ramesside Inscriptions: Translated &amp; Annotated – Notes and Comments</td>
</tr>
<tr>
<td>SAK</td>
<td>Studien zum altägyptischen Kultur</td>
</tr>
<tr>
<td>SMEA</td>
<td>Studi Micenei ed Egeo-Anatolici</td>
</tr>
<tr>
<td>TA</td>
<td>Tel Aviv</td>
</tr>
<tr>
<td>UF</td>
<td>Ugarit-Forschungen</td>
</tr>
<tr>
<td>VT</td>
<td>Vetus Testamentum</td>
</tr>
<tr>
<td>WA</td>
<td>World Archaeology</td>
</tr>
<tr>
<td>WdO</td>
<td>Die Welt des Orients</td>
</tr>
<tr>
<td>Abkürzung</td>
<td>Zeitschriftstitel</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------------</td>
</tr>
<tr>
<td><em>WZKM</em></td>
<td>Wiener Zeitschrift für die Kunde des Morgenlandes</td>
</tr>
<tr>
<td><em>ZÄS</em></td>
<td>Zeitschrift für ägyptische Sprache und Altertumskunde</td>
</tr>
<tr>
<td><em>ZDPV</em></td>
<td>Zeitschrift des deutschen Palästina-Vereins</td>
</tr>
</tbody>
</table>
INTRODUCTION

In today’s military circles, it is now generally accepted that war operates on three interrelated, but nonetheless quite distinct, levels. The first and lowest of these is the tactical level, which as we will cover in Chapters I and II, is concerned primarily with pre battle positioning, the act of battle itself, and actions following its immediate aftermath. The third and highest level of war (before ascending to the all encompassing echelon of Grand Strategy), on the other hand, is the strategic level which involves the selection of strategic objectives, and subsequently, the concentration and employment of armies (and navies) with respect to a specific theatre of war (i.e. the strategic theatre) in order to achieve those predefined strategic objectives. It is also at this level where military considerations are interwoven with (or rather dictated by) political goals and personal aspirations. Between these two extremes lies the rather elusive but militarily vital operational level, and it is here where we should find evidence for the manoeuvring of armies for creating the right conditions in order for battle to take place and thus, ultimately, to achieve the above mentioned predefined strategic objectives. Indeed, the basic mission of the commander at the operational level is “to determine the sequence of actions most likely to produce the military conditions that will achieve the strategic goals”. It is at this level that the importance of the “campaign” is best illustrated. A military campaign serves as the building block for strategic success and in many respects represents the essence of the operational level of war itself. By

---

1 There is a definite need for a harmonious relationship between political/military goals or desires and real military capabilities, see, for example: A. Irwin, The Levels of War: Operational Art and Operational Planning (Camberley, 1993), 4-10; E. Luttwak, Strategy: The Logic of War and Peace (Cambridge, MA, 2001), passim; D. Jablonsky, “Strategy and the Operational Level of War: Part 1”, Parameters 17 (1987), 66-8.

2 As “Operational Level” is a fairly recent addition to the ever growing corpus of military terminology, publications dealing specifically with this level of war as well as the associated concept of “Operational Art” (see below) are still, not surprisingly, few in number. Notable studies, however, include the following: M. Vego, “Policy, Strategy, and Operations”, in Strategic Logic and Political Rationality, B. Lee and K. Walling (eds.), (London, 2003), 119-36; M. Vego, Operational Warfare (Newport, 2000); D. Jablonsky, “Strategy”, 65-76; E. Cohen, “Distant Battles: Modern War in the Third World”, International Security 19.4 (1986), 149-55; E. Luttwak, “The Operational Level of War”, International Security 5.3 (1980/1), 61-79. The realisation that such a term was needed to describe this “intermediate level” of war has been acknowledged for some time, and J. C. Fuller, followed by Basil Liddell Hart, wrote of “Grand Tactics”, a concept first introduced in the 1830s by Baron Jomini. This concept, however, was never developed further by the British military, see: J. Kiszely, “Thinking about the Operational Level”, Royal United Services Institute 150.6 (2005), 38-9. The American variant (which is used for the purposes of this study) has, on the other hand, gained far more acceptance and is now considered a key element of U.S. military doctrine, see especially: U.S. Army, Field Manual FM 100-3: Operations (Washington, D.C., 1993); and U.S. Army, Field Manual FM 100-7: Decisive Force: The Army in Theatre Operations (Washington, D.C., 1995).

not acknowledging the existence of this level of war, which is arguably a timeless military phenomenon, one cannot truly understand the relationship between strategy and tactics.\textsuperscript{4}

For any commander to achieve military success, all three levels of war must be given their due respect. Military deficiency at, or the complete absence of understanding of any one of these levels when conducting military actions generally cannot be compensated for with actions undertaken at the other levels.\textsuperscript{5} It is important therefore, that actions at the strategic level should always dictate actions at the operational level, and likewise, what happens at the operational level must in turn influence what occurs at the tactical level. In the case of the Egyptian military, given that they only possessed finite (and in some cases quite limited) resources and time available for their campaigns, coupled with the large amount of preparation needed in order to conduct a campaign in the first place, it is inconceivable that they would have engaged in military actions without a firm strategic and alternative objectives in mind.

\textbf{Operational Art}

The identification and acceptance of an operational level of war is only part of the equation, however. Rather, it is certain military actions, termed collectively as “operational art” by modern military writers, which occur within this level that are of most interest to us.\textsuperscript{6}


\textsuperscript{5} See, for instance, the historical example of General Erwin Rommel and his North African campaign: \textit{ibid.}, 236-9. His spectacular successes at the lower levels of war only served to forestall eventual military disaster due to an absence of a clear or obtainable strategic objective. The Athenian Sicilian Expedition, on the other hand, is an ideal example of military failure at all three levels. While the Athenians achieved some initial success at the strategic level in that the (first) expedition reached the island in good order and with minimal loss, their subsequent performance at both the operational and tactical levels was abysmal (see also the brief comments of M. Handel, \textit{Masters of War: Classical Strategic Thought} (London, 1992), 167-8). Their Syracusan enemy, who had little recent experience in war, exhibited greater operational ability, especially under the Spartan commander Gylippus, and as the campaign progressed they became tactically more proficient both in their land and naval (!) encounters with the Athenians and their allies. Furthermore, and most damning of all, the strategic objectives were unrealistic (which at one point included the capture of Sicily, Italy, Carthage and supposedly Iberia). Even worse, the whole expedition was an unnecessary distraction and only served to gravely undermine Athenian chances of a victory against Sparta. Overall, the mismatch between strategic desire and military reality was extreme, see: Thucydides, \textit{History of the Peloponnesian War}, trans. Rex Warner, (London, 1972), VI. 8-77, hereafter cited as Thucydides; and for a more recent analysis of the failure of this expedition: D. Kagan, \textit{The Peloponnesian War} (New York, 2003), 251-323.

\textsuperscript{6} On Operational Art, see (in addition to those publications listed in note 2 (above)): M. D. Krause and R. Cody Phillips (eds.), \textit{Historical Perspectives of the Operational Art} (Washington, D.C., 2005); C. Telp, \textit{The Evolution of Operational Art: 1740-1813} (London, 2005); and A. McIvor (ed.), \textit{Rethinking the Principles of War} (Annapolis, 2005).
The official U.S. military definition of operational art, and one that will adhered to in the course of this study, is provided as follows:

“The employment of military forces to attain strategic goals through the design, organization, integration, and execution of battles and engagements into campaigns and major operations. In war, operational art determines when, where, and for what purpose major forces will fight over time.”

As we can see from the definition above, operational art is not completely tied to the operational level. By its nature, it extends into the strategic level – the sole purpose of employing operational art is to achieve strategic objectives. At the other end of the spectrum, operational art descends into the tactical level in that it is the proper sequencing of tactical battles which will eventually lead to overall military success. Another consideration to note is that while one can argue that the operational level of war may be a timeless phenomenon, this may not be the case with operational art. Indeed, it was the Soviets who first introduced this term into military doctrine during the 1920s and then went on to put it into practice during their offences against the German army in the latter part of World War II. Subsequent to this, and as a response to the perceived threat of a Soviet invasion of Western Europe, among other factors, this doctrine was adopted by the Americans (and ultimately their allies) and incorporated into their own existing military doctrines. Following the recognition, acceptance and subsequent adoption of operational art by the western militaries, western military writers have since attempted to trace its true origins in the history of warfare. The initial view was that operational art developed at some point during the 19th century possibly either originating with the wars of Napoleon Bonaparte, or alternatively, with the American Civil War. In his recent book, Claus Telp, on the other hand, looks slightly further back in time and believes the wars of Frederick the Great were the catalyst for its development.

---

7 Field Manual FM 100-5 Operations, 6.2 and Glossary-6.
8 M. D. Krause and R. Cody Phillips (eds.), Historical Perspectives, 8-11.
9 Ibid., 12-6.
10 As argued by: Robert M. Epstein, Napoleon’s Last Victory: 1809 and the Emergence of Modern War (Ft. Leavenworth, 1992), 1-14. Epstein emphasises the importance here of symmetrical conscript armies divided into corps capable of conducting sequential and simultaneous tactical engagements, ibid., 5.
11 When technology, such as the development of the telegraph and the railway, among other things, allowed for multiple field units to be deployed and controlled over an extended geographical area. The main proponent of
This (western centric) view has, however, been challenged by a number of military writers who have attempted to push back considerably the temporal origins of operational art. One such writer has argued that the Mongol army possessed the military capabilities for operational warfare, while yet another has convincingly argued that Alexander the Great was its true originator. The contribution of these authors is important for two key reasons. First, they both utilise the current U.S. military’s definition (as given above) and both follow established principles of operational art as a basis for their arguments. Second, both authors have found serious flaws with the view that it was a creation of the 19th century. Moving even further back in time, two articles of Abraham Malamat dealing with the Israelite conduct of war during the Iron Age also convincingly describe what can now be called operational art. Yet at the time that author wrote those articles, neither the terms “operational art” nor “operational level” had gained universal acceptance within western military circles. Thus Malamat instead utilised Basil Liddel Hart’s rather innovative term “the indirect approach” in order to describe Israelite military operations that occurred above the tactical level and below the strategic level. The military actions that he describes are, however, what we would now consider to be vital elements of operational art. General census among these many differing views is that operational art developed once it became clear that military commanders could

---

this view is: James Schneider, “Vulcan’s Anvil: The American Civil War and the Emergence of Operational Art” Theoretical Paper No. 4, School of Advanced Military Studies (Ft. Leavenworth, 1991).


16 Liddell Hart equated the indirect approach more with the strategic level whereas Malamat applies it closer to the tactical plane. The term remains in use in some circles as noted, for example, in Colleen Manassa’s recent study, The Great Karnak Inscription of Merneptah: Grand Strategy in the 13th Century BC (New Haven, 2003). She uses the term to describe Merey’s military actions during the Year 5 Libyan invasion of Egypt, ibid., 99 especially note 131.

17 Probably the best testament to the “timelessness” of the operational level and operational art is the existence in ancient (and modern) Chinese military circles of the concept of “Shih”. In their illuminating examination of this military culture, William Mott IV and Jae Chang Kim saw that “Shih” clearly embodied many of the key elements of operational art, W. H. Mott IV and J. Chang Kim, The Philosophy of Chinese Military Culture (New York, 2006), 15-44.
no longer win by solely relying on the “strategy of a single point”. Instead, to achieve military victory, it was necessary to undertake a *series* of battles over space and time. The space aspect is important, and is one of the key prerequisites of operational art that we will examine in detail. Indeed, and as well shall see, the commander must look beyond the immediate environs of the battlefield and be able to control (or coordinate) multiple forces simultaneously over a wide geographical area.

It is with this in mind that we will address in the following chapters, the possibility of whether or not the Egyptians developed and utilised a rudimentary form of “operational art” in their military campaigns. In doing so, we will, as well as following the definition as provided above, also attempt to apply the pertinent criteria that are necessary for the identification of “operational art” as laid down in current U.S. military theory. It must be stressed at this juncture that operational art from a modern perspective, now encompasses a wide range of features that are not applicable to ancient warfare. Nonetheless, it will be argued that the core elements of operational art may indeed have relevancy with respect to the military capabilities of the Egyptian army and the current technology of the time. Furthermore, by focusing on the operational level of war we are able to view Egyptian warfare from a rather unique perspective. Examining how the Egyptians not just moved, but rather *manoeuvred* their armies while on campaign in order to achieve local tactical, operational, and ultimately strategic success in a specific geographical environment may aid in our understanding of their true military capabilities and answer the question of whether or not they conceived of the idea that military success could be achieved above and beyond the standard tactical battle. If an Egyptian operational art can be identified, we must also consider the possibility of whether or not we can trace its evolution as the result of either external or internal factors over time. In other words, while one’s strategic objectives may always remain the same (the capture of Qadesh for example) as well as one’s tactical abilities (siege warfare and standard infantry tactics), changes at the operational level may mean that the army is able to achieve victory in a completely different manner or fashion than was possible in the past.

---

18 Or the so-called “Classical Military Strategy”, where armies moved in plodding single dense masses with little or no ability for complex manoeuvre. Upon reaching the battlefield, fighting would take place at this single point between the two opposing masses within a very restricted geographical area: D. Pittard, *Thirteenth Century Mongol Warfare*, 2-3.

19 This will be the main focus of Chapter VI.

20 See especially: M. Vego, *Operational Warfare, passim* for a complete analysis of all the modern key features of operational warfare. Essentially, operational art should be seen as something that is constantly evolving as it incorporates new technologies and is adapted to ever changing military environments, as was the case with the Egyptians.
Chapter Outline

With respect to the core thesis idea, the first two chapters will deal with the tactical level of Egyptian warfare as it is here we will determine the basic parameters or nature of Egyptian warfare. In particular, we will attempt to determine whether Egyptian tactical equipment and warfare practices were best suited for engaging in “attritional” or “relational” forms of combat. This is a fundamental factor to consider. If the Egyptian army adhered to a predominantly attritional type of warfare employing monotone combat forces in battle against similarly armed opponents, then the likelihood that an Egyptian operational art existed would have been minimal. In this respect, Chapter I looks exclusively at the battlefield tactics of the Egyptian army with particular emphasis on the utilisation of weapons and formations as depicted in the various battle images. The images of Egyptian soldiers in combat formation especially will receive attention as these can tell a lot about how operationally minded an army may have been. Descending even lower to the technical level of war, where we examine the merits of particular weapons systems measuring both their physical and performance qualities, our treatment here will also be highly selective. It is not the objective of this study to provide an in depth analysis of the physical characteristics of the weapons employed by the Egyptians, rather our examination of the weaponry will pertain more to what weapons were utilised and how they were employed on the battlefield. In particular, it is our goal to identify those weapons that made an impact at the operational level. We will then examine how the Egyptians fought with particular attention paid to the type of weapons employed (short range or long range) and their military effectiveness (firepower), and more important, the manoeuvrability of the weapon. Finally, we will examine if and how the Egyptians employed all these components in battle. The focus throughout this chapter remains on battle images, and this is for two main reasons. First, the textual accounts are less informative to actions that occur at the tactical level, and second, the focus of the battle images, which tend to provide neat snapshots of battle at its climax, is predominantly on actions that occur at the tactical level.

In Chapter II, the emphasis will shift away from the battlefield to an examination of the tactics utilised to conquer fortified targets. This can tell us a lot about the operational abilities of the attacking army. In this respect, we will be paying particular attention to the siegecraft capabilities of the Egyptian army and how these capabilities evolved over time. What is of importance here is determining what methods the Egyptians favoured when
assaulting a hostile city or fortress. If there is a clear indication to the preference of utilising quick indirect assault methods and a conscious avoidance of siege warfare, this would argue for a military force that favoured operational level manoeuvring. In this respect, the idea that the Egyptians possessed insufficient tactical skills for assaulting fortified targets will especially be addressed, as a reliance on an indirect approach, if indeed noted, can give the false impression of inferiority in this area. As with Chapter I, our focus again will be on the pictorial images, as these provide our best evidence for Egyptian assault techniques. Certain key textual accounts, nonetheless, will also be included in this discussion. As a final comment, we will be limiting our discussion in this chapter to the assault techniques used by the Egyptians and the defensive measures employed by the garrisons. Our discussion will not be extended to cover the physical characteristics of the defences themselves. This is for two reasons. First, the composition of the defences of the city do not determine the operational character of the attacking army (although the latter may temporary adjust their *modus operandi* to attack a particularly difficult target). Second, there are difficulties associated with attempting to equate the images of these cities as represented in the battle images (and the texts) with reality.

The next two chapters, the focus of Part II, cover the logistics of the Egyptian army. Logistic capabilities are extremely important to our discussion here as these can greatly determine operational ability and therefore heavily influence the character of operational art. Because this has been a somewhat neglected area of study with respect to the Egyptian evidence, Chapter III provides a general introduction to the basic elements of logistics including supply and provision. We will look specifically at what kinds of supplies were available to the Egyptians and where and how those supplies were obtained. Following this, we then examine the more operationally important aspects of logistics including what the available supply options were and how these could impact or determine the operational abilities of the army. This chapter will also serve as an opportunity to introduce one of the fundamental factors that can impact logistics (and subsequently operational capabilities) - theatre geography. As operational art can be heavily affected by the geographical region where the army campaigned, a brief survey will be conducted highlighting the distinctive features of the three strategic theatres where the Egyptians campaigned.

In Chapter IV, we continue our analysis of Egyptian logistics, moving into some of this subject’s more theoretical aspects. In particular, as there is tripartite division in war, we will also consider this with respect to logistics. That is, the character of logistics changed depending on the level of war. Therefore, it is necessary to examine the logistics
infrastructure “as a whole” including the higher (strategic level) economic and industrial elements before proceeding with an examination of logistics networks at the operational level, which has particular relevancy to our discussion here, and the tactical level. With respect to the operational level alone, we will attempt to examine how Egyptian logistic investment changed within the three levels where they campaigned. This will be traced with specific reference to the establishment of military bases within these theatres. Finally, as logistics is a “double edged sword” in that it has great potential for being utilised as a weapon at the tactical, operational and strategic levels, we will examine, in the second half of this chapter, the subject of counter logistics. A military force that shows a preference for attacking the resources of one’s enemy (rather than its military forces) can be seen as exhibiting an acute awareness of operational level principles.

In Part III: The Operational Level, we will examine Egyptian military activity exclusively at the operational level of war. In Chapter V, we will look at some of the key operational factors that can determine whether or not it was in the best interests of the Egyptian army to engage in operational warfare. In order to do so, Egyptian military activity must be considered with respect to three key operationally important factors: time; space; and force. Each must be examined separately and in detail as it is here that we must prove they favoured the use of operational art. If so, then it would have been in the best interests of the Egyptians to develop their military doctrine around this concept. Expanding further on this point, we will examine what appears to be a fundamental shift at the operational level that took place during Dynasty XVIII. This it will be argued had significant consequences for the development of an Egyptian operational art.

In the final chapter, we subject our Egyptian evidence to what may possibly be our most stringent test by employing five established modern criteria which are utilised by the U.S. military to identify true instances of operational art. In doing so, we will examine what appear to be examples of the employment of key elements of operational art in Egyptian military campaigning. Furthermore, we will especially look at the role of the king as a military commander and practitioner of war at the operational level. By examining the actions of the monarch at this level, rather than at the higher realm of strategy and grand strategy, and those of other important (non royal) military commanders, we will attempt to determine whether their actions reflected aspects associated with operational warfare. That is, did these commanders have the necessary abilities to be practitioners of operational art? With this chapter, and based on the evidence we have looked at in the previous chapters, it is our
intention to show quite conclusively that the Egyptians practiced a form of warfare that adhered to what today is known as Operational Art.

During the course of this study, there will only be brief mention of the higher levels of war, the strategic and grand strategic levels. Discussion of Egyptian imperialism, in general, will be for the most part avoided. This is simply because we cannot ascertain the operational abilities of the Egyptian army at these levels. As a final point, given that the focus of this work is on examining the possibility that the Egyptians may have practiced a rudimentary form of operational art, our focus must remain on the actions of the army as this is where instances of operational art are most identifiable. Therefore, the Egyptian navy, and naval encounters in general will for the most part be avoided, although, special attention will be paid to naval actions that provided support to the land based forces.

**Temporal and Geographical Scope**

The time frame of this study generally spans the Late Second Intermediate Period to the Late New Kingdom (Dynasties XVII-XX). This period witnessed massive changes in the imperialistic fortunes of Egypt and also provides our largest concentration of evidence. At the beginning of this period, the pharaonic state was in a very precarious position. Occupied in the north by the Hyksos (a foreign enemy, albeit one that appears not to have been particularly bellicose), and threatened in the south by a revived Kerman state, the independent Theban kingdom of Dynasty XVII had little room for manoeuvre. Yet, under the aggressive actions of the last kings of this Dynasty, the Egyptians were able to successfully expel the Hyksos from Egypt and immediately afterwards, make their first tentative forays into Asia. As this was taking place, the reoccupation of Nubia commenced. By the reign of Thutmose I, a mere half century or so following the expulsion of the Hyksos, the Egyptians were campaigning at what was to become the farthest limits of the empire. This sudden reversal in fortunes, in such a short time, must rank as one of the more unacknowledged achievements in military history. Egypt’s imperial expansion was solidified by Thutmose III, although there were to be no further impressive territorial gains. For the remainder of Dynasty XVIII military activity continued but on a more subdued level. By the reign of Sety I, however, there was a marked increase of military activity. Again, while there was little in the way of territorial acquisition, the Egyptians were facing enemies of a high quantitative and qualitative nature and succeeding. Egyptian fortunes suffered following the battle of Qadesh yet so did those of its main antagonist, the Hittites. Egyptian fortunes declined further during
the reign of Merenptah and with the Year 5 Libyan invasion, it was clear that Egypt had now moved over to the strategic defensive. This situation worsened in Dynasty XX where Ramesses III not only had to contend with three separate invasions but also with the loss of most of his imperial possessions both in Asia and Nubia. As Dynasty XX progressed, the situation deteriorated even further. Pharaonic Egypt never recovered.

While this period remains the main focus of this study, excursions will be made to earlier periods of Egyptian military history as this will help establish some important precedents as well as help serve to reinforce certain points. In particular, by examining earlier forms of Egyptian military behaviour, this will assist us in identifying changes in the tactical and operational abilities of the Egyptian army over an extended period of time. For example, special attention will be given to siege warfare scenes dating to the Old and Middle Kingdom Periods as they provide a useful precedent and point of comparison with the later New Kingdom assault warfare battle images. Furthermore, these early images tend to depict assault techniques not repeated in the later periods. At a wider level, by examining how the Egyptians campaigned in the earlier periods we are able to better highlight certain fundamental changes that took place with their military doctrine. This in turn helps us identify the development of Egypt’s Art of War. By illustrating that the Egyptian war machine was not stagnant but underwent a number of “Revolutions in Military Affairs” (to use a somewhat en vogue military expression), we can clearly see the Egyptian army was quite capable at adapting to new military environments when and where required.

The geographical scope of this study encompasses the three primary strategic theatres where the Egyptians campaigned: Western Asia, Libya, and Nubia. The strategic theatre of Asia for the purposes of this study covers the regions of the Sinai, Palestine, Lebanon and Syria. The Nubian strategic theatre includes territory up to the Fifth Cataract whereas the Libyan strategic theatre includes the oases and the coastal region. Military activity in Egypt’s ancillary theatres, such as the Eastern Desert, will also be briefly touched upon, as will military operations within the Nile Valley. Again as with our temporal coverage, this extended geographical overview will allow us to gain a better insight as to how the Egyptians adapted their war machine for fighting in differing geographical environments against a multitude of enemies of varying quality and quantity. This is a further important tool in our attempts to ascertain an Egyptian operational art.

As a final note, attempting to apply modern military theory (and theory that remains somewhat controversial and misunderstood at that) to ancient battles may be considered by some as treading dangerous grounds. However, it is felt that the approach undertaken here,
with the recognition and application of a tripartite division of war with particular emphasis on the operational level is valid and will allow us the opportunity to examine Egyptian warfare from a new and refreshing perspective. Given the fact that this study is making use of modern military theory, every effort has been made to utilise correct and proper military terminology wherever possible. This has been done for two main reasons. First, accuracy in the employment of this terminology, it is hoped, will further strengthen the arguments presented in the following chapters, and second, this study has been reliant on the works of many writers within the military community and a number of these authors have been active in writing on subjects in the ancient world. As they have taken care when dealing with this subject area, it is, therefore, only polite to reciprocate.
PART I

TACTICS
CHAPTER I

Battlefield Tactics

Unlike the all encompassing level of theatre strategy, tactics is concerned with the immediate both in terms of time and geographical extent. This rather limited scope should not deceive us into thinking that the actions that happen here are of no great importance, for it is at the tactical level that military success or failure in the greater scheme of affairs can be ultimately decided.¹ Indeed, Clausewitz in his study of war primarily dealt with the level of tactics and with what is now called the operational level.² In particular, he was concerned with the importance of achieving what he termed “the decisive battle”.³ This he believed, was the key to military success and should remain the primary goal of any military commander. Tactical success, however, does not occur in isolation but depends on a number of factors most of which are the result of long term planning and procedure. Starting with their initial recruitment, soldiers needed to be trained, housed, armed and fed (the development of weapons and the infrastructure to maintain the army are also affected by various factors). The troops then needed to be transported to the strategic theatre and directed to a specific military objective, all the while being adequately supplied and under the command of a capable leader. Even if all these prerequisites are met, it may still not be enough to guarantee a tactical victory once battle is joined.⁴ On the other hand, any deficiencies in this process will seriously undermine the chances for success (many of

¹ See, for example: M. Vego, “Policy, Strategy, and Operations”, 131. One must point out, however, that success at the tactical and operational levels does not always equate to military victory at the strategic level. One need only refer to the German tactical and operational victories versus their failures at the strategic level during the Second World War (for a more detailed discussion, see: E. Luttwak, Strategy, passim). This paradox, one of many that occur in war, will be addressed more fully in Chapters V and VI.

² Carl von Clausewitz, On War, ed. and trans. Michael Howard and Peter Paret (Princeton, 1976); hereafter cited as Clausewitz, On War. See also: M. Vego, “Policy, Strategy, and Operations”, 119-20; and Chapters V and VI.

³ Clausewitz, On War, 97-9 and 483. For a more detailed discussion and analysis, see: M. Handel, Masters of War, 135-54.

⁴ The (random) combinations of friction, chance, and luck must also be considered: M. Handel, ibid., 100.
these processes that lead up to the tactical battle will be covered in this and subsequent chapters).

In this chapter our main focus will be an examination of the battlefield tactics of the Egyptian army as derived from select pictorial accounts. We will look exclusively at instances of what can best be termed “open warfare”, that is, battles that took place between opposing forces in open terrain (siege warfare will be covered in the following chapter). Attention will also be paid to the pre-battle dispositions of the army prior to battle as well as actions following its immediate aftermath. We will especially examine the various components that made up the Egyptian army as represented in the images and endeavour to establish how these components were utilised together in combat. Our key objective here is to discover if the Egyptians fully appreciated the importance of a combined-arms army and whether or not this was reflected in their battle images. This will have important bearing on the idea that the Egyptian military was sophisticated enough to employ a rudimentary form of operational art. Our discussion in this chapter will deliberately avoid any in depth examination of the physical aspects of the weapons employed, on the organisational hierarchy of the army, and on specific military related terminology as these topics have been more than adequately covered elsewhere. References will be made to certain textual accounts but in general the focus will remain on the images. This is due in part to the fact that the majority of the key textual accounts where tactical data is obtainable have been extensively covered elsewhere. In particular, the one battle

---

5 For a useful study on “combined arms” armies throughout history, see: A. Jones, The Art of War in the Western World (Oxford, 1987), passim.


7 To take just one example, the annals of Thutmose III, one may refer to the following: D. Redford, The Wars in Syria and Palestine of Thutmose III (Leiden, 2003); D. Redford, “The Historical Retrospective at the Beginning of Thutmose III's Annals”, in Festschrift Elmar Edel, M. Gorg and E. Pusch (eds.), (Bamberg, 1979), 338–42; A. Spalinger, “A Critical Analysis of the 'Annals' of Thutmose III (Stücke V-VI)”, JARCE 14 (1977), 41-54; in addition to the earlier studies of H. Grapow, Studien zu den Annalen Thutmosis des Dritten und zu ihnen verwandten Historischen Berichten des Neuen Reiches
(Qadesh) where a more or less complete tactical account can be recreated with any degree of certainty has been the subject of such intensive study that further comments run the danger of being superfluous.\(^8\) Second, many of the textual accounts provide only very brief mentions of tactical level actions (this was clearly not their focus). Their real value, nonetheless, is the information they provide with respect to the manoeuvring of military units at the operational level and as such these accounts will be considered in greater detail in Chapters V and VI.

**Battlefield Tactics: Pictorial Evidence**

While there exists a multitude of battle images which depict numerous tactical encounters between the Egyptian army and its enemies, attempting to garner actual tactical knowledge from them can be a difficult task.\(^9\) We must especially keep in mind that the primary purpose of these images was not to recount the use of tactics for a particular battle. At best, they are frozen (if not formalised or idealised) snapshots of key moments before, during, and after a particular battle. Their value, nonetheless, lies in the fact that as our only source of pictorial evidence, they offer our best opportunity to observe the Egyptian army in action. Indeed, in those few select scenes where we do find present various elements of the army acting in unison against a foe we are, one feels, given a tantalising glimpse of “real world” Egyptian battlefield tactics.

---

\(^8\) For a useful summary of the more important studies of this battle (as well as his own personal commentary), see: K. A. Kitchen, *Rameside Inscriptions. Translated & Annotated: Notes and Comments II* (Oxford, 1999), 3-55. To this, one may also add the more recent studies of: A. Spalinger, *War in Ancient Egypt: The New Kingdom* (Oxford, 2005), 209-26; and G. Cavillier, *La battaglia di Qadesh: Ramesse II alla conquista dell’Asia, fra mito, storia e strategia* (Torino, 2006).

The Army in Formation

Any tactical encounter is preceded by the march to the battlefield, and it would be advantageous at this stage to look at just how the Egyptians moved their troops as they neared the point of battle. In this section we will examine a select number of battle images which depict the Egyptian army in formation. In order to aid our analysis further, we will reduce these images to simple schematic diagrams (utilising the key below) as this can assist in determining patterns within tactical formations and more important, ascertain whether these formations (as a whole) would have been truly viable from a tactical point of view.

Key

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>Chariot</td>
</tr>
<tr>
<td>X</td>
<td>Egyptian Heavy Infantry</td>
</tr>
<tr>
<td>Y</td>
<td>Egyptian Light Infantry</td>
</tr>
<tr>
<td>S</td>
<td>Sherden Infantry (Heavy Infantry)</td>
</tr>
<tr>
<td>P</td>
<td>Peleset Infantry (Heavy Infantry)</td>
</tr>
<tr>
<td>R</td>
<td>Royal Prince</td>
</tr>
<tr>
<td>K</td>
<td>King’s Chariot</td>
</tr>
<tr>
<td>N</td>
<td>Nubian Archer (Light Infantry)</td>
</tr>
<tr>
<td>B</td>
<td>Shasu Bedouin (Light Infantry)</td>
</tr>
<tr>
<td>C</td>
<td>Officer</td>
</tr>
<tr>
<td>T</td>
<td>Bugler</td>
</tr>
<tr>
<td>U</td>
<td>Standard Bearer</td>
</tr>
</tbody>
</table>

Table 1.1: Key for following figures of Egyptian Troop Formations

10 That is, on or near the area where the battle was to take place, rather than at the operational level where the army would be in formations to facilitate manoeuvrability.

11 Unfortunately, attempting to ascertain total troop numbers from these formations is inherently more difficult. Formations may rarely be uniform in size and composition and this was a deliberate policy undertaken by some powers to deceive the enemy. That is, an enemy observing such a formation of troops from a respectable distance would have difficulty estimating its exact size. The Byzantines, for example, deliberately ensured that their tactical “tagma” units were not of uniform composition so to mask the size of the entire army, Maurice’s Strategikon: Handbook of Byzantine Military Strategy, ed. and trans. George T. Dennis (Philadelphia, 1984), 16-7; hereafter cited as Strategikon. Other deceptive measures included marching in close formation which makes estimating numbers difficult (ibid., 86), and even more subtilely, varying the spacing of formations of groups to give the impression of greater (or lesser) numbers, ibid., 102-3. Maurice adds that “Most People are incapable of forming a good estimate of an army numbers more than twenty or thirty thousand”, ibid., 103. This is an extremely valid point. As William Hamblin pointed out in his thesis, very subtle changes in the spacing of his theoretical formation can produce marked differences in troop numbers: 4 ranks of 1,000 men each with 1.0 m spacing between each man equals a specific sized formation of 4,000. On the other hand, 3 ranks of 800 men with 1.25 m spacing between each man allows for a formation of the same size as the first (4,000 m²), but containing only 2,400 men, W. J. Hamblin, The Fatimid Army during the Early Crusades (Ph.D. Dissertation, University of Michigan: Michigan; 1985), 68-9. On some of the other problems associated with troop numbers, see: ibid., 69-71. In general, spacing of troops (and chariots) with respect to geographical restrictions is an important but often overlooked consideration, but see, however, the comments of A. Spalinger, War, 38, 41, 87-90, 214-5 and 232 note 15.
Representations of the Egyptian army in formation are found as early as the Old Kingdom yet it is only during the First Intermediate Period and the beginning of the Middle Kingdom that such scenes appear consistently.\(^{12}\) While somewhat outside the period under discussion, these early scenes are of particular value as coming from private tombs they are not weighed down with royal iconography and may therefore offer a more accurate reflection of Egyptian tactical formations than what is found in the New Kingdom period. Starting with the tomb of \(Hty\) (tomb IV), one of the three Asyut tombs where images of marching soldiers have been found, we see a formation of three rows of troops – fourteen for the first two rows and five for the third (fig. 1.1).\(^{13}\) In this instance, the soldiers are clearly all heavy infantry as noted by their cowhide, cheetah and antelope skin shields.\(^{14}\) No archer contingent is present.

\[\begin{array}{cccccccccc}
\text{X} & \text{X} & \text{X} & \text{X} & \text{X} & \text{X} & \text{X} & \text{X} & \text{X} & \text{X} \\
\text{X} & \text{X} & \text{X} & \text{X} & \text{X} & \text{X} & \text{X} & \text{X} \\
\text{X} & \text{X} & \text{X} & \text{X} & \text{X} & \text{X} & (\text{unfinished})
\end{array}\]

Fig. 1.1: Tomb of \(Hty\) (Tomb IV)

In the tomb of the unidentified soldier (Magee Tomb 13; H11.1), we find a not too dissimilar formation consisting of four rows of troops each containing at least

---

\(^{12}\) For example, scenes found in four private tombs, three of which are from Asyut: an unidentified soldier commander, M. El-Khadragy, “The Northern Soldiers-Tomb at Asyut”, \(SAK\) 35 (2006), 147-64 fig. 6; the tomb of \(Hty\) II, W. Wreszinski, \(Atlas zur Altaegyptischen Kulturgeschichte\) II (Leipzig, 1935), pl. 15, and M. El-Khadragy and J. Kahl, “The First Intermediate Period Tombs at Asyut Revisited”, \(SAK\) 32 (2004), 239-41; and the tomb of the Nomarch Iti-ibi-iqer, M. El-Khadragy, “Some Significant Features in the Decoration of the Chapel of Iti-ibi-iqer at Asyut”, \(SAK\) 36 (2007), 105-35. A fourth scene of interest is found in the tomb of Ankhity at Mo’alla, J. Vandier, \(Mo’alla: La tombe d’Ankhity et la tombe de Sébekhotep\) (Cairo, 1950), 96-100 and pl. 35. For the Old Kingdom, in an unpublished fragment dating possibly to either Dynasty V or VI, we see two rows of archers (each holding their arrows in their right hand) advancing towards the left, see: B. McDermott, \(Warfare in Ancient Egypt\) (Stroud, 2004), 25 fig. 19.

\(^{13}\) The third row, however, appears not to have been fully completed, M. El-Khadragy and J. Kahl, “The First Intermediate Period Tombs”, 239; and J. Kahl (et al.), “The Asyut Project: fieldwork season 2004”, \(SAK\) 33 (2005), 163. The location of Asyut itself was of particular military importance as the city was positioned to take advantage of a difficult passage of the Nile and it was also the departure point for the major Darb al-Arbain caravan route (thus making it a truly “decisive point” – see Chapter VI for further discussion), M. El-Khadragy and J. Kahl, “The First Intermediate Period Tombs”, 233.

\(^{14}\) J. Kahl (et al.), “The Asyut Project”, 164. For the distinction between “heavy” and “light” infantry, see our comments below: \textit{Hand-to-hand Combat} and \textit{Missile Combat on Foot}. 

seven, possibly eight, soldiers (fig. 1.2).\textsuperscript{15} The heavy infantry carry in their right hands half-moon battle axes and in their left, full length shields covered in similar materials as noted above.\textsuperscript{16} The difference in composition of troops in this image compared to the other contemporary scenes may indicate a distinct lack of unit standardisation not just between various provinces but also within provinces.\textsuperscript{17}

\begin{verbatim}
\[ X X X X X X [ ]
\[ X X X X X X [ ]
\[ X X X X X X [ ]
\[ X X X X X X [ ]
\[ X X X X X X [ ]
\end{verbatim}

Fig. 1.2: Tomb of an unidentified Nomarch (Magee Tomb 13; H11.1)

The tomb of the nomarch Iti-ibi-iqer (N13.1) contains two military orientated scenes of interest.\textsuperscript{18} In one of these we see marching soldiers divided into four registers with an (oversize) commanding officer at the forefront. What is of particular interest is that the soldiers are a mixture of heavy infantry and archers and therefore may represent a more integrated tactical formation (fig. 1.3):

\begin{verbatim}
[ ] [ ] [ ] [ ] [ ] [ ] [ ]
[ ] [ ] Y X [ ] [ ] X \rightarrow C
[ ] [ ] [ ] [ ] [ ] Y X X X \rightarrow
[ ] Y X X X Y X Y X X \rightarrow
\end{verbatim}

Fig. 1.3: Tomb of the nomarch Iti-ibi-iqer (I)

\textsuperscript{15} M. El-Khadragy, "The Northern Soldiers-Tomb", 151 and note 24; and J. Kahl,\textit{ Ancient Asyut: The First Synthesis after 300 Years of Research} (Wiesbaden, 2007), 83-4.


\textsuperscript{17} \textit{Ibid.}, 151 note 22.

\textsuperscript{18} For this tomb, see also: J. Kahl, \textit{Ancient Asyut}, 79-82.
The heavy infantry are identified by their large, pointed-top cowhide shields whereas the archers carry only their bows and sheaves of arrows. Other identifiable weaponry includes spears and axes.\textsuperscript{19}

In the second scene from this tomb we again find a formation consisting predominantly of archers divided among two registers (fig. 1.4). Ten soldiers are present in the upper row and at least seven are seen in the lower one, which, incidentally, appears to be led by a Nubian.\textsuperscript{20} This formation is of particular interest in that it appears as if it is about to engage an (unseen) enemy in battle.\textsuperscript{21} Alternatively, we may instead have here a representation of a military training episode.

\[ \[
Y Y Y Y Y \ X Y Y \]
\]

\[ \[
Y Y Y \ [
Y Y Y N
\]
\]

Fig. 1.4: Tomb of the nomarch Iti-ibi-iqer (II)

In the next tomb of interest, that of Ankhtify of Mo'alla we find three registers of soldiers in formation (fig. 1.5). The soldiers are all Egyptian archers (none possess shields) with the exception of two Nubians found in the far right of the top register.\textsuperscript{22} This formation represents one of the largest depicted with 46 archers in total (including the two Nubians). The heavy reliance on archers as noted here may be a testament to the favoured tactical and operational preferences of this military commander who, as we will cover in Chapter VI, may have been an early practitioner of operational art.

\[ \textsuperscript{19} \text{M. El-Khadragy, “Some Significant Features”, 110.} \]

\[ \textsuperscript{20} \text{As indicated by the feather on his head and Nubian style dress. In a further realistic touch, four of the archers are wearing protective wristlets, \textit{ibid.}, 110.} \]

\[ \textsuperscript{21} \text{As noted, for example, with the archer in the upper register (no. 8) who appears to be shooting an arrow. Other soldiers also seem to be assuming attack postures, \textit{ibid.}, 110.} \]

\[ \textsuperscript{22} \text{See J. Vandier, \textit{Mo'alla}, 98-9; and H. Fischer, “The Nubian Mercenaries of Gebelein during the First Intermediate Period”, \textit{Kush} 9 (1961), 63. One of the Nubians depicted here is shown with a spear passing between his legs and as noted by Fischer, their dress is similar to that worn by Nubians in stelae from Gebelein and in the tomb of Setka, \textit{ibid.}, 62. This would tend to date all representations to the First Intermediate Period, although an earlier date for the tomb of Setka has been argued, see: M. Jenkins, “Notes on the Tomb of Setka at Qubbet el-Hawa, Aswan”, \textit{BACE} 11 (2000), 67-9.} \]
While not strictly pictorial representations, it would be beneficial to include the two models of marching infantry uncovered from the tomb of Mesehti at Asyut in this discussion (fig. 1.6).23 As a three dimensional record, these models provide an extremely valuable insight into the dispositions of both an Egyptian infantry and Nubian archer formation each consisting of forty men.

The soldiers in both groups are all without footwear and are shown with their left leg advanced as if they were marching in step.24 This was likely the case as individuals walking in groups will almost naturally fall into a set and steady pace. Furthermore, large groups of individuals will move faster if a steady pace is

---

23 For the Nubian soldiers, see: M. Bietak, “Zu den Nubischen Bogenschützen aus Assiut: Ein Beitrag zur Geschichte der Ersten Zwischenzeit”, *Mélanges Gamal Eddin Mokhtar 1*, P. Posener-Kriéger (ed.), (Cairo, 1985), 87-97 pls. 1-4; A. Gros de Beler, *Les Anciens Égyptiens: Guerriers et travailleurs II* (Paris, 2006), 7; and J. Kahl, *Ancient Asyut*, 82-3. As Bietak noted, the presence of these models clearly indicates that military formations were employed by not just the Egyptians in this early period, “Zu den Nubischen Bogenschützen”, 87.

24 On the differences between the two formations, the observations of Bietak are worth including here. In addition to differences in clothing and weaponry, there is a notable lack of uniformity within the Nubian formation. These troops do not maintain unit cohesion as tightly as the Egyptian infantry, although this may have been due to the nature of the weaponry carried. As archers, more space would have been required in order to effectively deploy their bows. That these men also carried their arrows in right hand, thus leaving the points exposed, would also have discouraged marching in close proximity, “Zu den Nubischen Bogenschützen”, 87-9.
maintained and marching in step allows ranks to be placed more closely together.\textsuperscript{25} Pace could be maintained through the use of drummers, singing or chanting. Soldiers who carried shields may also have kept a rhythm by beating the tough leather from which the shields were made.\textsuperscript{26} Making such a noise when an army is advancing towards the battlefield, to announce one’s presence, can also have an intimidating effect on the enemy.\textsuperscript{27}

It is only from late Dynasty XVIII and onwards that scenes of troop formations begin to appear in greater numbers. These later scenes are especially notable in that the military formations now include the new chariot arm of the military. In one, admittedly non military, scene from the chest of Tutankhamun, that king is accompanied on a lion hunt by elements of the army (fig. 1.7).\textsuperscript{28}

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{lion_hunt.png}
\caption{Tutankhamun’s Lion Hunt (without king’s chariot represented)}
\end{figure}

They are divided up into three rows with two chariots each occupying the first and third. In the middle row we find a group of seven soldiers armed with an

\textsuperscript{25} R. Partridge, \textit{Transport in Ancient Egypt} (London, 1996), 84.

\textsuperscript{26} The military drummer Emhab, who extolled his own abilities, would have been able to use his instrument to provide a marching beat, and for pre battle manoeuvring signals: J. C. Darnell and C. Manassa, \textit{Tutankhamun’s Armies: Battle and Conquest During Ancient Egypt’s Late Eighteenth Dynasty} (Hoboken, 2007), 85. For this inscription, see: J. Černý, “The Stela of Emhab from Tell Edfu”, \textit{MDAIK} 24 (1969), 87-92; J. Baines, “The Stela of Emhab: Innovation, Tradition, Hierarchy”, \textit{JEA} 72 (1986), 41-53; and L. Morenz, “Em-habs Feldzugsbericht: Bild-textliche Inszenierung von „großer Geschichte“ im spiegel der Elite”, \textit{Ägypten und Levante} 15 (2006), 169-80. Trumpeters were likewise utilised. They were usually stationed at the front of the army and would have been used to produce more complex signals, J. C. Darnell and C. Manassa, \textit{Tutankhamun’s Armies}, 85. For visual representations of musicians in the army, see: A. Brack and A. Brack, \textit{Das Grab des Tjanuni: Theben Nr. 74} (Mainz am Rhein, 1997), pls. 9 and 36.

\textsuperscript{27} As noted by R. Partridge, \textit{Transport in Ancient Egypt}, 85. War cries are likewise known of and were utilised on occasion by the Egyptians. Amenhotep III, for example, stated that “his war cries circulate throughout Naharin”, \textit{Urk IV}, 1693.8-9. During the Year 35 campaign of Thutmose III, the army, when closing in on the enemy, performed a war cry: ḫn n Ỉt int which Donald Redford translated as “It’s-up-for-grabs!”, \textit{The Wars in Syria}, 83-6.

assortment of weaponry. The weapons carried by the men include spears, sticks, axes and at least one bow. Every second man also carries a shield (on their right side) which should mark them as heavy infantry. This designation remains uncertain as, overall, there is little consistency in how the seven soldiers are armed for them to be clearly divided into distinct classes of infantry. They contrast sharply with the more uniform (or rather professional) appearance of the Ramesside infantry found in the later battle reliefs and even with soldiers depicted in the pre New Kingdom formations. Nonetheless, the layout of this little formation highlights one notable point. It appears as if the chariots were positioned to protect the flanks of the infantry, as one would expect in a combat situation. The importance of soldiers participating in non military events such as hunting should not be underestimated. Continued drilling and practicing, especially for infantry working in conjunction with chariots, would have provided valuable training.

In the two military scenes from the same chest, the king is again accompanied by elements of the army (fig. 1.8). In the Asiatic battle image, six chariots follow the monarch while in the Nubian action, four chariots are noted in addition to a detachment of eight soldiers. The soldiers in this example appear to be light infantry as they are armed only with bows and do not possess shields. As with the lion hunt scene, the army in both scenes has been divided into three registers:

```
O O ➔    ← O O
O O ➔    ← O O
O O ➔    ← Y Y Y Y
```

Fig. 1.8: Asiatic battle scene (left) and Nubian battle scene (right)

Scenes from a now destroyed temple of Tutankhamun provide us with additional images of the Dynasty XVIII army in battle formation. While their rather fragmentary condition makes it difficult to attempt any extensive reconstruction, they should not be excluded from this discussion. In one fragment, depicting the return trip

---

29 See our comments in Chapter VI note 57.

following the Asiatic campaign, we see a line of heavy infantry marching towards the left (shield on left side with spear and axe in right hand) preceded by a number of standard bearers.\(^{31}\) In a slightly better preserved image, albeit depicting the return of the army following a Nubian campaign, we again see a line of five heavy infantry and six standard bearers marching towards the right. In this case the infantry are armed with khepesh or sickle-shaped swords rather than axes.\(^{32}\) A small fragment from another scene depicting the Nubian campaign is notable as it appears to depict Egyptian auxiliaries.\(^{33}\)

From the reign of Horemhab we find representations of Egyptian infantry in formation following the king’s successful military action against the Nubians.\(^{34}\) In the scene in question six soldiers are depicted marching towards the right (fig. 1.9). They are armed with spears (carried in their right hand) and five of the six men each carry a long stick in their left hand. One of the soldiers wears a quiver on his back while the other five carry shields:

![Fig. 1.9: Horemhab’s Nubian Campaign](image-url)

In certain fragments from the king’s mortuary temple Egyptian soldiers again appear in formation. In one damaged scene they are armed either with daggers or axes as well as spears and shields,\(^{35}\) while in another, the two rows of visible soldiers

---


32 *Ibid.*, 168 fig. 46. Other fragments include two from the main Asiatic battle, *ibid.*, figs. 36 and 37; and another from the Nubian campaign depicting Egyptian troops and chariots, *ibid.*, fig. 44. For objections to the use of the term “sickle-shaped” to describe the khepesh sword, see the article of: N. Wernick, “A Khepesh Sword in the University of Liverpool Museum”, *JSSEA* 31 (2004), 152. Wernick rightly notes that a true sickle has its cutting blade on the concave side whereas the Khepesh sword’s cutting edge is on the convex side. Nevertheless, “sickle-shaped” as a descriptive term for this particular sword is apt and will be used throughout this study.

33 W. R. Johnson, *An Asiatic Battle Scene*, 168 fig. 45.


35 W. R. Johnson, *An Asiatic Battle Scene*, 172 fig. 54.
appear to be armed only with axes.\textsuperscript{36} A third scene depicts eight Asiatic mercenary or auxiliary troops (armed only with spears) in front of a fortress.\textsuperscript{37}

Considerably more detailed representations of the Egyptian army in formation are found in the reliefs of the Ramesside period especially in the series of images which deal with the battle of Qadesh. Beginning with the scenes from the Temple of Abydos (and reading from right to left),\textsuperscript{38} we find a portion of the army or more specifically the Na’arn division consisting of heavy infantry and chariots (fig. 1.10). A single line of chariots protects the rear of the formation and the flanks, while a number of chariots are also positioned ahead of the main force. The heavy infantry march in columns of fifteen men and are armed with either axes or sickle-shaped swords in addition to the characteristic Egyptian shield. They also possess spears, but with a couple of exceptions these have not been drawn in by the artists. Between the main formation and the chariots positioned on the left flank we can also make out units of light infantry which, for the most part, march in groups of three or four. Some of these troops are armed with quivers and others with javelins.

![Diagram of the Na’arn division at Qadesh (Abydos “A”)](image_url)

\textsuperscript{36} W. R. Johnson, \textit{An Asiatic Battle Scene}, 174 fig. 55.

\textsuperscript{37} \textit{Ibid.}, 186 fig. 70.

\textsuperscript{38} W. Wreszinski, \textit{Atlas II}, pl. 17. For a detailed analysis of these scenes and, in particular, the chariots see: A. Spalinger, “The Battle of Kadesh: The Chariot Frieze at Abydos”, \textit{Ägypten und Levante} 13 (2003), 163-99.
The line of chariots continues towards the left as do the groups of infantry. More archers are seen as are heavy infantry. The chariots which are proceeding at walking pace start to pick up speed at this point. We next come to a small group of Egyptian chariots belonging to the Amun division which are facing back towards the Na‘arn formation, but behind them heavy infantry continue to advance towards the left (fig. 1.11).39

The procession breaks off at this point but continues with a representation of the king’s chariot followed by a line of sixteen Egyptian heavy infantry. While all are armed with spears, some of the soldiers also carry sickle-shaped swords whereas others possess battle axes.40 Preceding the Egyptian troops is a group of eight Sherden warriors (fig. 1.12).

They are armed with their characteristic weaponry and armour: round shields; swords; and horned helmets. Each warrior also possesses a spear. Among their duties, the Sherden served as elite troops and were responsible for the protection of the king.41

---


40 The weapons generally alternate but this pattern (as in this case) does not always hold true.

41 A. Spalinger, “The Battle of Kadesh”, 171-2; M. Bietak and R. Jung, “Pharaohs, Swords and Sea Peoples”, Archaeology and History in Lebanon 26-27 (2007-2008), 219–21; and see below note 181. For the variation in visual appearance of Sherden warriors in the battle reliefs, see: R. G. Roberts,
At this point, the composition changes direction, and a second group of eight Sherden warriors are depicted advancing towards the first from the left (fig. 1.13). They are followed by two Egyptian archers (one of which is armed with a small dagger\(^{42}\)) then a line of seventeen Egyptian heavy infantry. The personal weapons of these soldiers show even more variation. Some are armed either with axes or daggers, while others are armed with sticks (the latter generally with double pronged ends) and at least one possesses a sickle-shaped sword.\(^{43}\) In addition, the infantry carry their shields on their right side. At this point, the scene changes to depict some close quarter fighting before continuing with a depiction of the Hittite battle formation.\(^{44}\)

![Diagram of Egyptian and Sherden soldiers at Qadesh II (Abydos “A”)](image)

In the Luxor reliefs (L3), we again see Egyptian troops armed with a bewildering variety of weapons. In one damaged scene, soldiers, in a formation of twenty-three men, are armed either with bows, daggers, sickle-shaped swords,

---

\(^{42}\) Which is missing in the Naville plate, see: A. Spalinger, “The Battle of Kadesh”, 194.

\(^{43}\) W. Wreszinski, *Atlas II*, pl. 20; and A. Spalinger, “The Battle of Kadesh”, 172-3. As to how these “sticks” were used in a combat situation is an intriguing question. It is clear that they were personal, rather than missile, weapons but it is difficult see how they could have been effectively employed.

\(^{44}\) W. Wreszinski, *Atlas II*, pls. 21-3; and see further our discussion below.
fighting sticks, or axes. Each man, including those with bows, also carries a shield (left side) as well as a spear. In addition, all of them appear to be carrying quivers regardless of their personal weapon! It is rather unusual to find soldiers armed in such a fashion especially as the Egyptian artists did attempt to distinguish light from heavy infantry.

The other, less complete, reliefs from Luxor are also of interest. In one key scene we again see the Na'arn division consisting of heavy infantry and surrounded on all sides by chariots (fig 1.14). A single line of chariots protects the rear of the formation as well as the flanks. Unlike the Abydos scenes, there do not appear to be any light infantry providing additional protection on the flanks. The heavy infantry are marching in columns of at least thirty men but probably more, and carry their shields on their right side:

```
O ➔
O ➔
OXXXXXXXXXXXXXXXXXXXXXXXXX? ➔
OXXXXXXXXXXXXXXXXXXXXXXXXX? ➔
OXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX? ➔
OXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX? ➔
O O O O O O O O O ➔
```

Fig. 1.14: Na'arn division at Qadesh (Luxor “L3”)

This formation marches from left to right and passes over (in terms of composition) a second formation (the Ptah division) marching from right to left. The Ptah division is (artistically) represented differently from the other formation but the mass of heavy infantry is still shown as being protected by chariots on their flanks. The infantry carry their shields on their left side and if the first row is any indication, they appear to be in part equipped with sickle-shaped swords. This formation is confronted by a chariot and scout bearing the urgent message to hasten their advance.

It is, nonetheless, the better preserved Luxor images (L1) which provide us with a more complete representation of an army unit in formation. The Na'arn

45 W. Wreszinski, Atlas II, pl. 64.
46 Ibid., pl. 64.
47 Ibid., pl. 82.
division, in these scenes, is depicted as marching from right to left with its left flank making contact with the Amun division while the right engages the Hittite chariots (fig. 1.15). This flank also joins up with a detachment of chariots manned by the king’s sons and members of the entourage. The infantry centre is made up of forty-nine troops and is protected by a substantial number of chariots. The Amun division and the personal bodyguard of the king are presented with little change from what we have seen earlier (fig. 1.16). Along with the three stationary chariots, one of which belongs to the king, we see a line of six Egyptian heavy infantry who follow four Sherden soldiers. This group meets additional members of the bodyguard marching from the opposite direction. These troops merge quite nicely with what were originally supposed to be soldiers belonging to the Na'arn division.  

![Diagram](image)

Fig. 1.15: Na'arn division at Qadesh (Luxor “L1”)

---

In the second major scene of this battle we find elements of the Ptah division and, while they are represented by only a small number of soldiers, their combat formation is rather unique (fig. 1.17). Leading the troop are six standard bearers which are not commonly depicted. They are followed by three heavy infantry troops and a chariot. Two additional soldiers are seen just below this formation.

Moving now to the Qadesh scenes at Karnak (K2), these like the Abydos the Luxor (L3) images have suffered considerable damage. Nevertheless, reading from left to right we see three chariots belonging to the Na‘arn division moving towards the right approaching a number of stationary chariots belonging to the Amun division (fig. 1.18). The crews of the latter, facing towards the right, have already dismounted but their chariots still point back in the direction of the Na‘arn division. Next we see a group of ten Egyptian heavy infantry (armed with either sickle-shaped swords or axes and with shields on their right side) who follow a row of ten Sherden warriors marching towards the right.

---

At this point, the direction the soldiers are marching changes and the next group of soldiers are depicted moving towards the left. They are led by a formation of ten Sherden warriors and are followed by what appears to be thirty-one Egyptians armed with a variety of weapons including fighting sticks, sickle-shaped swords, and even bows (fig. 1.19). Every man also possesses a spear and carries his shield on his left side. Elsewhere in this scene we see chariots moving towards the right and, with a touch of originality, they pass by a dead Hittite soldier and a horse.50

Fig. 1.19: Sherden and Egyptian Infantry at Qadesh (Karnak “K2”)

Generally, when depicting Egyptian soldiers carrying shields in formation, the artists attempt to ensure that the outer face of the shield always faces the viewer.51 In other words, soldiers marching towards the left, wear their shields on their left side, and when marching right, on their right side. This convention is usually extended to the accompanying auxiliary troops as seen, for example, in the Abydos Qadesh reliefs. Occasionally, this convention is not followed, such as here with the first group of Sherden soldiers.52

In the major battle scene from the temple of Abu Simbel (I), the Na’arn division march from the left in a formation ten men deep and seven or eight men wide protected on all sides by chariots. The chariot flanks extend a considerable distance ahead of the main formation and are moving up the sides of the Amun camp.

50 W. Wreszinski, Atlas II, pl. 70.

51 This is not always attempted by the artists with respect to the chariot shield bearers.

52 The arms of these soldiers (who are marching right) are clearly visible when they should in fact be hidden by the shields they are carrying.
Essentially we have a mirror image of the Luxor formation but with some differences. The left flank is just about to engage some Hittite chariots while the right has made contact with the Amun division. Leading both chariot flanks, however, is a single Egyptian soldier.

The Amun division in this particular scene is not as heavily manned as in the previous reliefs. An undetermined number of Egyptian infantry pass by stationary chariots including one belonging to the king, and are led by only two Sherden warriors (fig. 1.21). They in turn face another two Sherden troops who are followed by three Egyptian soldiers.
In the final set of Qadesh scenes, from the Ramesseum (R1), we are again presented with another variation of the Na'arn division in formation (fig. 1.22). In this example, the main body of infantry are protected by a line of chariots to their front and rear. On their flank, however, an additional line of infantry extends beyond the main formation while in the register below, chariots advance alongside groups of infantry.53

Fig. 1.22: Na’arn division (Ramesseum “R1”) 

Turning to the other (non Qadesh) battle scenes of Ramesses II, regrettably only a select few of these depict the army in battle formation. In one such scene, we find the Egyptian army outside the city of Satuna preparing to engage the enemy in combat (fig. 1.23).54

---

53 The seven Egyptian soldiers stationed along the right side of the camp may actually be camp sentries: A. Spalinger, “Notes on the Reliefs”, 8.

54 W. Wreszinski, Atlas II, pl. 67; and G. A. Gaballa, Narrative in Egyptian Art (Mainz am Rhein, 1976), 111.
Fig. 1.23: Egyptian Infantry and Chariots at Satuna (Luxor)
The scene in question is divided into three registers which provides us with a considerably different type of formation as found in the Qadesh images. The uppermost register has, however, suffered some damage but we can still make out a row of seven soldiers followed by another row of at least three. They are accompanied by two chariots, one of which has run down an enemy soldier. In the second register we find three rows of Egyptian heavy infantry. The first two rows of four men are armed with sickle-shaped swords and possibly spears, while the last row consists of just two heavy infantry. As with the above register, two chariots driven by the royal princes, travel beside and slightly behind the troops. In the bottom register we find the light infantry. They are marching in two rows (one with four men and the other with two). These soldiers are dressed somewhat differently to the heavy infantry and are armed with bows as well as spears. One of them may also possess a shield. Following behind and beside them are three more chariots.

The other two examples, both also from Luxor, are sadly not as detailed (fig. 1.24).\(^{55}\) In the first, the army, made up exclusively of heavy infantry, advances in three registers from the left of the scene.

Fig. 1.24: Egyptian Infantry outside ḫ[p]k and [ ]r (left) and outside an unidentified city and Krmjn (right)

---

The infantry in the middle register passes by the king’s empty chariot which is being cared for by three attendants. The second scene is quite similar to the first with the only main difference being an additional register.

Images of the army marching into battle are unfortunately lacking in the reliefs of Merenptah and it is not until the reign of Ramesses III that they reappear with slight differences. Skipping past the Nubian campaign (the army is not represented there) and the departure scene for the first Libyan war, which is of no tactical consequence, we must turn to the next scene in that sequence.\(^5^6\) This scene is divided into two registers. In the main register we see the army headed by a formation of thirty-two troops marching in four rows of eight soldiers each (fig. 1.25).

\[
\begin{array}{cccc}
XXXX & C \\
XXXX & C \\
XXXX & T & Y \\
\leftrightarrow XXXX & O & Y & K \\
\leftrightarrow XXXX & Y \\
XXXX & XX & Y \\
XXXX & XX \\
XXXX & XX \\
\end{array}
\]

Fig. 1.25: Egyptian Infantry marching into battle: First Libyan War (Medinet Habu)

As Wreszinski pointed out, these soldiers are extremely well armed, for not only do they possess the spears, shields, and personal weapons (clubs, axes, and sickle-shaped swords) usually associated with heavy infantry, but they are also equipped with bows.\(^5^7\) Behind this formation, the register splits into two parts. In the

---


upper part we see what are possibly two officers and a bugler while in the lower part we find an additional six heavy infantry. The two registers then revert back into one and the next segment of the formation includes an Egyptian chariot followed by four archers, each carrying a personal weapon as well as a bow. Following the archers is the king in his chariot.

The formation in the lower register is led by a number of Egyptian heavy infantry and they are followed by three rows of auxiliary troops (fig. 1.26).\(^{58}\) Behind the auxiliaries are Egyptian chariots in addition to more foot soldiers. The latter are armed in the manner of heavy infantry but many also carry bows and possess quivers.

![Diagram of Egyptian Infantry and auxiliaries marching into battle: First Libyan War (Medinet Habu)](image)

Fig. 1.26: Egyptian Infantry and auxiliaries marching into battle: First Libyan War (Medinet Habu)

We find the army drawn up, in two registers, in a similar marching formation for the Sea Peoples’ campaign.\(^{59}\) In the first register, it is led by a unit consisting of twenty-four heavy infantry (fig. 1.27). The register then splits into three parts with the uppermost containing four archers marching in a two by two formation. They are also armed with either sickle-shaped swords or sticks. The middle part contains four heavy infantry while in the third part we find two Egyptian princes armed with bows and personal weapons.\(^{60}\) The king, who dominates the entire scene, follows the soldiers in

---

\(^{58}\) Medinet Habu I, pl. 17; and G. A. Gaballa, Narative, 121.

\(^{59}\) Medinet Habu I, pl. 31; and W. Wreszinski, Atlas II, pl. 112a.

\(^{60}\) Of the four soldiers, only the last two are clearly Egyptian whereas one of the others is Nubian while the last (the leading man) is possibly a Bedouin. These troops were likely part of the royal bodyguard: W. Wreszinski, Atlas II, pl. 112a.
his chariot along with two of his fan bearers (not represented). In the second (lower) register of this scene, we find additional elements of the army. They are led by a row of six Sherden warriors armed with spears and swords. The Sherden in turn are followed by five additional troops armed with spears and daggers. The third row of troops appears to be armed with bows as well as personal weapons. Following the foot soldiers are the chariots which appear to be grouped into units of three or are travelling in three parallel columns.

At some point during this campaign, Ramesses supposedly conducted a lion hunt where he was accompanied by Egyptian and auxiliary troops (fig. 1.28). The formation is led by a row of eight Egyptian heavy infantry armed with an assortment of personal weapons. The next row consists of six Sherden soldiers who wear their shields on their backs and carry two spears each. The third row is made up of five Peleset warriors who like the Sherden, carry two spears each in addition to their personal weapons. Like their sea faring colleagues, they too wear their shields on their backs. In the final row we see at least six Nubian archers (or slingers). The remainder of this register has suffered considerable damage, but we can make out at least two teams of horses and possibly additional infantry.

---

61 Medinet Habu I, pl. 35; W. Wreszinski, Atlas II, pl. 114b; and G. A. Gaballa, Narrative, 122-3.
The battle images depicting the second Libyan war also feature the army in combat formation. One of the more extensive scenes is that of the army marching out to do battle with the Libyan invaders (fig. 1.29). The action is divided up into two registers with the upper consisting of four parts containing units of the army, followed by the king in his chariot (who again dominates the entire composition). In the top part we see a row of seven Egyptian heavy infantry, while in the second, a single Egyptian bugler urges on a row of five auxiliary troops, three are Sherden warriors armed with swords, spears, and round shields. The other two soldiers are Shasu Bedouin who are armed with two spears apiece as well as curved swords. As is to be expected, they do not carry shields. The third part contains five Nubian archers armed with bows and hand weapons. In the fourth part, and just below and in front of the royal chariot are three Egyptian princes. Accompanying the king is his retinue (not represented). The lower register contains six heavy infantry who are followed by seventeen courtiers.

---

62 H. Nelson (et al.), The Epigraphic Survey, Medinet Habu II, Later Historical Records of Ramses III (Chicago, 1932), pl. 62; hereafter cited as Medinet Habu II; and W. Wreszinski, Atlas II, pl. 135. As with the Egyptian forces that fought in the Year 5 battle, these units exhibit a high degree of “sophistication and complexity, D. O’Connor, “The Nature of Tjemhu (Libyan) Society”, 84.

63 G. A. Gaballa, Narrative, 122.
The three battle scenes of the second Libyan war are also of interest as they depict elements of the army either just prior to their being committed into battle or already engaged in vicious hand-to-hand combat. In the bottom register of the first scene we find at least one soldier entering the battle (fig. 1.30).\(^64\) He holds his shield in his left hand and his personal weapon in the right above his head. It appears that he is no longer in possession of his spear possibly having utilised it as a javelin before closing with the enemy. Behind him are more heavy infantry who are in formation and still carrying their spears. Their shields protect their right sides. Following the heavy infantry we find the chariots who are beginning to assume a combat posture. The archer princes (on the right side) are driving while their shield bearers are positioned on the left armed with a shield in left hand and possibly a spear in the right.\(^65\) At least one archer, but likely more, is seen accompanying the chariots. The three chariots to the rear are being driven by members of the retinue and do not appear to be combat chariots.

---

\(^64\) *Medinet Habu* II, pl. 72; and W. Wreszinski, *Atlas* II, pl. 137.

\(^65\) The term “shield-bearer” is used here and elsewhere to indicate the person possessing the shield rather than as a formal reference to a proper military position or rank, see A. Schulman, *Military Rank, Title, and Organization*, 68. While “Shield-bearers” (\(\text{kfrw}\)) are found in the Egyptian inscriptions, examples are few in number. For a useful overview of occurrences, see: J. Thomson, “A shield bearer and warrior of Ramesside times”, *JEA* 83 (1997), 218-22, pl. XXIV.
In the second battle scene, only six heavy infantry soldiers are depicted still in formation (upper right corner), the remainder have already been committed to the battle. The final scene, however, differs considerably from the first two as it is clear that the battle is now drawing to a definite conclusion. Here we see two units of Egyptian heavy infantry (one on top of the other) marching towards the main battle which is still being waged in the left part of the scene (fig. 1.31).

---

66 Medinet Habu II, pls. 69-70; and W. Wreszinski, Atlas II, pl. 141a.

67 Medinet Habu II, pl. 68; and W. Wreszinski, Atlas II, pl. 140.
The first (upper) unit consists of fifteen soldiers and is armed with a variety of hand weapons, whereas the second unit is made up of sixteen heavy infantry. All the soldiers carry their shields on the left side and hold their spears in their left hands and their personal weapons in their right. In the upper register of this scene a group of five soldiers marches towards the battle in a similar fashion to the lower two groups.

The Asiatic war scenes of Ramesses III at Medinet Habu are also of particular interest although it must be stressed that it is unlikely they reflect an actual military campaign or series of campaigns. In the first scene (the assault against two Asiatic cities) the king and his chariot are not in combat posture. The chariot has almost drawn to a standstill while the king, with the reins still tied around him, appears to be in the process of setting down his bow. Following him is the army divided up into four registers. In the lower two we see the princes armed with bows and personal weapons, while in the upper two registers heavy infantry advance towards the battle in formations of five men (top register) and four men (second register). In the next war scene, which depicts the assault against a city in Amurru, the king has dismounted from his chariot in order to engage the enemy on foot with his bow and arrow. Behind him, his chariot is being cared for by three attendants. In the register below this scene, a formation of ten Egyptian heavy infantry advance towards the city. The third scene depicts another assault on a Syrian city (in this case Tunip). Above the attacking Egyptian chariots a formation of eight Egyptian heavy infantry is marching into battle. In the final assault scene, two formations of Egyptian troops are depicted above and below the king’s chariot. The upper formation of heavy infantry again consists of eight men being led by one of the princes. They are armed either with sickle-shaped swords or battle axes. The second formation, however, which consists of possibly twelve men, is armed with sickle-shaped swords or daggers.

---


69 Medinet Habu II, pl. 87; and W. Wreszinski, Atlas II, pl. 145.

70 Medinet Habu II, pls. 94-5; and W. Wreszinski, Atlas II, pl. 147.

71 Medinet Habu II, pls. 88-9; and W. Wreszinski, Atlas II, pl. 151.

72 Medinet Habu II, pl. 90; and W. Wreszinski, Atlas II, pl. 154.
King versus the Enemy Army

Turning now to the scenes of battle proper, these can be separated into a number of key categories some being more informative than others when it comes to reconstructing Egyptian battlefield tactics. We will first look at those images in which the king takes a central, or more accurately, sole role as agent of destruction of the enemy army. These scenes are unfortunately of limited value for two main reasons. First, because it is only the king and in some cases his immediate entourage who are present on the battlefield, we are left dealing with what can be best described as images of a rather idealised if not generic nature.\(^{73}\) In these scenes, only the king is shown striking down the enemy, often without any assistance at all, either in his chariot or on foot. While the notion of a head-of-state leading the army into battle may seem somewhat romantic or heroic to some, this was not always a reflection of historical reality.\(^{74}\) Second, a further limiting factor with these scenes is the fact that the enemy in most cases has already been broken and are usually fleeing the battlefield in disarray. Thus there is little opportunity to ascertain either how the enemy were defeated or what their initial tactical disposition was prior to battle. These images do nonetheless still warrant inclusion in this discussion in that from the perspectives of both the attacker and the defender, they provide us with a multitude of tactical insights especially with their inclusion of incidental, yet unique, details which were likely witnessed on a particular campaign.

Images of the king as sole victor (smiting scenes aside) do not start appearing until Dynasty XVIII with one of the earliest intact examples possibly being a scarab which depicts Thutmose I in chariot attacking an unidentified foe.\(^{75}\) The king is armed

---

\(^{73}\) Part of this entourage may include the presence of royal princes who sometimes but not always participated in the fighting. On that note, see the comprehensive study of: M. Fisher, *The Sons of Ramesses II: Volume I. Texts and Plates* (Wiesbaden, 2001) for the participation of that king’s sons in his military campaigns. The sons of Merenptah likewise accompanied their father on campaign and were possibly responsible for commanding separate units of the army: F. Yurko, “Merenptah’s Canaanite Campaign”, *JARCE* 23 (1986), 210-1.

\(^{74}\) Although with respect to Seqenenre Tao, this was likely the case, J. Filer, “Ancient Egypt and Nubia as a Source of Information for Cranial Injuries”, in *Material Health: Archaeological Studies of War and Violence*, J. Carman (ed.), (Glasgow, 1997), 65-6. For a more detailed discussion of “heroic leadership” see J. Keegan, *The Mask of Command* (London, 1987). The role of king as military commander (and ultimately centre of gravity) will be discussed in detail in Chapter VI.

\(^{75}\) The possibility that additional images will be uncovered is not out of the question as seen, for example, with the discovery of certain fragmentary battle images dated to the reign of Ahmose: S. Harvey, “Monuments of Ahmose at Abydos”, *EA* 4 (1994), 2-5; and S. Harvey, “New Evidence at
with a bow and his opponent has already succumbed to one arrow hit. A similar image, this time from a seal, depicts Amenhotep II, also in a chariot armed with bow, attacking two Asiatics. Of greater interest, however, are the two scenes from a chariot depicting Thutmose IV in combat against the Syrians. Although it has been said that these scenes are of little historical importance, it would still be worthwhile to discuss them in some detail. The Egyptian king in the first scene (the left side of the chariot) is in his chariot armed with a bow and arrow and is attacking a combined force of Syrian chariots and infantry. He also runs down some enemy soldiers while others attempt to flee. Three horses belonging to the enemy have received arrow hits as have some of the Syrians. Of interest, however, is the composition of the enemy force. A number of them appear to be archers (although one possesses a shield). Other troops are armed with daggers, and at least one soldier is armed with an eye socket axe. Some soldiers possess extensive armour while others do not. The chariots appear to be equipped with bows but no other weaponry is visible. The enemy are in utter chaos. Two of the three chariots have overturned and in a motif that we will come across again some of the Syrians are attempting to flee the battlefield on horses cut loose from their damaged vehicles. A final curious feature in this scene (and something that is repeated again in the battle reliefs of Ramesses III) is the number of enemy troops with missing hands.


76 S. Heinz, *Die Feldzugsdarstellungen*, 235.


81 Four soldiers are missing their right hand and one their left. The amputation of hands was of course another recurring theme which reached its artistic climax in the battle reliefs of Ramesses III at Medinet Habu where we see victorious Egyptian soldiers next to massive piles of dismembered hands: *Medinet Habu* I, pl. 22. For two useful studies on this phenomenon in the Egyptian records, see: J. Galán, “Mutilation of Pharaoh’s Enemies”, in *Egyptian Museum Collections around the World* I, M.
The scene from the right side of the chariot depicts more of the same. In this case, however, Thutmose has exchanged his bow for an axe with which he is about to smite two Syrian charioteers whom he grasps by their hair. In this scene and in the last, he is secured to his chariot by the reins of the horses. The enemy force again consists of chariotry and infantry, and again, they are in full retreat. Some of the soldiers are equipped with bows, others eye socket axes and some with daggers. A number of the enemy troops also have shields and some form of body armour. Of the five chariots depicted, three have overturned, one has been “captured” by the king, and one is attempting to escape in spite of receiving a number of arrow hits. Of interest we see with this last chariot that it is the archer who is doing the driving with the shield bearer attempts to protect them both. Unlike in the previous scene, the enemy here do not appear to be missing any limbs.

The theme of king as sole defeater of Egypt’s enemies and defender of her borders continues with the Karnak battle reliefs of Sety I. In his first military campaign we see the Egyptian king singlehandedly defeating a force of Shasu Bedouin. In one battle (taking place in the vicinity of Gaza) the king in chariot charges into their midst armed with bow and arrow. The Shasu closest to him are either dead or dying having succumbed to the arrow assault or having been run down.

Eldamaty and M. Trad (eds.) (Cairo, 2002), 441-51; and M. A. Abdalla, “The Amputated Hands in Ancient Egypt”, in Studies in Honor of Ali Radwan, in Supplément aux Annales du Service des Antiquités de l’Égypte. Cahier No. 34 I, Kh. Daoud, Sh. Bedier and S. Abd El-Fatah (eds.), (Cairo, 2005), 25-34 (although the Thutmose IV example is not included in this study). Of particular interest, Abdalla noted that the “numbers of amputated hands represented in the war scenes increased greatly in relation to the increasing numbers of foreigners serving in the Egyptian army”. This, she believes, was because of the need for these auxiliaries to prove themselves to the Egyptians, ibid., 25. Whether or not this was the case is open to interpretation, as is her further comment that the collection of hands was not meant to indicate numbers of dead and nor were they trophies. On this point, see the comments of J. Galán, “Mutilation of Pharaoh’s Enemies”, 446. Overall, the psychological importance of mutilating the dead body of one’s enemy and collecting body parts as trophies cannot be dismissed lightly, see the two studies of: J. Shay, Achilles in Vietnam: Combat Trauma and the Undoing of Character (New York 1994), 117-9; and L. A. Tritle, “Hector’s Body: Mutilation Of The Dead In Ancient Greece And Vietnam”, The Ancient History Bulletin 11(1997), 123-36.

W. Wreszinski, Atlas II, pl. 2.

H. Nelson (et al.), The Epigraphic Survey, Reliefs and Inscriptions at Karnak IV, The Battle Reliefs of King Sety I (Chicago, 1986), pl. 3; hereafter cited as RIK IV. There remains some uncertainty as the exact order and number of campaigns reflected in the Karnak scenes. For a useful overview of the various studies on this matter, past and present, see: A. Degrève, “La Campagne Asiétique de l’an 1 de Séthy Ier représentée sur le mur extérieur Nord de la Salle Hypostyle du Temple d’Amon à Karnak”, RdÉ 57 (2006), 47-76. The author herself argues that the reliefs (excluding the Libyan scenes) depict only one major campaign dated to the first regnal year of Sety. On that point, see our comments in Chapter VI.
by the chariot, while those further to the left are attempting to flee. They are depicted as being poorly armed without shields and with only spears or in some cases, ancient eye socket axes as weapons. We are clearly dealing with an inferior class of infantry. A couple of interesting human touches include the two veterans to the far left, one of which has lost his right hand, and the presence of a mother and child on the battlefield. This adds to the pathetic nature of the enemy as does the enemy soldier who deliberately breaks his damaged and therefore quite useless spear over his knee.86

In a second scene, Sety is forced to clear Shasu Bedouin away from the Sinai fortresses and their wells. The king again charges the enemy in his chariot (running some over in the process) while firing off his arrows. The Shasu are not putting up much of a fight and none of their number appears to be armed. While some are attempting to flee, many have already been struck down by arrows.

The campaign against Yenoam which is depicted in the second register also presents the king going into battle without the aid of his army. In the battle scene in question, Sety is in his chariot and, while he still possesses his bow in his left hand, uses a spear to dispatch an enemy charioteer. The head that is seen is believed to belong to another Syrian whose body is not visible due to the damage suffered to this relief, yet it could just as well belong to the charioteer on the left who has had his

84 This pattern of destruction was commented on by Gonzalo Sanchez who noted that those enemies closest to the Egyptian king are clearly dead, a second layer is formed by those who are dying, the wounded form a third layer, while the final layer is made up of the less injured or uninjured, see: G. Sanchez, “A Neurosurgeon’s View of the Battle of Reliefs of King Sety I: Aspects of Neurological Importance”, JARCE 37 (2000), 159.

85 Although it is possible that both veterans have lost their hands, RIK IV, 5. As already mentioned above (note 81), this is a motif that we will see again.

86 Frustration expressed over the malfunctioning of military equipment is a timeless phenomenon, see: J. Shay, Achilles in Vietnam, 141-4 for a more detailed discussion. As for the presence of civilians on the battlefield, as reflected in certain Egyptian battle reliefs, this deserves some attention. Aside from those battle images depicting city assaults (civilians naturally feature quite prominently in such scenes), the presence of women and children on or near the battlefield immediately informs us that the Egyptians are fighting an opponent with limited military capabilities, see, for example, the Nubian battle images of Ramesses II and Ramesses III: W. Wreszinski, Atlas II, pls 165-6 and 168a; and Medinet Habu I, pls. 8-9 respectively.

87 RIK IV, pl. 5.

88 Ibid., pl. 11.

89 The bow has not been pulled back thus the king has finished firing volleys of arrows, compare: ibid., 35.

90 As argued in: ibid., 36 and pl. 11.
neck broken by the king’s grip. The other charioteer, armed with a bow and shield in his right hand, has not yet suffered the fate of his comrade. A number of fallen Syrians also appear to have suffered broken necks probably as a result of falling from overturned chariots.\textsuperscript{91} Indeed, the enemy force, which has been devastated by the king’s arrows, appears to be mostly made up of chariots (and is apparently quite well disposed to running over their own men). Some may also be infantry due to the number that possess rectangle shields. At least one of the latter is attempting to flee the battlefield, as some of his comrades have already done, on a horse cut loose from its chariot. Apart from the bow possessed by the above mentioned charioteer, no other personal weapons are visible with the exception being a single dagger held by one of the fugitives hiding in the trees.

In Sety’s attack against Qadesh he faces (alone) a combined force of Amorite chariots and archers.\textsuperscript{92} The enemy force has already been decimated by the king’s arrow assault and is in full retreat. Sety, in chariot, has likely switched to his javelins to finish off any surviving troops.\textsuperscript{93} One chariot in particular has suffered a vicious attack. The shield bearer (on the chariot’s left side) has received a javelin hit to his chest area, while the archer who still has the horses’ reins tied around his waist, has been hit by an arrow in the face which has also penetrated through the back of his head. To add injury to insult, so to speak, he has also been hit by a javelin in the stomach as has one of the horses. The five enemy soldiers (two are archers) behind this chariot and below the king’s horses are either dead or dying as is the unfortunate soldier that has been run over by his own chariot. Other soldiers, some armed with bows and at least one other with a rectangular shield, have all been hit with arrows. Finally, at the bottom right corner an enemy archer flees the battlefield while at the same time attempting to protect some cattle.

With respect to Sety’s Libyan action, where again he receives no help from the army, two scenes are of particular interest to us.\textsuperscript{94} In the first, the king stands (in a

\textsuperscript{91} \textit{RIK IV}, pl. 11. The depiction of such an injury, the result of falling from a chariot at speed, is quite realistic. For a more detailed analysis of the portrayal of battle injuries in Egyptian reliefs see: G. Sanchez, “A Neurosurgeon’s View”, 143-65. One can also add the study of J. Filer, “Ancient Egypt and Nubia as a Source of Information for Cranial Injuries”, 47-74.

\textsuperscript{92} \textit{RIK IV}, pls. 23-4.

\textsuperscript{93} Only the bottom part of the king’s chariot has survived.

\textsuperscript{94} \textit{RIK IV},pls. 27-32.
slight variation of pose) against the outside frame of the chariot resting his left foot on the main chariot pole. He has hooked the head of the Libyan chieftain with his bow and is about to strike him down with his sickle-shaped sword. The Libyan leader, armed with a bow, has already been hit by one of the king’s javelins. As for the main Libyan force, this has been decimated by the arrows of the king. Indeed, every visible enemy soldier has been hit by an arrow and in some cases the arrow has penetrated right through the victim. The Libyans are, for the most part, armed with bows but one individual possesses a dagger in his right hand and an unidentified object in his left. In the next scene of interest, the king has dismounted from his chariot in order to engage his Libyan opponents in hand-to-hand combat. Sety has grabbed hold of one Libyan with his left hand and in his right he holds a javelin which he is about to plunge into him. The Libyan, armed with a bow in his left hand, has already been wounded by an arrow taken in the chest. Under the king’s feet lies another wounded Libyan who has been pierced with one of the king’s javelins.

In the final campaign illustrated in the Karnak reliefs, Sety, in chariot and armed with bow and arrow, single-handedly attacks a force of Hittite soldiers and chariotry. The Hittite chariots (six are present in the scene) attempt to flee the battlefield. In the largest of the five (just in front of the king’s horses), the Hittite chief/leader, armed with a bow in his left hand, has been hit by two arrows, one in the neck and one in the head. His shield bearer, positioned on the left side of the chariot, is already falling backwards out of the chariot having been hit by a javelin. An arrow and a javelin have also struck the horse on the right while both appear to be in a maddened state. The crew of the chariot below the king’s horses have also suffered a similar fate. The shield bearer (on the right side) has been shot by an arrow in the chest and is starting to fall backwards. The archer (on the left side) has been shot in the neck. He still holds his bow in his left hand and his horses’ reins remain tied round his waist. Another chariot located in the bottom right corner is of interest. One archer

---

95 RIK IV, pl. 28.
96 Ibid., pl. 29.
97 Ibid., pl. 34.
98 Ibid., 104.
99 Ibid., 104.
(quiver on back) attempts to board the chariot but has been struck by an arrow in the lower chest. Already in the chariot, however, is another archer (quiver on back) who is holding a bow and horses reins in his left hand, but he too has been struck in the chest. The three remaining chariots in this scene have all come under heavy arrow attack and a number of their crews, as well as at least one horse, have been hit by arrows.

Also of interest is the presence of two Hittites each riding bareback on their respective horses. These soldiers may have cut the horses loose from damaged chariots or they may in fact be Hittite scouts due to the fact that both possess quivers and one at least also appears to be holding an object that is used as a prod. The infantry that are accompanying the chariots appear to be predominantly made up of archers (many wear quivers and still carry their bows in their left hands). Some of the infantry are, however, armed with rectangular shields instead of bows but do not appear to possess any personal weapons. Many of them have been hit by the king’s arrows and a couple have also been run down by the royal chariot. Overall, we do not possess one single battle image where Sety actually receives assistance from any other element of the army. In that respect, this makes his reliefs rather unique.

A great number of scenes from the reign of Ramesses II depict that king in battle usually defeating the enemy with little or no help from the rest of the army yet unlike his predecessor; there are also an equal number of images where the army does take an active part. In one fragmentary scene from Abydos, the royal chariot runs down some Asiatics as does the Egyptian chariot that follows it. The Asiatic force comprises spearmen and archers with at least one individual possessing a rectangular shield. Those troops that are not already dead or dying having succumbed to the king’s arrow attack are attempting to flee the battlefield. In another scene (also from Abydos) depicting the king’s assault against an unidentified Asiatic city, enemy troops in the foreground have been felled by arrows while Ramesses himself stands on a group of bound captives.

100 RIK IV, pl. 34; and see below: Scouting.


102 Ibid., pl. 25b. One enemy soldier possesses a rectangular shield while another is armed with a dagger. As with the previous scene, the king is not entirely alone as we do see one of his sons following behind him. The image of a young vile ruler trampling his fallen foes can be seen as an ultimate statement of sovereign power and was an important motif in Egyptian military images, see J. Hoffmeier, “Some Egyptian Motifs Related to Warfare and Enemies and Their Old Testament
From Karnak we possess a greater number of such images. Many of these depict Ramesses in his chariot armed with bow and arrow attacking masses of Asiatics. In two of these scenes, one depicting an Asiatic field campaign (location unknown) and the other the king’s assault against the cities of [rière] and Mutir, the enemy have been decimated by arrows and some of them are being run down by the royal chariot. In neither scene do we see any weapons nor are the enemy able to flee the battlefield. The same hopeless situation is seen in another unidentified Asiatic war scene. The enemy force has been caught between the king’s chariot and a city. The single visible enemy chariot has succumbed to a number of arrow hits and is completely out of control. A similar fate has befallen enemy forces in the vicinity of Kwťr and an unidentified city. The enemy force is also a mixture of at least one chariot and infantry, the latter consisting of a number of archers. Unlike in the previous three scenes, some of the infantry are attempting to flee, but the chariot crew and one of the horses have already suffered a number of hits. The assault against the city of Jj differs little from the previous images with the exception that the enemy are conducting a more orderly retreat.

In two other scenes from Karnak, the king (still in chariot) has exchanged his bow for another weapon. The first of these (again the location of the battle is unknown) is of interest as we find a considerably more detailed battle representation. The king has seized an enemy charioteer (the archer) in one hand and is about to dispatch him with a hand weapon. The shield bearer is already falling from the chariot and one of the horses looks as if it is about to collapse.

Counterparts”, *Ancient World* 6 (1983), 56, and for the text equivalent: *ibid.*., 59. Indeed, one of the most potent examples of such imagery is undoubtedly the Victory Stela of Naramsin. In this stela, the Akkadian king (magnificently posed) stands with left foot placed on top of a pile of naked slain enemy (Lullubi) soldiers while others plead for mercy. In this scene, he clearly holds power over life and death, Z. Bahrani, *Rituals of War: The Body and Violence in Mesopotamia* (New York, 2008), 101-20.


104 W. Wreszinski, *Atlas II*, pl. 54a and 55.

105 S. Heinz, *Die Feldzugsdarstellungen*, 270.


109 Due to damage to this relief, the type of weapon is unknown.
Beyond this we see the enemy infantry which appears to consist of at least two classes. Some are armed with spears as well as daggers while others possess bows. A few, but not all, carry rectangular shields. A single soldier is also seen on horseback armed with a bow and quiver as well as a shield, and it is possible he may be a scout rather than an opportunist. The pattern of destruction as seen in the reliefs of Sety is repeated here with those enemy troops closer to the king either dead or dying while others further away are attempting to flee. The second example depicts the assault against the cities of Sjbt and Jkt. In this scene, the king seizes an enemy charioteer (the archer) by the hair and is about to run him through with a spear. The shield bearer has already been felled by an arrow as have some troops below the enemy chariot. The other Karnak war scenes which depict the king on foot attacking various enemy cities will be dealt with more fully in the following chapter.

The battle scenes from Luxor differ somewhat from those at Karnak as the army is actually present in a number of them in addition to the king’s sons. While their participation is rather limited, their inclusion is nonetheless notable. Indeed, we are hard pressed to find a single scene where the king actually goes into battle alone. In the one possible exception, Ramesses, in chariot and armed with bow and arrow, attacks a confused mass of enemy soldiers in the vicinity of two unidentified Asiatic cities. This force consists of at least two classes of troops – archers and infantry. The former are armed with bows as well as circular shields, whereas the latter appear to be armed with daggers and at least one soldier carries a rectangular shield. A lone horse without a rider is also visible. In a second scene, Ramesses, again in chariot armed with bow and arrow, along with two of his sons (one is about to dispatch his opponent and the other is binding a prisoner), attack an Asiatic force consisting of chariots and spearmen. These soldiers also possess rectangular shields. As always, the enemy force is in full retreat with many of their number having succumbed to the king’s arrow attack. The enemy chariot in the foreground is about to be run down by the royal chariot. Its shield bearer has already been hit and is falling out backwards.

---

110 In that he was fortunate enough to be able to seize a horse from a destroyed chariot.

111 W. Wreszinski, Atlas II, pl. 56. This individual has already been hit in the shoulder by one of the king’s spears.

112 S. Heinz, Die Feldzugsdarstellungen, 271.

113 W. Wreszinski, Atlas II, pl. 77.
the archer/driver (the reins are tied around his waist) has not yet suffered his colleague’s fate. The other chariots are faring not much better and like many of the spearmen, they are attempting to flee. Admittedly, the king is not fighting this battle completely alone for, in addition to the two princes, we can also see Egyptian chariots behind the king in the process of running down incapacitated enemy soldiers.

In a third scene, Ramesses is again depicted in his chariot attacking the city of Mutir. Unlike the Karnak example, he is assisted by two of his sons, and we see that Egyptian troops have already fought their way into the city. The Asiatic force, which has been subjected to heavy arrow attack, consists of archers, spearmen, and at least one enemy chariot is visible. Some of the soldiers are also armed with the characteristic rectangle shield. Most of them, however, have been struck down by arrows fired by the king and are either dead or dying. Four spearmen attempt to flee the battle and they are preceded by a herdsman. One soldier, at least, has found refuge among the trees.

In the battle scenes from the Beit el-Wali temple, Ramesses is once again depicted as the main harbinger of destruction. In one scene he is in his chariot attacking a formation of Shasu Bedouin. The king holds his bow in his left hand along with two enemy soldiers held by their hair, while in the right, he holds his sickle-shaped sword with which he is about to strike down his two captives. Other enemy soldiers are attempting to flee but some have already been hit by the king’s arrows. The Shasu are armed with spears (at least one soldier has two) and some also possess curved stick weapons. Also of interest are the two enemy prisoners tied to the bottom of the king’s chariot. One of the more dramatic scenes, however, shows the king grabbing the hair of a chieftain of an Asiatic city with his left hand while in his right hand he holds a sickle-shaped sword above his head and is about to deliver the final coup de grâce. In this case the king is not completely alone as he is assisted by one of his sons.

Ramesses was also forced to single-handedly deal with enemies on Egypt’s other fronts as well. In one relief, for example, we see the king attacking a force of

---

114 W. Wreszinski, Atlas II, pl. 71. See also our comments on this battle in Chapter II.


116 H. Ricke (et al.), Beit el-Wali, pl. 12; and W. Wreszinski, Atlas II, pl. 163.
Nubians along with their village (a not too commonly depicted subject). Admittedly he is accompanied by two of his sons but they do not participate in the fighting. Instead it was left to the king alone, in chariot armed with bow and arrow, to bring about victory. The Nubian “army” are made up predominantly of archers (as one would expect) and they are attempting to retreat back to their community. This consists of little more than some civilian women and children. Some help a wounded Nubian soldier while a Nubian woman to the far left is still cooking a meal completely oblivious to the approaching Egyptian army.

We also possess a rather similar image from the temple of Derr. Once again the Egyptian king, accompanied by his sons, is attacking a Nubian army and their village. The action is divided into three neat parts: the battle proper (the king decimates the enemy archers with arrows); the Nubian retreat back to their village; and finally, the aftermath of the battle. Unlike with the last scene, the princes take a more active part in the events by escorting some of the prisoners. Nonetheless, they do not actually participate in the fighting. Again it is the king, in chariot with bow and arrow, who is responsible for the victory. As with the previous scene, we find a small touch of originality with the image of two Nubians carrying their wounded comrade to safety. In the community itself we find women, children, elderly individuals, and

---

117 H. Ricke (et al.), Beit el-Wali, pl. 7; and W. Wreszinski, Atlas II, pl. 166.

118 One of the Nubian bowmen also holds a club like object in his right hand.

119 Once again the inclusion of such civilian elements deserves mention. The contrast between this scene and the earlier one of the Asiatic city is all too evident. While city based inhabitants enjoyed some degree of support with respect to a fairly well developed infrastructure and reasonably secure home base, the same is not true for the Nubians who have more in common with the Shasu Bedouin. Their vulnerability is especially reflected in their limited infrastructure and small defenceless settlements.


122 Battlefield evacuation of the wounded is an important tactical consideration and represents another paradox of war. On the one hand, removing wounded from a battlefield consumes manpower (two soldiers in this case) and resources, and also exposes those involved to greater physical danger. On the other hand, the moral effect on not doing so could be equally harmful, see Chapter III note 209. Such “compassionate” scenes are for the most part absent in the Asiatic battle reliefs. The Egyptians did, nonetheless, take the time to record the names of fallen Hittite high ranking officers following the battle of Qadesh, see: KRI II, 137.1-138.16; RITA II, 21-2. For commentary, see: RITANC II, 53-5; E. Edel, “Hethitische Personennamen in hieroglyphischer Umschrift”, in Festschrift Heinrich Otten, E. Neu and C. Rüster (eds.), (Wiesbaden, 1973), 64-8; and E. Edel, “Kleinasiatische und semitische Namen und Wörter aus den Texten der Qadeßschlacht in hieroglyphischer Umschrift”, Fontes Atque Pontes. Eine Festgabe für Hellmut Brunner, M. Görg (ed.), (Weisbaden, 1983), 90-2.
livestock. They have already been informed of the impending Egyptian attack by a Nubian archer. The Derr temple also contains a couple of additional war scenes, one depicting an Asiatic campaign while the other a Nubian military action. In both scenes, the king is in his chariot but little more can be said as the scenes in question have suffered some damage.

More generic scenes are found at Abu Simbel. In the first, the king single-handedly attacks a Libyan warrior with a spear while trampling over another. In the second, depicting an assault against a Syrian city, the king is in his chariot armed with bow and arrow and is followed by three of his sons each in a chariot of their own. They do not participate in the attack, but merely accompany the Egyptian monarch into battle. The latter uses his bow and arrow to attack the Asiatic city and its inhabitants. We may also add to this discussion the recently discovered relief fragments uncovered at Tell el-Borg. The fragments depict a near life size Ramesses II attacking what appear to be Shasu enemies with bow and arrow. The complete scene may have adorned the façade of a double-towered gate of this Ramesside era fort (of interest, there is evidence that the gate was attacked and burnt at a later date). Setting up such a scene at the entrance to an Egyptian military installation on the eastern frontier would surely have sent a powerful message. Indeed, when one considers that the reliefs of Sety I depicted Shasu near the Sinai fortresses, such a visual deterrence would have been appropriate.

Representations of Merenptah single-handedly defeating hostile forces are not particularly numerous and we possess only two real examples. In the first of these, the king in chariot, is depicted attacking an enemy force in the vicinity of what is possibly the city of Yenoam. The enemy are depicted in utter chaos with some being run down by the chariot while others attempt to flee. One of the latter uses a horse cut loose from a chariot to make good his escape, while another soldier, fleeing on foot,


124 W. Wreszinski, Atlas II, pl. 182.

125 Ibid., pl. 183.


127 Ibid., 85; and see also Chapter III: Asia.

appears to be the only one still in possession of his weapons: shield in right hand; and spear in left. The second example depicts the Egyptian assault possibly against Gezer.\textsuperscript{129} In this scene Merenptah is on foot, and while elements of his retinue are also present, only he is actually in combat posture about to strike an inhabitant of the city with his sickle-shaped sword.

Ramesses III is often depicted going into battle with the aid of his army and as such there are very few scenes where he actually attempts to fight the enemy single-handedly. Indeed, in this respect, Ramesses III’s battle images are almost the complete reverse of those of Sety I. Of the few existing examples, however, one includes a scene where he attacks a Syrian city.\textsuperscript{130} The king has left his chariot, which is just behind him, and proceeds forward stomping on fallen Asiatics. Ramesses has exchanged his bow (the quiver is empty) and is instead relying on javelins to finish off the enemy. He also carries a shield for some protection. Admittedly, Ramesses is not alone on the battlefield. He is accompanied by his sons, members of the retinue, and two detachments of Egyptian heavy infantry (one row is being led by two of the princes). The latter advance towards the battlefield, yet at this point it is only the king who is doing any of the fighting. A similar scene, recounting the assault against two other Asiatic cities, depicts the king in his chariot running down some enemy foes many of which have already been hit by the king’s arrows. Again Ramesses is not alone, the four registers behind him contain nine Egyptian troops as well as four of his sons.\textsuperscript{131}

Three additional scenes from the Karnak Amun precinct must also be considered.\textsuperscript{132} In the first of these, Ramesses engages a Libyan foe in single-handed combat. Grabbing his right hand, the Egyptian king proceeds to run him through with his spear. In the second scene, the king is again on foot (shield and bow in right hand, spear in left) attacking a group of Libyans who are attempting to flee up a steep hill. Apart from the two Libyans being stood on by the monarch, all of the others have

\textsuperscript{129} W. Wreszinski, \textit{Atlas II}, pl. 57a. Further aspects of this scene will be discussed in the following chapter.

\textsuperscript{130} \textit{Medinet Habu} II, pl. 90; and W. Wreszinski, \textit{Atlas II}, pl. 154.

\textsuperscript{131} \textit{Medinet Habu} II, pl. 90; and W. Wreszinski, \textit{Atlas II}, pl. 145.

\textsuperscript{132} RIK II, pls. 81-2 (a, c-d); and S. Heinz, \textit{Die Feldzugsdarstellungen}, 318-9. A comparison of these images with those from the Mut precinct highlight a number of key differences – see below for further discussion.
been hit by arrows. In the third scene, which depicts an Asiatic field campaign, Ramesses is in his chariot (armed with bow and arrow) running down some unfortunate Asians. In all three scenes, he is accompanied by members of the retinue but their participation is kept to an absolute minimum. All in all, these are the only five scenes from the entire corpus of reliefs where Ramesses enters into battle “alone”.

The final scene to be discussed here, dated to the reign of Ramesses IV, shares more in common with its Dynasty XVIII predecessors than the later Ramesside reliefs. The image depicts the Egyptian king in his chariot apparently without any weaponry. He does, however, seize two foes by the hair with his left hand.

Hand-to-hand Combat

We will now turn to a category of images in which the Egyptian infantry feature actively on the battlefield, although it must be noted their level of participation varies considerably. As befits their long and established history as the core component of the Egyptian army, images of infantry engaged in hand-to-hand fighting are a key element in the battle scenes. Infantry, as we have seen above, can be divided into the categories of “heavy” and “light”. The heavy infantry were essentially those soldiers that were armed with personal hand weaponry, often (but not always) carried a shield (although this tends to become the norm during the New Kingdom), and engaged in the aforementioned close quarter combat as represented in numerous battle images. They constituted the bulk of the army and contributed a significant portion of its combat power. As heavy infantry are represented in some of the earliest battle scenes, dating back as early as the Old Kingdom, it would be beneficial to include these early scenes in our discussion here for the purposes of tracing the development of this arm over time. In fact, the soldiers in this early period barely deserve the title of “heavy” as they are often shown without shields and went into combat with just

133 S. Heinz, Die Feldzugsdarstellungen, 323.

134 There is no reason to deny the historical veracity of these intimate combat encounters, for as Luttwak rightly noted, unlike with modern warfare where (due to the nature of the weaponry employed) hand-to-hand fighting is rare, in “ancient combat there are no long-range weapons, so that except in ambushes the last moments before the fight were fully experienced”, The Grand Strategy of the Byzantine Empire (Cambridge MA, 2009), 268.
one personal weapon, usually an axe.\textsuperscript{135} The tactical functions of the infantry were varied as befits their versatile nature. In addition to forming the core of the army on the battlefield, it was the heavy infantry that was tasked to undertake the capture of hostile fortresses or cities.\textsuperscript{136} This was the case as seen in the earliest scenes and the theme continues down into Dynasties XIX and XX. Only Egyptian soldiers are ever actually shown assaulting or breaching the walls of city. Mercenaries, or to utilise the more appropriate term “auxiliaries”, such as Sherden warriors, Libyans, and Nubians are only ever shown in a supporting role.\textsuperscript{137}

As well as fighting on land, heavy infantry were also expected to fight either at sea as marines or were transported via naval vessels for amphibious assaults and landings. This was especially so in the period where Egypt relied heavily on naval operations before moving over to predominantly land based operations.\textsuperscript{138} Infantry were also employed for garrison duty (\textit{iw\textsuperscript{5}yt}) and in more peaceful times were required to perform a number of non military tasks.\textsuperscript{139} The heavy infantry remained the most important element of the army, and this did not change even after the introduction of the chariot. The latter, while an important military tool, could not function in the absence of infantry on the battlefield.\textsuperscript{140}

One of the earliest and best preserved examples of Egyptian infantry in action is the scene from the tomb of Inty at Deshasheh dated to Dynasty VI.\textsuperscript{141} In this scene we see Egyptian troops engaging enemy soldiers in battle and also assaulting an Asiatic city. The city assault aspect of this scene will be discussed in greater detail in the following chapter but we will look at the battle now. This is divided into three registers. The uppermost register which has unfortunately suffered some damage will

\textsuperscript{135} As seen, for example, in: W. Wreszinski, \textit{Atlas} II, pl. 4.

\textsuperscript{136} For a more detailed discussion, see Chapter II.

\textsuperscript{137} As Spalinger noted, to describe these foreign contingents within the Egyptian army as mercenaries is not entirely accurate as these soldiers were more than simply “hired help”, \textit{War}, 6-8. See also our brief comments below.

\textsuperscript{138} See Chapter V: An operational shift.

\textsuperscript{139} Military personnel for example often took part in quarrying expeditions. Such tasks would have been valuable for “real world” military training, see further our comments in Chapter III.

\textsuperscript{140} The same was also true for cavalry attempting to win the battlefield against a combined arms army or, to provide a more modern example, tanks operating alone without the support of troops.

\textsuperscript{141} W. Wreszinski, \textit{Atlas} II, pl. 4. For further references, see Chapter II note 20.
be discussed separately below. In the second register (reading from right to left), we see an Egyptian attacking an enemy with an axe held in both hands.\footnote{With respect to this scene, see also the comments of: J. Filer, “Ancient Egypt and Nubia as a Source of Information for Cranial Injuries”, 54-6. Filer noted that cranial injuries to the frontal and parietal bones are more common than injuries to the occipital bone and that such fractures appear more on the left side of the skull (indicating a right-handed attacker) than the right side, \textit{ibid.}, 49.} This enemy soldier is being pulled back from behind by the hair by another Egyptian and has already been hit by two arrows.\footnote{One in the lower left arm and another in the chest area.} A third Egyptian soldier has forced his opponent onto the ground and is about to strike him with an unidentified weapon. This Asiatic has also been hit by arrows,\footnote{One in the back and one in the stomach.} as have the two other enemy soldiers seen in this register.\footnote{One has been hit in the backside, while the other has been hit twice, once in the stomach.} The fighting is considerably more intense in the third register, and again moving from right to left, we see an Egyptian with axe in both hands, about to strike down his opponent.\footnote{This soldier has already been hit by three arrows: one in the head; one in the lower back; and one in the knee.} He attempts to defend himself by grabbing the Egyptian with his left hand and fighting him off with a weapon in his right hand.

Next to this we see another Egyptian striking his opponent at the base of his neck with an axe. This Asiatic is armed with a bow and has received at least six arrow hits. Behind the Egyptian, another Asiatic succumbs to an arrow hit in his chest area, while next we see two Egyptians attacking an enemy soldier from opposite sides. The Egyptian on the left is grabbing his opponent’s hair in his left hand and slashing at his throat with an axe in his right hand. Below these two, another Asiatic falls to the ground having been hit by three arrows.\footnote{One arrow has hit his lower right arm, another his chest area, and the third his foot.} Such an intimate encounter as presented in this scene provides us with considerable tactical information. First, none of the Egyptian soldiers in this scene possess shields or any type of protective armour. Second, many of the enemy soldiers have already been struck by arrows – an indication that the close quarter assault was preceded by an arrow bombardment. Third, the multiple hits that some of the enemy soldiers have suffered may reflect artist design, or could instead reflect the limited effectiveness of bow technology at this time (see below for further discussion).
Fragments from the causeway of King Unas at Saqqara also depict scenes of hand-to-hand combat against an Asiatic foe. In one fragment, an Egyptian archer fires at a tumbling enemy soldier, while another grabs his opponent and attacks him with what is possibly a dagger. As with the above scene, neither Egyptian possesses a shield.

Images of hand-to-hand combat from Dynasty XVIII are few in number and for the most part date to the reign of Tutankhamun. As we have seen above, the chest that was uncovered from his tomb depicts two separate battles: one in Asia; and the other in Nubia. In the Asiatic scene we see some Egyptian soldiers in close hand-to-hand combat with the enemy. One soldier has strapped his shield onto his back and is in the process of attacking a falling enemy with a dagger. Also taking part in the combat are two Egyptian war dogs which are attacking fallen enemy troops. The Asiatic force which consists of foot soldiers and chariots is in complete disarray. A number of the enemy have been felled by arrows fired by the king, while others are attempting to flee the battlefield. The Nubian battle scene is similar to the former. Egyptian infantry have already closed with the enemy and with shields strapped to their backs, are engaging the enemy in hand-to-hand combat. The latter do not possess chariots as one would expect and they even lack quivers. Instead the Nubian archers

---


149 A. Labrousse and A. Moussa, *La chaussée du complexe funéraire*, 136 fig. 16. In a second fragment, an Egyptian archer attacks a falling enemy while two of his colleagues each attack an Asiatic, *ibid.*, 136 fig. 17.

150 By the New Kingdom, Egyptian infantry were utilising a smaller type of shield with a tapered lower half in addition to effective body armour, I. Shaw, “Egyptians, Hyksos and Military Technology: Causes, Effects or Catalysts?”, in *The Social Context of Technology*, A. Shortland, (ed.), (Oxford, 2001), 67. Late Bronze Age armour came in different styles, but overall was generally flexible consisting of overlapping scales of bronze and rawhide: T. Hulit, “Tut’Ankhhamun’s Body Armour: Materials, Construction and the Implications for the Military Industry”, in *Current Research in Egyptology 2004: Proceedings of the Fifth Annual Symposium*, R. Dann (ed.), (Oxford, 2006), 100-111. The ratio between the use of the two materials may have varied but an armour coat made entirely of bronze scales would have been especially heavy (approximately 20 kg) and expensive. A ratio of fifty-fifty on the other hand, offered the same protection but would have been, according to the author, 42% lighter. Even so, such armour was time consuming and expensive to manufacture and therefore appears to have been reserved more for elite formations rather than the general rank and file, *ibid.*, 100 and 109. As a comparison, see: T. Dezső, “Scale Armour of the 2nd Millenium BC”, in *A Tribute to Excellence. Studies offered in Honor of Erlo Gád, Ulrich Luft and László Török*, T. A. Bacs (ed.), (Budapest 2002), 199 diagram 1 and 209 diagram 2 for a detailed analysis of the weight of Nuzi chariot unit body armour.
carry their complement of arrows in one hand in a rather similar fashion to their ancestors as depicted in the Beni Hasan siege scenes.  

Intimate scenes of hand-to-hand combat are also found among the numerous talatat from the now destroyed temple of this king. The fragments originally depicted both an Asiatic and Nubian campaign yet only the former has been the subject of extensive reinvestigation. In one fragment from the Asiatic battle scene, we glimpse an Egyptian among fallen enemy soldiers possibly in the process of removing a hand with his dagger. In a second block from that same scene, another Egyptian soldier (shield strapped to his back) appears to be cutting off the right hand of his recently slain opponent. A similar image is also found in a fragment from the Nubian campaign. A group of Egyptian soldiers are advancing behind the king’s chariot which in turn has just run down an unfortunate Nubian. Taking advantage of the situation, one of the Egyptians breaks formation in order to cut off his left hand.

Also worth mentioning are fragments of a papyrus from Amarna which depict a battle between the Egyptians with their Mycenaean allies and the Libyans. What is of interest is that one part of the scene appears to depict three or more Libyans attacking a fallen Egyptian soldier. One of the Libyans pulls back the head of the luckless Egyptian and is about to cut his throat. The other two Libyans approach from the right and are armed with bows and quivers.

From Dynasty XIX we possess a greater number of representations of hand-to-hand combat. One early example from the reign of Ramesses II depicts an Egyptian prince (with his shield on his back) who has his Asiatic opponent in a headlock from behind and has forced him onto his knees. He is about to kill or incapacitate him

---

151 See Chapter II: First Intermediate Period – Middle Kingdom.


153 As reconstructed in: *ibid.*, fig. 17. See also: D. Redford, *The Akhenaten Temple Project II* (Toronto, 1988), fig. 17.

154 W. R. Johnson, *An Asiatic Battle Scene*, 64 and fig. 18. On this fragment, see also the comments of: Galán, J., “Mutilation of Pharaoh’s Enemies”, 441-6.

155 W. R. Johnson, *An Asiatic Battle Scene*, 13 and fig. 44.


with a stick in his left hand. Behind this duo, a second prince binds his opponent. Egyptian princes engaging in hand-to-hand combat are also found in one of the scenes depicting the assault on Dapur. One prince identified as Khaemwaset, has grabbed his falling opponent’s left arm from behind and with a dagger in his right hand, cuts his throat. The second prince, Montuhirkhopshet, has grabbed his opponent by the hair with his left hand and is about to strike him with a sickle-shaped sword raised above his head. Both princes carry their shields on their backs.

From the Qadesh battle reliefs at Abydos (A), we find a small scene depicting four separate duels. From right to left an Egyptian archer has grabbed the hair of his opponent, who is down on his knees, from behind with his right hand and is about to dispatch him with a weapon (possibly a dagger) in his left. Next we see a Sherden warrior with shield strapped on his back grabbing his opponent’s head with his left hand and is cutting his throat with a dagger in his right. The Hittite is already down on one knee and grasps the left arm of his attacker. The third duo consist of an Egyptian heavy soldier (shield strapped to his back) who has grabbed his fallen opponent’s right hand and is about to plunge a spear into him (the Egyptian’s dagger is still in his sash). This Hittite holds onto the Egyptian with his right arm around his waist. In the final duel, the Sherden warrior has already dispatched his opponent and is in the process of cutting off his left hand.

In a similar scene from the Karnak Qadesh reliefs (K2) we see one Egyptian about to strike his prisoner or opponent with an unidentified object while at the same time his colleague cuts off the right hand of his still living captive or opponent. Next to them, a Sherden warrior plunges his dagger into the neck of a Hittite.

A small intimate scene of hand-to-hand combat, located almost in the middle of a mass of Hittite and Egyptian chariots, is also found in the Luxor Qadesh reliefs (L1). There we see three Egyptians and a Sherden soldier attacking some Hittites. One Egyptian, (shield on back and forked weapon tucked underneath his arm) binds his captive, whereas another attacks his with a sickle-shaped sword. The third

---

162 *Ibid.*, pl. 84.
Egyptian is armed with a forked weapon with which he is about to strike his opponent, while the Sherden uses a dagger to dispatch his adversary.

In the scene depicting Merenptah’s assault on the city of Ashkelon we find a number of Egyptian soldiers in close combat with the enemy. One Egyptian (shield strapped on back) grabs the hair of his opponent with his left hand, and strikes at his throat with a sickle-shaped sword in his right. A second Egyptian (again with shield on back) positioned just under the king’s chariot, grabs the hair of his fallen opponent from behind with his right hand while holding a sickle-shaped sword in his left.

It is from the reign of Ramesses III, however, that we find some of our best, not to mention numerous, examples of hand-to-hand combat. Starting with the supposedly fictional Nubian campaign, we see a number of individual battles taking place between the Egyptians and their allies on one side and the Nubians on the other. Part of the action has been lost due to damage to the scene but we can make out at least two Philistine soldiers in close quarter combat. One, with his round shield strapped to his back and dagger raised above his head, attacks his opponent. The other Philistine still holds his shield in his left hand and a dagger in his right. Just behind him an Egyptian, with shield in left hand and weapon held above his head, attacks in the opposite direction, while another soldier, possibly an Egyptian but with a round shield strapped to his back, attacks his opponent with a battle axe. The Nubians who are armed with shields and possibly slings, are attempting to retreat back towards their village, yet Egyptian and allied soldiers have already reached their settlement.

In one of the battle scenes depicting the Egyptian victory following the first Libyan invasion, we are provided with additional glimpses of hand-to-hand combat involving Philistine soldiers allied to the Egyptians. The Philistines are armed with round shields, spears and possibly two daggers each. For example, one soldier in the bottom right corner grabs the hair of his opponent with his left hand and stabs him in the chest with a sword in his right. His shield is strapped to his back, and he has another sword positioned across his chest. Behind him we see a double figure which is difficult to make out. But it appears to be a Philistine armed with a spear in his right hand which he uses to plunge into an enemy whom he holds by his hair. The second

163 W. Wreszinski, Atlas II, pl. 58.
164 Medinet Habu I, pls. 8-9.
165 Ibid., pls. 19-29; and W. Wreszinski, Atlas II, pl. 122.
figure, almost superimposed on the first is armed with a sword and circular shield.\textsuperscript{166} Other instances of hand-to-hand combat have unfortunately been partly obscured because of damage to this scene but it is clear that it is Philistine and not Egyptian troops who are at the forefront of the action.

A second scene depicting the first Libyan invasion provides us with even more examples of hand-to-hand combat.\textsuperscript{167} In the bottom register we see a formation of Egyptian infantry (shields in left hand held out in front and sticks in right hand). They are advancing towards the left of the scene forcing a formation of Libyan soldiers into retreat. The latter are armed with bows but one individual also possesses a dagger. Their escape has, however, been cut off by a rather unusual figure wielding a spear in his right hand and a round shield in his left. He also wears a pointed helmet and some form of body armour. Just behind and below him a Philistine is seen dragging by the hair a naked Libyan armed with a dagger. The Libyan appears to have lost his balance and is about to be stabbed in the throat. Further to the left we see a Sherden warrior (shield strapped to his back) who is swinging his sword over his head with both hands about to bring it down on a fallen enemy. In the middle of this scene, more Egyptian soldiers are engaging the enemy in close quarter fighting. One Egyptian pulls back the head of a fallen Libyan with his left hand and is about to slit his throat with a dagger, while a second Egyptian to his left looks as if he has just about removed completely the head of his opponent. He uses his left hand to push the head back to expose the neck while with his right he cuts at the neck with a dagger. A third Egyptian soldier (with shield strapped to his back) is kneeling down but due to damage to this part of the scene it is difficult to see what he is doing.

In the scene depicting Ramesses III’s attack on the Sea Peoples’ army, we find some excellent examples of hand-to-hand combat which highlight the different tactics of the Sherden warriors to those of the Egyptians.\textsuperscript{168} In one example (middle left of the scene) we see a single Sherden soldier armed with shield in left hand and spear in right, attacking a formation of four enemy troops. The latter are armed with spears and daggers but no shields. To the left of this battle, another Sherden soldier (with his sword strapped to his chest) single-handedly attacks an enemy chariot with possibly a

\textsuperscript{166} Although, this could be a mistake on the part of the artist.

\textsuperscript{167} Medinet Habu I, pl. 18; and W. Wreszinski, Atlas II, pl. 130.

\textsuperscript{168} Medinet Habu I, pls. 32-4; and W. Wreszinski, Atlas II, pl. 114.
spear. Below and further to the left of this figure, another Sherden soldier (with shield strapped to back and sword strapped to his chest) pulls back an enemy soldier by grabbing hold of his left arm and is prepared to plunge his spear into the soldier’s head or exposed upper chest area. In the upper register of this scene a Sherden soldier attacks one of the occupants of the ox carts grabbing his right arm exposing him to attack with his sword, while further along we see another Sherden soldier who is pulling an enemy soldier backwards out of an ox cart by grabbing onto his left arm. His weapon is not visible but was likely a spear as his sword is still strapped to his chest. Further to the right we come across what looks like a group of three Sherden soldiers armed with spears (their daggers strapped to their chests) attacking either a defenceless ox cart full of women and children or enemy soldiers behind it.

The Egyptian soldiers, however, tended to engage the enemy in small groups and rarely attacked alone. One such formation (lower left) attacks a fallen enemy soldier (still armed with a spear) while advancing on a group of five Sea Peoples (some armed with daggers, others with spears in addition to shields). At the bottom left corner we find two or possibly only one Egyptian advancing towards a group of around seven Sea Peoples armed with daggers and round shields. Another formation of three soldiers (upper central part of the scene) is blocking two enemy chariots from fleeing, while just below, a second formation of five soldiers confronts an ox cart and some enemy soldiers effectively blocking their retreat. The final Egyptian formation (just under the king’s horses) consists of four men, while in the top register we see what looks like one Egyptian (but possibly more) fighting near the ox carts.

Hand-to-hand combat in the naval battle scene of the Sea Peoples invasion is rather more limited. In one of the Egyptian vessels (E.1), a marine at the bow (armed with a mace) attacks an enemy sailor. The latter, however, has already been hit by an arrow. In that same ship another soldier armed with an extremely long spear appears to be using it against enemy sailors floating in the water. A third Egyptian in another ship (E.2) also uses a long spear to attack a sailor. These marines like their land counterparts have also strapped their shields to their backs.

For this intimate encounter, see: R. G. Roberts, “Identity, Choice, and the Year 8 Reliefs of Ramesses III”, 61 fig. 8.2. As Sherden warriors fought on both sides during this battle, there was a conscious effort on the part of the artists to differentiate between the two groups by means of subtle changes in their respective costumes, ibid., 63.

Hand-to-hand combat in the naval battle scene of the Sea Peoples invasion is rather more limited. In one of the Egyptian vessels (E.1), a marine at the bow (armed with a mace) attacks an enemy sailor. The latter, however, has already been hit by an arrow. In that same ship another soldier armed with an extremely long spear appears to be using it against enemy sailors floating in the water. A third Egyptian in another ship (E.2) also uses a long spear to attack a sailor. These marines like their land counterparts have also strapped their shields to their backs.

For this intimate encounter, see: R. G. Roberts, “Identity, Choice, and the Year 8 Reliefs of Ramesses III”, 61 fig. 8.2. As Sherden warriors fought on both sides during this battle, there was a conscious effort on the part of the artists to differentiate between the two groups by means of subtle changes in their respective costumes, ibid., 63.

Medinet Habu I, pls. 36-41; and W. Wreszinski, Atlas II, pl. 116.
In the three Medinet Habu battle scenes depicting the repulse of the second Libyan invasion force, there are a number of instances of hand-to-hand combat involving both Egyptian and auxiliary troops.\footnote{Medinet Habu II, pls. 67b-68, 69-70, and 71-2; and W. Wreszinski, Atlas II, pls. 137, 140 and 141.} In the first of these, we see an Egyptian armed with a spear in his left hand pulling an enemy charioteer backwards out of a chariot with his right hand (middle right side of the scene).\footnote{Medinet Habu II, pls. 71-2; and W. Wreszinski, Atlas II, pl. 137.} He is about to or is in the process of plunging the spear into his opponent’s exposed upper chest. This Egyptian also wears a quiver on his back. Another Egyptian further to the left (also armed with a bow) appears to be content to subdue his opponent in the hope of taking him captive. A third Egyptian soldier, armed with a sickle-shaped sword in his right hand, grabs the hair of an enemy charioteer while the latter is still in his chariot. The charioteer in turn has thrown his left arm over the shoulder of his companion in order to avoid being dragged off. The action is even more intense on the lowest register. To the far right, two auxiliary soldiers (one Philistine and the other Sherden) fight side by side. The Philistine is armed with a spear in his right hand (and he also wears a sword over his chest), while in his left he grabs hold of the hair of an enemy archer. He is in the process of running his spear through his opponent’s upper chest. The Sherden soldier grabs one of the arms of his falling opponent while at the same time cuts his throat with a sword. Behind these two is another Philistine who has grabbed his opponent’s arm with his left hand and stabs him in the chest with a sword, while behind him, a Sherden warrior (shield in left hand and sword in right) attempts to cut the head off an unfortunate Libyan. Another Sherden warrior, just behind the one previously mentioned appears to be cutting off the left hand of his fallen victim while further to the left we see a formation of Egyptian soldiers entering into the fray. In the second scene, Egyptian troops are depicted in close quarter combat without their auxiliaries.\footnote{Medinet Habu II, pls. 67b-68; and W. Wreszinski, Atlas II, pl. 140.} One Egyptian with a shield on his back grabs an enemy archer with his left hand and cuts his throat with a dagger. Another Egyptian (again with shield on back) has grabbed an archer attempting to flee by the hair and is about to strike him with a sickle-shaped sword raised above his head. A third Egyptian (shield on back) holds a spear with both hands above his head. He drives his weapon into the side of another enemy archer. In the third scene of this series, Egyptian troops
have closed in on the fleeing enemy force and we see that one soldier (shield on back) is forcing his opponent onto the ground and is about to stab him in the chest with a dagger.\textsuperscript{174} Two additional instances of hand-to-hand combat occur further to the left. One of the Egyptians wears a quiver on his back but his primary weapon is not visible.

An additional image of this battle is found among the reliefs from the precinct of Mut. Within this scene, an Egyptian archer grabs hold of his Libyan opponent with his right hand and is about to strike him down with a sickle-shaped sword in his left.\textsuperscript{175} This Egyptian wears a cap of some kind and he carries his quiver on his back. There are two other Egyptians further to the right engaged in hand-to-hand combat, but it is difficult to say if they are archers as well. One Egyptian has grabbed the left arm of a Libyan archer with his right hand and is about to strike him with an unidentified weapon in his left. He does wear clothing that is similar to what archers generally wear. The second Egyptian has also grabbed his falling opponent’s arm and is about to run him through with a spear. None of the Egyptians in this scene possess shields. In another battle scene, this time depicting an unidentified Asiatic campaign, an Egyptian archer has grabbed the hair of his Asiatic opponent with his left hand (while still holding his bow) and is about to finish him off with a spear.\textsuperscript{176} Further to the left we see a group of four Sherden soldiers armed with their characteristic round shields and swords. They surround a dead or dying Asiatic who has already been felled by one of the king’s javelins. Finally, returning to the Medinet Habu battle reliefs, in particular the scene depicting the assault against the city of Tunip, we see two Egyptian soldiers engaging Asiatic troops in hand-to-hand combat.\textsuperscript{177} One of the Egyptians has grabbed his opponent by the left arm and with one leg raised up, attacks him in the chest with a dagger. The second soldier attacks his opponent in a similar fashion but strikes at the neck rather than the chest.

\begin{flushright}
\textsuperscript{174} Medinet Habu II, pls. 69-70; and W. Wreszinski, Atlas II, pl. 141a.
\textsuperscript{175} RIK II, pl. 116; and W. Wreszinski, Atlas II, pl. 62b.
\textsuperscript{176} RIK II, pl. 114; and W. Wreszinski, Atlas II, pl. 62a.
\textsuperscript{177} Medinet Habu II, pls. 88-9; and W. Wreszinski, Atlas II, pl. 151.
\end{flushright}
As we have seen, the Egyptians often made considerable use of auxiliaries to supplement their fighting forces.\textsuperscript{178} Auxiliary soldiers, depending on their “nationality”, served in the capacity of either heavy or light infantry. The Sherden and Philistine troops are certainly found in the former category. Their superior weapons and armour made them potentially the most powerful fighting force on the battlefield especially for close quarter combat.\textsuperscript{179} An unbroken infantry formation consisting of such troops was more than a match for an Egyptian chariot force or for the lighter armed Egyptian heavy infantry.\textsuperscript{180} In the battle images they are often depicted on an equal footing with the Egyptian regular troops (possibly an indication of how highly they were regarded), and on occasions even constituted a key component of the royal bodyguard.\textsuperscript{181} Indeed, the Sherden who are easily recognisable with their round

\textsuperscript{178} Foreigners, and not just mercenaries, could be obtained a number of ways. Nebhepetre Montuhotep, for example, recruited willing troops from among the Nubian population, as noted with the graffito of Tjhemau at Abisko, see: D. O’Connor, “The Locations of Yam and Kush and Their Historical Implications”, \textit{JARCE} 23 (1986), 48-9; W. Schenkel, \textit{Memphis, Herakleopolis, Theban: Die Epigraphischen Zeugnisse der 7.-11. Dynastie Ägyptens} (Wiesbaden, 1965), 274-5; and J. Darnell, “The Rock Inscriptions of Tjhemau at Abisko”, \textit{ZÄS} 130 (2003), 33-6. After being recruited, Tjhemau participated in fighting against the Asiaties (‘\textit{im.w} of Djaty (‘\textit{dty}’) who appear to have been threatening Thebes, \textit{ibid.}, 33-4. This may indicate that the latter were likewise being utilised as mercenaries, but by the north, \textit{ibid.}, 37. Tjhemau, if we are to believe his inscription, went on to become quite a famous soldier, \textit{ibid.}, 43. Another common source of foreign workers was through warfare. Men, women and children are often listed amongst booty sent back to Egypt after military campaigns in the Levant. Numbers were, as noted by Rachael Sparks, considerable: around 5,000 people were taken in this way between Years 23-42 of Thutmose III. There were also opportunities for Canaanites as with their Nubian counterparts to gain entry into Egyptian society, if they were willing, via certain occupations including service in the Army, R. T. Sparks, “Canaan in Egypt: archaeological evidence for a social phenomenon”, in \textit{Invention and Innovation. The Social Context of Technological Change 2: Egypt, the Aegean and the Near East, 1650-1150 BC}, J. Bourriau and J. Phillips (eds.), (Oxford, 2004), 45-6. Overall, this heavy reliance on mercenaries resulted in whole foreign communities being established within Egypt, such as with the Nubians at Gebelein, H. Fischer, “The Nubian Mercenaries”, 77. Such communities became an enduring feature in Egypt, see, for example, the study of: P. Kaplan, “Cross-Cultural Contacts among Mercenary Communities in Saite and Persian Egypt”, \textit{Mediterranean Historical Review} 18 (2003), 1-31. While Kaplan’s focus is on the Late Period, it does provide an important insight into the culture of mercenaries residing in Egypt for earlier periods.

\textsuperscript{179} C. Manassa, \textit{The Great Karnak Inscription}, 80. The Asiaties who appear in the combat scenes at Beni Hasan, for example, are armed with duckbill or fenestrated axes, R.T. Sparks, “Canaan in Egypt”, 46. For these images, see: P. E. Newberry, \textit{Beni Hasan} I, pls. XVI, XXI, and XLVII. The continued use of close combat Asiatic weaponry is further confirmed by the discovery of assemblages of weapons in ‘warrior burials’ at sites such as Tell el-Dab’a and Tell el-Maskhuta in the Eastern Delta. The well known example of Seqenenre also serves to clearly highlight the lethality of these weapons. Also worth mentioning is the woman and dog burial at Tell el-Maskhuta as both occupants appear to have been dispatched with an Asiatic-style shaft-hole axe, R. T. Sparks, “Canaan in Egypt”, 46.

\textsuperscript{180} C. Manassa, \textit{The Great Karnak Inscription}, 104.

\textsuperscript{181} W. Wreszinski, \textit{Atlas} II, pls. 19-20. By the New Kingdom, it is not uncommon to find representations of Canaanites serving either as soldiers or bodyguards in the Egyptian army: D. Redford, \textit{The Akhenaten Temple Project} II, 15-7; and R. T. Sparks, “Canaan in Egypt”, 46. We also find complementary military positions including: ‘officer in command of the Asiatic troops’, R. T.
shields, horned helmets, and sword and spear, were experts in close quarter fighting and were also employed quite early on as “runners”, or heavy infantry working in conjunction with the chariots. As can be seen in the battle reliefs (see below), chariots and their crews were quite vulnerable when in close proximity to enemy infantry and thus at times needed their own infantry protection.

**Missile Combat on Foot**

Working in conjunction with the heavy infantry was the light infantry which consisted primarily of archers. Yet the term can be extended to cover other “missile” infantry including slingers and javelin throwers yet evidence for these types of troops is not as extensive. Archers, as well as other missile troops, deserve the label of “light” infantry due to the fact that unlike the heavy infantry, they were generally not used in close quarter combat. but were employed some distance from the fighting in order to effectively harass the enemy. Another commonality with light infantry was that they usually did not possess shields, and few are depicted with personal hand weapons. Exceptions, however, always occur, and we do find scenes where archers armed with personal weapons engage the enemy in hand-to-hand combat. During the Old Kingdom and First Intermediate Period, the light infantry

---

Sparks, “Canaan in Egypt”, 46. As with their Asiatic counterparts, Nubian troops likewise established for themselves an excellent combat reputation. In addition to Tjehemau (see above), the Nubians based at Gebelein appear also to have enjoyed a certain heightened status on account of their skills as both hunters and soldiers among the Upper Egyptians, something that is further confirmed by comments made in the stela of the general Iti, H. Fischer, “The Nubian Mercenaries”, 77.


184 A simple comparison between composite bows and slings highlight a number of key differences. The bow was undoubtedly a more expensive weapon to produce both in terms of material needed and manpower requirements. Specialists (who also had to be professional archers) were needed for the manufacture of both the bow and its ammunition. The sling however was a far simpler weapon to manufacture and use, and ammunition (i.e. stones) for it could be found anywhere. This weapon also had arguably a longer range than the composite bow: W. Mayer and R. Mayer-Opificius, “Die Schlacht bei Qadeš”, 335. See also: W. McLeod, “The Range of the Ancient Bow”, *Phoenix* 19 (1965), 13-4.

185 The bow was practically useless at close range and there was also the danger posed to the archer between “shots”. The same held true for the slinger who would have had the added difficulty of having to “aim” his weapon, W. Mayer and R. Mayer-Opificius, “Die Schlacht bei Qadeš”, 334. Scenes of archers attacking cities or fortresses will be examined in the following chapter. Here we are concerned only with images of archers used against enemy targets on the battlefield.

role of archers was generally filled by Nubian auxiliaries who were armed with the basic and not so effective simple wooden stave “self” bow which came in two variants (single and double curved). Indeed, due to their undisputed archery skills, Nubian auxiliaries would go on to have a long history of service with the Egyptian military especially during periods of internal strife.

It was not until Dynasty XVIII that we see the widespread employment of the more powerful compound or composite bow in Egypt. As with the self bow, there were two variants: triangular; and recurved. It is along with that change that we find a greater number of Egyptians employed as archers. By Dynasty XIX we also begin to see that two different types of archers being depicted. Indeed, the adoption of

---

187 W. McLeod, *Self Bows and Other Archery Tackle from the Tomb of Tut'ankhamūn* (Oxford, 1982), 50. For the limitations of this particular weapon, see: R. Miller, E. McEwen and C. Bergman, “Experimental Approaches to Ancient Near Eastern Archery”, *WA* 18 (1986), 180-2. One of the greatest disadvantages of this type of bow was that it could not be kept strung for long periods of time as it would begin to lose its power. This meant a situation where the bow had to be strung once the battle begun, *ibid.*, 181; and see also P. Newberry, *Beni Hasan* I, pl. XIV for images of Nubian archers stringing their bows. Archers also had to ensure their weapon remained serviceable and that they themselves were physically capable of utilising it. As such, the specialised equipment required (wrist guards, extra bowstrings, and so forth) was likely carried in a separate kitbag similar to the one surviving example at the Metropolitan Museum of Art, W. McLeod, *Self Bows*, 63; and B. McDermott, *Warfare in Ancient Egypt*, 53-4 and fig. 35. For Nubians during this early period, see the important study of H. Fischer, “The Nubian Mercenaries”, 44-80. While not as powerful as the later compound bow (the maximum range was probably around 155-90 m), these early weapons were still quite dangerous. An arrow tipped only with hardwood, for example, could pass through a man, W. C. Hayes, *The Sceptre of Egypt - A Background for the Study of the Egyptian Antiquities in The Metropolitan Museum of Art. Part I: From the Earliest Times to the End of the Middle Kingdom* (New York, 1953), 280.


189 W. McLeod, *Composite Bows from the Tomb of Tut'ankhamum* (Oxford, 1970), 35-7. The composite bow had considerably greater power and range than the self bow and was generally regarded as a superior weapon, see: *ibid.*, 37; I. Shaw, “Egyptians, Hyksos and Military Technology”, 66; and R. Miller, E. McEwen and C. Bergman, “Experimental Approaches”, 182-7. McLeod, for example, noted that while its range was likely not as great as an English longbow (the effective range for that weapon was 220 m with a maximum range of up to 265 m), it probably was not too far away in performance to other ‘classical world’ composite bows which were effective at more than 175 m, W. McLeod, *Composite Bows*, 37. Although, it has also been argued that a well made self bow was not too inferior to a composite bow: J. Clark, J. Phillips and P. Staley, “Interpretations of Prehistoric Technology from Ancient Egyptian and other Sources - Part 1: Ancient Egyptian Bows and Arrows and their Relevance for African Prehistory”, *Paleorient* 2 (1974), 371. For composite bows in general, see also: W. McLeod, “An Unpublished Egyptian Composite Bow in the Brooklyn Museum”, *AJA* 62 (1958), 397-401; W. McLeod, “Egyptian Composite Bows in New York” *AJA* 66 (1962), 13-9; W. McLeod, “Tutankhamun's Composite Bows”, *JSIA* 7 (1964), 16-19; and W. McLeod, “Were Composite Bows Made in Asia?”, *JSIA* 12 (1969), 19-23.

190 A. Spalinger, *War*, 118. The triangular type was gradually replaced by the recurved bow from around the time of Thutmose IV onwards, *ibid.*, 123.
the composite bow resulted in a number of changes in the equipment of the archer. One type of archer wears a short kilt and cap and sometimes features next to the other type of archer who is identified wearing a long kilt and is often depicted without any type of headwear. As we have seen above, and will continue to see below (and in the following chapter), the bow was used extensively on the battlefield often with devastating effect and was also the weapon of choice to initiate an assault on a city or fortress. As for slingers, representations are extremely rare. In scenes from the Beni Hasan tombs depicting the city assault we see slingers who participate in the battle to take the city stationed behind the Nubian archers. The lack of representations, however, should not be considered a reflection of their use within the Egyptian army.

It is, nonetheless, the bow that dominated, and by the reign of Merenptah, the archer and his weapon had reached such a high level of perfection that it had the potential of becoming the most important weapon on the battlefield, especially on the defensive. Colleen Manassa, for example, argued that this weapon played a key role in repulsing the Year 5 Libyan and Sea People invaders during the reign of that king. There is no doubt, however, that when combined with the chariot the bow did indeed become a truly potent weapon. As with the core infantry, the archer was a mainstay element in the Egyptian army and as such must be considered a key component of the Egyptian army and one that is represented in the earliest battle scenes known to us.

In one such scene, from the tomb of Inty, it is clear that the enemy force had already been subjected to an intensive arrow assault prior to the Egyptian troops moving in to engage them in hand-to-hand combat. This is apparent by the multiple arrow hits that a number of the soldiers have received. In the top register of this scene one Asiatic has been hit by no less than four arrows, while in front and behind him, at least two archers (their quivers are just visible) are among the Egyptian soldiers.

---

191 Notable changes include new forms of arm guards and a tapered, round-bottomed style of quiver that replaced the older Middle Kingdom tubular type. The new quiver type reflected both a change in status of the archer and also the need for a design that was compatible for chariot use, I. Shaw, “Egyptians, Hyksos and Military Technology”, 67.

192 Both types are seen, for example, in: W. Wreszinski, Atlas II, pl. 25.

193 P. Newberry, Beni Hasan II (London, 1894), pl. XV.


195 For references, see above and Chapter II note 20.
advancing towards the city. In the second and third registers, all the Asiatics in this scene, as has been noted earlier, have been hit by arrows. Some are already dead or dying while others are being finished off by the infantry. As mentioned, one unfortunate Asiatic has been hit by a total of six arrows: two in the head; one in the upper left arm; one in the lower right leg; one in the left knee; and one in the back of the lower left leg.  

The fact that many of the enemy troops have been hit by arrows and are still standing may be an indication of the limitations of the bow and arrow at that time, especially in terms of being able to permanently bring down an opponent. 

Most of the early battle scenes involving archers deal with assaults against enemy cities and few depict warfare on the open battlefield. One possible exception, however, are some fragments dated to the reign of King Unas in which we see Egyptian archers in close proximity to their Asiatic enemies. Other early images of archers include one dated tentatively to Dynasty IX from the Naga ed-Deir tomb 3737. The image depicts an archer with drawn bow held in his left hand, and a number of arrows in his right. 

In fact, it is not until Dynasties XIX and XX that such scenes are found in large numbers, and this is likely a reflection of the power of the new compound bow. While in many of these images the enemy force is generally being annihilated by arrows fired by the king alone, there are, however, a small number in which Egyptian archers appear prominently on the battlefield. What is surprising is that these all tend to be dated to the reign of Ramesses III. Archers are for instance present at the battle to repulse the first Libyan invasion. In this scene we find two small formations each consisting of four archers. The archers in one of the formations (in the bottom register) fire their bows over the heads of the Egyptian infantry in front of them. The arrows of these early self bows killed not by impact but rather by bleeding. The target was thus quite capable of surviving multiple arrow hits as long as no vital areas were hit: R. Miller, E. McEwen and C. Bergman, “Experimental Approaches”, 181.

With respect to these “head shots”, which are a recurring motif, Joyce Filer commented that such depictions could be meant to reflect the accuracy of the archer, “Ancient Egypt and Nubia as a Source of Information for Cranial Injuries”, 56.

196 With respect to these “head shots”, which are a recurring motif, Joyce Filer commented that such depictions could be meant to reflect the accuracy of the archer, “Ancient Egypt and Nubia as a Source of Information for Cranial Injuries”, 56.

197 Indeed, the arrows of these early self bows killed not by impact but rather by bleeding. The target was thus quite capable of surviving multiple arrow hits as long as no vital areas were hit: R. Miller, E. McEwen and C. Bergman, “Experimental Approaches”, 181.

198 A. Labrousse and A. Moussa, La chaussée du complexe funéraire, 21-2 and 136 figs. 16-7.

199 Fischer comments on the fact that the bow is drawn with the left hand, “The Archer as Represented in the First Intermediate Period”, JNES 21 (1962), 50 fig. 1.

200 Medinet Habu I, pl. 18; and W. Wreszinski, Atlas II, pl. 130.
second formation (just under the king’s horses), are in even closer proximity to the enemy and are able to shoot arrows directly into their ranks.

In the battle against the fleet of the Sea Peoples, archers play an even more prominent role. A formation of four archers attacks the enemy fleet from the land, while on the Egyptian vessels, archers working in conjunction with Egyptian marines fire on the crews of the enemy ships. Three of the four Egyptian vessels each carry four archers, and in one of these (E.4), an Egyptian archer pulls an enemy sailor from the water. The fourth Egyptian vessel (E.3), however, contains six archers, one of which helps bind some prisoners. Overall, a large number of the enemy sailors have succumbed to arrows fired either by the Egyptian archers or the king.

Archers do not appear in the main battle scene depicting the Egyptian victory of the Libyans following their second invasion but they do appear in the two other Medinet Habu scenes of this battle. In the first of these, a row of four archers fire into a group of Libyans that are also being attacked by Egyptian infantry. The archers who in this case appear to be princes, are followed by two rows of Egyptian troops. In the second scene, the archers are not present on the battlefield itself but are instead stationed in two separate fortresses. They lean over the battlements firing down at the passing Libyans. In another scene of this battle (from the Mut precinct), three archers in rather unique dress are positioned almost in the centre of the fighting. While they provide covering fire, two or possibly three other archers engage the enemy in hand-to-hand combat. Indeed, there do not appear to be any heavy infantry in this scene at all. In the unidentified Asiatic campaign, four archers are positioned to the left of the main battle but these may actually be Egyptian princes. A fifth archer, however, engages the enemy in close quarter combat.

---

201 Medinet Habu I, pls. 36-41.
203 As does an archer on land, Medinet Habu I, pl. 39.
204 Medinet Habu II, pls. 67b-68; and W. Wreszinski, Atlas II, pl. 140.
205 Medinet Habu II, pls. 69-70; and W. Wreszinski, Atlas II, pl. 141a.
206 RIK II, pl 116; and W. Wreszinski, Atlas II, pl. 62b.
207 RIK II, pl 114; and W. Wreszinski, Atlas II, pl. 62a. These soldiers may be attempting to attack a Syrian fortress or city (now destroyed).
Chariot Warfare

While much has already been written on the Egyptian chariot, in particular its physical attributes, a further analysis of chariot warfare as represented in the battle reliefs may be beneficial. This is especially so as there remains some uncertainty as to exactly how this weapon was used in combat. As such, and following a review of the pertinent reliefs, an attempt will be made to ascertain how a chariot force may have been employed based on the information these images provide. There is no doubt that after the chariot’s adoption in late Dynasty XIX and early Dynasty XX it soon became the third key component of the Egyptian army. Surprisingly, and with the exception of the king and the princes in their personal vehicles, images of general chariot warfare, that is, chariot versus infantry and chariot versus chariot combat are not that common. Those that do exist may help us understand how the chariot was used in combat, and just how effective it was as a weapon of war.

The standard Egyptian chariot was manned by two men, one serving as a shield bearer while the other was the archer or in some cases a spear bearer. Driving responsibilities tended to fall onto the archer but once combat commenced he


209 The impact of the chariot was not confined to the tactical level but had important (positive as well as negative) ramifications at the operational and strategic levels as well, see Chapters V and VI. For a detailed discussion of how certain pieces of military technology can impact the higher levels of war, see: E. Luttwak, Strategy, passim.


211 A. Schulman, “The Egyptian Chariotry”, 87-9. Schuman noted that the terminology employed appears to refer to three different personnel: the “charioteer” (kdn); the “shield-bearer” (krw); and the “chariot-warrior” (smil). We never see, however, more than two men on an Egyptian chariot, A. Schulman, Military Rank, Title, 67.

74
would tie the harnesses around his waist and the shield bearer would then assume some control. This allowed the archer to concentrate solely on his shooting. If we take the battle reliefs of Dynasty XIX and XX at face value then it would appear that the positions of the archer and shield bearer were interchangeable unlike say in other cultures. The archer could possibly have been positioned either on the left or the right due to tactical considerations (as seen in figs. 1.32 and 1.33 below). This would have allowed for greater versatility in the employment of the chariot especially in the presence of geographical obstacles on the battlefield. The main fire power of the chariot was without doubt the bow but it was not the only weapon available. The royal chariot, for example, was equipped with a number of javelins (to be thrown) and spears (for hand-to-hand combat) and possibly also had utility for the sickle-shaped sword. Such a variety of weapons may have been a feature of all Egyptian chariots, and indeed, a passage from Pap. Koller makes it quite clear that chariots could be loaded with a wide assortment of weaponry including a lance or spear and a sword in addition to a quiver which held eighty arrows.

The chariot itself came in two main types: an exceptionally light four spoked variant which was superseded during Dynasty XVIII by the six spoked version. The latter was also a light vehicle (weighing around 25-34.1 kg) so it was feasible that it

---

212 During China’s Warring States period, for example, the chariot contained three men (as do the Hittite chariots at Qadesh): the archer (who was always positioned on the left); the driver (always occupying the central position); and the least ablest of the three men on the right. - Sun Bin, The Art of Warfare: A Translation of the Classic Chinese Work of Philosophy and Strategy, ed. and trans. D. C. Lau and Roger T. Ames (Albany, 2003), 134.

213 On the employment of this particular weapon as an indication of the king’s possible absence from the battlefield, see our comments in Chapter VI note 201.

214 Other weapons are also mentioned. For a translation, see: R. Caminos, Late Egyptian Miscellanies, (London, 1954), 431-6. At Piramasses, weaponry utilised by charioteers has been uncovered including short swords and javelins in addition to the standard bow and arrow, E. Pusch, “‘Pi-Ramesses-Beloved-of-Amun, Headquarters of thy Chariotry’: Egyptians and Hittites in the Delta Residence of the Ramessides”, in Pelizaeus-Museum Hildesheim: The Egyptian Collection, A. Eggebrecht (ed.), (Mainz, 1996), 134. Expanding on this point further is the idea that chariots were utilised as multipurpose elite formations due to their ability to carry a variety of weaponry, T. Hulit, “Tut’Ankhamun’s Boby Armour”, 110. Hulit suggested that swords and spears could be employed in close combat, javelins for intermediate combat situations, and archery weaponry for more traditional long range combat, ibid., 110. That chariot units may have preferred weapons other than the bow as their primary armament is entirely plausible. Eurasian Steppe charioteers, for instance, may have favoured the javelin as a single warrior/driver could control his vehicle while at the same time as hurling this weapon far more effectively than could be achieved while on horseback, D. W. Anthony, The Horse, The Wheel and Language: How Bronze-age Riders from the Eurasian Steppes shaped the Modern World (Princeton, 2007), 400. A horseback rider could only throw with his arm and shoulder whereas a charioteer could utilise his entire body. Furthermore, the chariot could also carry a larger sheath of javelins than the former, ibid., 400.
could have been handled by just one person although more realistically at least two people would have been needed to carry it any great distance. 215 The chariot was commonly pulled by a team of two horses and when combined with the lightness of the vehicle (including the crew) was capable of significant bursts of speed. For example, carrying just one person (weighing 70 kg) over very indifferent ground for one kilometre a reconstructed chariot was able to reach a top speed of 38 kph. 216 A more realistic and manageable speed, however, was likely around the 20-25 km per hour mark which still made it the fastest thing on the battlefield. 217 The reconstructed chariot was said to have good handling qualities, was easy to drive, and had excellent stability. Short turns at higher speeds were a bit of a problem and resulted in skidding towards the outside but this is what one would naturally expect with any vehicle. 218 More importantly, the horses were able to maintain a correct speed in relation to their size and capacity.

Pictorial evidence for military chariots from Dynasty XVIII is regrettably scarce. A small number of fragments dating to the reign of Thutmose II depict an Asiatic field campaign in which Egyptian chariots are seen on the battlefield. 219 However, very little can be reconstructed concerning the actual battle. Egyptian six spoke chariots are also seen accompanying Tutankhamun in the two war scenes on his wooden chest, but as mentioned above, they do not participate in the fighting. Of more interest are the numerous fragments from his now destroyed temple. The fragments depict at least four episodes of an Asiatic field campaign as well as a campaign in Nubia. 220 It is the first scene of the former campaign which is of interest.

215 See the comments of: A. Spalinger, “Some Notes on the Chariot Arm of Egypt”, 129. For the image of a chariot being manhandled, see: W. Wreszinski, Atlas II, pl. 66; and Medinet Habu II, pl. 75.


217 Ibid., 49; and see also S. Piggott, “Horse and Chariot: The Price of Prestige”, in Proceedings of the Seventh International Congress of Celtic Studies held at Oxford, from 10th to 15th July, 1983, D. E. Evans, J. G. Griffith and E. M. Jope (eds.), (Oxford, 1986), 25 who noted 20-30 kph at a gallop. Even at a walking pace, a chariot pulled by horses was twice as fast as one pulled by oxen (the latter’s walking pace being only 1.8 to 2.5 kph).

218 J. Spruytte, Early Harness Systems, 47.

219 S. Heinz, Die Feldzugsdarstellungen, 235.

220 W. R. Johnson, An Asiatic Battle Scene, 50-82. Aspects of the Asiatic scene will also be discussed in the following chapter.
to us here. The scene depicts Tutankhamun in his chariot (armed with bow and arrow) attacking an Asiatic force consisting of infantry and chariots. The king is accompanied by his own chariot force as well as a formation of infantry. Unlike with the previous examples, the Egyptian chariots are actually taking an active part in the fighting. Indeed, what is of particular interest is that at least one of the charioteers is armed with a spear rather than the standard bow. He uses his weapon to attack an enemy charioteer who has fallen from his chariot.221 In a somewhat realistic touch we also see a couple of Asiatic drivers who have fallen from their chariots and have become entangled in their reins.222 The enemy chariots for their part have crews of three men but unlike the three man Hittite chariots at Qadesh, the third man in these chariots is armed with a bow rather than a spear.223 Scenes of chariot warfare from the reign of Horemhab are few in number and generally not in the best of condition. In one scene (part of an Asiatic campaign), an Egyptian chariot and its crew appear to be surrounded by dead and dying Asiatics.224 The archer, positioned on the right, carries a quiver on his back – a detail that is not often seen. A similar more complete image (based on a drawing) depicts a chariot running down a fallen Asiatic.225

For Dynasty XIX, the best examples of chariot warfare (without the king being present in the immediate vicinity) are found not surprisingly in the battle of Qadesh reliefs of Ramesses II. From the Abu Simbel (I) battle scene, we find in the bottom right hand corner a force of six Egyptian chariots attacking and defeating a slightly smaller formation of five Hittite chariots.226 Both forces were heading towards each other yet it is the Hittites who have been broken by the Egyptian arrow assault.227 Arrows have completely struck down the crew of one chariot along with its

---

221 W. R. Johnson, *An Asiatic Battle Scene*, 60 and 156 fig. 10.

222 Ibid., 60 and 188.

223 Ibid., 59-60.

224 Two of the Asiatics are missing their right hands: *ibid.*, 125 and 170 fig. 50.

225 Ibid., 184 fig. 69.


227 If in fact the heavier Hittite chariots at this battle were armed only with spears, this would have contributed to their defeat at the hands of the more nimble Egyptian chariots. The latter, armed with bows, would have been able to successfully engage them at a safe distance without fear of return fire. Yet it is difficult to believe that the Hittites would have relied on the spear (a weapon suitable for close range only) as their primary chariot weapon. Rather their vehicles too must have possessed an assortment of weaponry including bows. As to why the Egyptian artists depicted them only armed with
two horses while two other chariots have also been hit a number of times. One of these two looks as if it is about to flip right over. A horse belonging to the fourth chariot has also been hit but it looks as if the crew are attempting to turn around. One of the horses belonging to the fifth chariot has received two arrow hits as has one of its crew. The Egyptian archers are positioned on the right side of the chariot with the shield bearer on the left whereas with the Hittite chariots, the shield bearer is on the right, the driver is on the left, although one shield bearer has taken over this job after his driver was hit by an arrow, and the archer (and also spearman) takes up a position behind the first two men. A second similar military action is found among the Ramesseum (R1) Qadesh reliefs. In the bottom right corner, and just behind the king in his chariot, we find a line of nine Egyptian chariots charging at least eight Hittite chariots. As with the previous scene, the enemy are in a near complete state of confusion. The horses of one chariot have gone completely wild while the crews of at least three of the others have suffered a number of arrow hits. Adding to the confusion is the mass of slain enemy troops in the middle of the battle who have fallen from their vehicles. The third version of this battle, from the Luxor reliefs (L1), involves significantly more enemy chariots. The Egyptian chariot force here consists of at least eight vehicles and they move in from the right of this scene to engage the enemy. Just ahead of them, the Hittite chariots appear to be turning away in order to escape and few if any of them appear to have been hit by the Egyptians. Indeed, there is not the typical destruction and confusion as seen in the previous two scenes. Rather, the enemy chariots in close proximity to the king appear to be the ones that are suffering the most. Thus it is difficult to say whether we should attribute the destroyed enemy chariots just behind the king to him or to the Egyptian chariots entering the battle.

spears is open to question, but maybe we should consider the idea that at this stage of the battle, a number of the Hittite chariots had already exhausted their limited supply of arrows and were subsequently forced to rely on their secondary weaponry.

228 W. Wreszinski, Atlas II, pl. 96a.

229 More chariots appear as if they are entering the scene from the registers above and below.

230 W. Wreszinski, Atlas II, pl. 84.

231 Because of this change of direction, the archer is now positioned on the left side and shield bearer on the right (yet the latter still holds his shield in his left hand).
Scenes of chariot combat in Ramesses II’s other battle reliefs are unfortunately less common. One notable exception is the assault against Satuna. In this scene we see two chariots driven by princes heading into combat. One prince is firing arrows at the retreating Asiatics while his shield bearer, who appears to be wearing a quiver, uses a stick to encourage the horses. The prince in the second chariot, however, uses a spear to strike down a fleeing enemy soldier. His shield bearer (with shield strapped on back or to his upper left arm) has his left arm around the prince’s waist likely in order to steady him. The prince also has the reins of the horses tied behind him. Two other battle images involving chariots are not as informative as they only depict unfortunate Asiatics being run down and little else.

As for Dynasty XX, chariots engaged in combat appear in a number of the battle images of Ramesses III. In the sole battle scene depicting his Nubian war, a line of five Egyptian chariots manned by the king’s sons, enter into the battle running down and chasing after the retreating Nubians. What is notable is that the shield bearers in this case carry round shields rather than the standard Egyptian ones. Egyptian chariots are also present in the Year 5 battle to expel the Libyan invaders. In one scene, four chariots are seen entering the battle from the bottom right. The chariot archers (positioned on the left as to be expected), fire arrows at the Libyan troops while running some of them down. They are protected on the right by shield bearers who again carry round shields. In the second scene of this battle, five Egyptian chariots (bottom register) advance towards the enemy. The last three contain members of the king’s retinue and they do not actually participate in the fighting (except to run down some stragglers). Indeed, their drivers do not even possess shields. The two lead chariots, however, are manned by princes equipped with bows and they at least are protected by a shield bearer (with standard Egyptian shield). Six chariots also take part in the land battle against the Sea People invaders. Entering the scene from the bottom right they proceed to run down some unfortunate


233 As seen with: *ibid.*, pl. 25a; and S. Heinz, *Die Feldzugsdarstellungen*, 255.


Philistines. The shield bearer again carries the round shield as seen in earlier reliefs. A chariot force, eleven in number, is also present in the battle following the second Libyan invasion.\(^{237}\) This time the chariots, entering the scene from the left, occupy two registers. In the first register, the archers (on the right side) fire their bows at the fleeing Libyans – the archer in the lead chariot even has to adjust his aim downwards in order to shoot his victim. Each archer has tied the horses’ reins around his waist in order to free both hands, but some control is retained by the shield bearer (armed with standard Egyptian shield) who grasps the reins with his right hand. The six chariots in the lower register are manned by Egyptian princes and members of the retinue yet they do not actually take part in the fighting. Of particular interest is that the shield bearers of the princes are armed with spears as well as shields. In another scene depicting this same invasion, two Egyptian chariots are seen charging after the king’s chariot.\(^{238}\) They are running down fallen enemy soldiers while at the same time both archers (who are positioned on the left) adjust their aim downward.

Chariots appear less frequently in Ramesses III’s other battle images. In the assault against the city of Tunip we see two Egyptian chariots following behind the king.\(^{239}\) The archer in the bottom chariot fires his bow at Asiatic foes which are falling under the chariot, yet in the chariot above, no weapons are drawn. The archer instead appears content to drive his vehicle. In the Asiatic battle scene from the Mut precinct, we find three chariots being driven by Egyptian princes.\(^{240}\) In the first chariot, the archer, with the horses’ reins tied around his waist, is shooting arrows ahead of the chariot while the chariot itself runs down some enemy soldiers. In the second chariot, the shield bearer holds the reins, which are still attached to the archer, while the prince himself turns backwards firing arrows at enemy soldiers behind him. This chariot also runs down fallen enemy soldiers. This scene has, however, suffered some damage and only the bottom half of the third chariot has survived.

From our discussion above, it is apparent that the chariot was an integral part of the Ramesside Egyptian army, but just how was it utilised? From the battle reliefs

\(^{237}\) Medinet Habu II, pls. 71-2; and W. Wreszinski, Atlas II, pl. 137.

\(^{238}\) Medinet Habu II, pls. 69-70; and W. Wreszinski, Atlas II, pl. 141a.

\(^{239}\) Medinet Habu II, pls. 88-9; and W. Wreszinski, Atlas II, pl. 151.

\(^{240}\) RIK II, 114; and W. Wreszinski, Atlas II, pl. 62a.
it is clear chariots performed important roles prior, during, and after the battle. With respect to the first role, we have seen in the previous section how chariot units were integrated with the infantry to provide protection (most likely from other chariots) for the army on the march. This was probably only done when the army was in close vicinity to the enemy or in other words, when the army was in battle formation preparing to engage the enemy. Marching through more secure areas was likely conducted in a different fashion where formations were more dispersed allowing for efficient, faster movement. The chariot’s most important function, however, was during the battle. In the battle scenes examined, it is evident that chariot formations could be employed against other chariots, without troop support (as seen most spectacularly with the Qadesh scenes), and against infantry. While there still remains some debate as to the exact tactics utilised, Schulman, as he argued in his two articles, is probably closer to the truth. His conclusions, which are partly followed here, saw the chariot definitely being employed as a mobile platform for archers, thus taking full advantage of its manoeuvrability and speed, to attack enemy troop or chariot formations from a distance. In many respects, the chariot served as an extension of the archer or more specifically the composite bow which was essentially its raison d’être. It enabled the firepower of the bow to be used to a more devastating effect than would have been otherwise possible. By utilising this weapon, chariots could effectively harass infantry and chariot formations with a high degree of impunity. Even a small number of chariots had the capability of delivering a high volume of fire onto such a formation. Indeed, if Pap. Koller is correct in stating that a quiver held eighty arrows, then a detachment of fifty chariots each possessing just one such quiver

241 A. Schuman, “The Egyptian Chariotry”, 85; and A. Schulman, “Chariots”, 122.


243 Shooting arrows from a moving chariot was in fact easier than on horseback, A. Cotterell, Chariot: From Chariot to Tank, The Astounding Rise and Fall of the World’s First War Machine (Woodstock, 2005), 48. In an experiment conducted by Richard Gabriel and Karen Metz, a truck was driven over uneven ground at a speed of between 12.9 and 19 kph (the speed of a cantering horse) upon which an archer shot at targets approximately 177 cm high spaced at 13.7 m intervals. The range the targets were engaged varied between 9 and 19 m as the truck veered towards and away from the stationary targets. After some practice, the archer, while maintaining balance without any support, was able to hit the targets 80% of the time. It was estimated that a fully trained chariot team would have been able to achieve an even higher “kill” percentage, From Sumer to Rome. The Military Capabilities of Ancient Armies (New York, 1991), 78.
could theoretically fire off a grand total of 4000 arrows.\textsuperscript{244} That figure can be doubled if the chariots carried two quivers as appears to have been the case. When used in such a manner, Schulman states that the vehicles would approach the targeted formation and veer off when they had reached effective arrow range shooting volleys of arrows as they moved parallel with the enemy front line (fig. 1.32).\textsuperscript{245} Alternatively, it is possible that the chariots attempted to find the less well protected flanks and rear of the enemy formation while at the same time protecting the flanks of their own infantry.\textsuperscript{246}

![Diagram]

**Fig. 1.32:** Chariots move parallel down the line of the enemy troop formation (Schulman)

\textsuperscript{244} Byzantine cavalry, on the other hand, carried only 30-40 arrows in their quivers, *Strategikon*, 12.

\textsuperscript{245} Robert Drews, on the other hand, argues that in chariot versus chariot battles, the chariots of both sides would advance towards each other and then attempt either flanking manoeuvres or penetrative strikes in order to open up gaps in their opponent’s lines. The chariots may have operated in one or more lines depending on their numbers and the restrictions posed by geography of the battlefield. Drews even considered the unlikely possibility of both lines actually passing through each other and then wheeling around to repeat the manoeuvre with both sides likely suffering multiple casualties in the process. This would continue until one side conceded defeat and withdrew, R. Drews, *The End of the Bronze Age: Changes in Warfare and the Catastrophe ca. 1200 B.C.* (Princeton, 1993), 127-9. Yet attempting to conduct such complicated manoeuvres would quickly degenerate into mass confusion and slaughter and it is difficult to believe that the Egyptians, or for that matter, any other power would have risked their most expensive military hardware in such a manner.

\textsuperscript{246} W. Mayer and R. Mayer-Opificius, “Die Schlacht bei Qadeš”, 330-1. To undertake such complicated manoeuvres on the battlefield, a high degree of training both for the horses and the charioteers was required, K. Hansen, “Collection in Ancient Egyptian Chariot Horses”, *JARCE* 29 (1992), 179.
The above figure (fig. 1.33) assumes the chariot force would split left and/or right possibly initially moving parallel along the front line of enemy infantry then wheeling around the flanks and then the rear of the enemy formation. Following this, the chariots would then possibly reverse the manoeuvre moving back towards the front of the formation. Such a manoeuvre could only be conducted against infantry in battle formation which possessed limited mobility, and only when the supporting enemy charioteer had been cleared from the field thus also ensuring that one’s own infantry did not come under similar attack. In order to facilitate such complex manoeuvring, chariots were likely formed up into squadrons of ten – a manageable size – with five squadrons making up a full detachment.\footnote{247} Of further interest is that each squadron was also named which serves to emphasise their individual nature. This would have allowed for greater tactical versatility and control on the battlefield.

Schulman in his later study added that it is possible that the archers may have dismounted from their chariots and fought on foot.\footnote{248} But this would have tended to negate the key advantages that the chariot possessed: speed; and mobility. It is

\footnote{247 A. Schuman, “The Egyptian Chariotry”, 83 and in particular note 47.}

\footnote{248 A. Schulman, “Chariots”, 125.}
difficult to believe that a chariot would be utilised in such a fashion, especially when one considers the amount of time needed to stop a chariot, for the archer to dismount (with arrows), fire his compliment of arrows, remount, and then bring the chariot back up to speed. While shooting arrows in such a fashion may have ensured greater accuracy, having both chariot and crew exposed to return fire (as stationary targets), simply does not make tactical sense.

That the chariot did have certain limitations is evident, and this has led some to argue, that overall, it could not have been a truly effective weapon on the battlefield. One such critic was none other than Schulman himself who discounted the military value of the chariot and provides five main reasons to support his argument.249 First, the chariot was not suitable for attacking fortified locations. Second, if employed as a troop transport, to quickly move troops from one location to another, its effectiveness was limited to the amount of chariots available and the carrying capacity of the chariot itself. Third, terrain factors limited its use. Fourth, it could not attack unbroken enemy formations, and finally, it was rarely depicted attacking other chariots.250 Schulman also adds that chariots cannot hold open ground.251 All these appear to be valid reasons yet we can also argue that a tank faces similar constraints in a modern battle environment.252 Tanks are limited in their ability to attack fortifications and to carry troops. Terrain dictates where they can operate safely, and they are vulnerable attacking entrenched infantry positions. Tanks are, however, suitable in attacking other tanks yet purer tank versus tank battles are relatively uncommon, and unlike their infantry counterparts, tanks cannot hold captured ground. Even considering all these disadvantages, the tank remains one of the most dominant weapons systems on the modern battlefield. Tanks add considerable firepower and more importantly, manoeuvrability to the battlefield. They are especially devastating when attacking from a distance in low lying terrain. This was also true of the chariot. Tanks were an ideal weapon to exploit a breakthrough or to pursue and destroy a defeated or retreating enemy force, and as we shall see below,

249 A. Schulman, “Chariots”, 128-34.

250 Ibid., 128-32.

251 Ibid., 129.

252 While it would be incorrect to compare the chariot to a tank, they do, however, share certain common characteristics especially at the operational level (but see: Ibid., 114).
this was also a function which chariots excelled at. As for chariots having limited transport capability, this is not a factor that should be considered. There is no evidence to suggest that Egyptian chariots were utilised in such a fashion in battle, and nor would it have been advantageous to do so. Finally, with respect to chariot versus chariot battles, the rarity of such depictions may actually reflect the fact they were indeed uncommon occurrences. But that they did occur is evident from the Qadesh battle reliefs.

Granted, Schulman is quite accurate with his other points. Chariots required relatively level country to be truly effective (as did tanks). This dictated what regions or strategic theatres it could be effectively employed in. Another important limitation mentioned by Schulman was that chariots were not able to be employed against fortified targets or even charge a body troops in battle formation. The average chariot while fast, was not heavy enough to be used as an impact weapon. Indeed, any attempt to run a chariot against a line of unbroken troops would likely have resulted in injury to the horses or the crew as well as damage to the chariot. Modern experimental studies with the above mentioned reconstructed chariot tend to confirm this view. It could probably have been able to knock down an individual man without stopping but no more than that.

It was only after the enemy infantry formation had been broken were chariots able to close in on the enemy. By that stage of the battle, the retreating enemy soldiers and chariots were now quite vulnerable and unable to effectively defend themselves and thus would have presented excellent targets for the faster highly manoeuvrable chariots. It was at this stage that the archer may have exchanged his

---


254 A. Schulman, “The Egyptian Chariotry”, 86.


256 J. Spruytte, Early Harness Systems, 49.

257 W. Mayer and R. Mayer-Opificius, “Die Schlacht bei Qadeš”, 331. It is at this point that collection, the backwards shift in the balance of a horse, would have been especially useful in that it would have allowed the chariots to effectively pursue their retreating foe, K. Hansen, “Collection in Ancient Egyptian Chariot Horses”, 179.

85
bow for a more intimate weapon like the spear or javelin. This was the moment the Egyptian artists often chose to illustrate (fig. 1.34).

The similarity with the hunting scenes where we see the king or some other noble in chariot armed with bow and arrow attacking masses of wild beasts is all too evident. But even at this juncture, the chariots may still have required the protection of foot soldiers or “runners” which would have accompanied them into the final fray. These soldiers were responsible for ensuring the chariot (and especially the horses) remained safe from any unexpected resistance. But if the pursuit could be maintained and the danger of sudden retaliation absent, the mobility of the chariots would have allowed them to take full advantage of Clausewitz’s “Principle of Continuity”.

---


259 As early as Dynasty XVIII in the Tutankhamun fragments, we see Egyptian chariots pursuing the three-manned Asiatic chariots, W. R. Johnson, An Asiatic Battle Scene, 61.

260 For example, see: W. Wreszinski, Atlas I, pl. 26a. In fact, Tutankhamun’s war chest went so far as to combine hunting scenes with images of war (for references, see note 276 below).

261 Clausewitz, On War, 83 and 570.
is, to pursue the defeated enemy with unrelenting pressure thus denying them all possibility of re-establishing their composure so to inflict upon them total annihilation.

Overall, the chariot was not as has been popularly asserted, a battle taxi or merely an elevated command post or prestige showpiece but it was a weapon that fundamentally altered the way the Egyptians did battle. The very fact that the chariot force developed into a distinct arm of the Egyptian army should be seen as sufficient support for the idea they were of particular military importance. For the Egyptians, the adoption of the chariot and horse had considerable repercussions not only at the tactical level but also at the other levels of war. These repercussions, which will be addressed in subsequent chapters, were especially felt in the realm of logistics where the state was now faced with the necessity of supporting this weapon along with its valuable horses. This would have placed a considerable burden of cost in terms of setting up and maintaining the infrastructure required for building the chariot and acquiring and sustaining their animals. Simply getting the chariots and their horses to the battlefield (with minimal wear and tear) would alone have been a major logistical undertaking. This last point, it will be argued, was one of the major causal factors in the army’s shift at the operational level away from dependence upon the “navy” and to its development into a true land based force. As we shall argue further in Chapters V and VI, this additional burden may have, in part, contributed to the demise of the Egyptian state in Dynasty XX. Therefore, taking all of this into consideration, the notion that the chariot was not a vital military weapon should be completely dispelled.

262 As asserted by: A. Schulman, “Chariots”, 128. Downplaying the importance of chariots for military use has also been the case for other cultures as well. For example, Eurasian chariots were thought not to have been effective war machines, rather their value was more symbolic. Yet this has been quite convincingly shown to be incorrect, as noted in: D. W. Anthony, The Horse, The Wheel and Language, 399-400.

263 See Chapters III and IV for a more comprehensive discussion on these logistic issues.

264 See our discussion in Chapter V: An Operational Shift.
Scouting

One additional component which should also be included in this discussion is intelligence gathering undertaken by scouts. The Egyptians did not possess a true cavalry force but they did use riders on horseback as scouts.\textsuperscript{265} Their reluctance or rather inability to develop a cavalry arm could in part be explained away by the possibility their horses were not strong enough to support a man for the extended strenuous riding that is usually associated with cavalry activity.\textsuperscript{266} Another more decisive factor, however, was that the Egyptian riders did not possess saddles or stirrups of any kind.\textsuperscript{267} The scouts, nonetheless, were an important part of the army and were utilised in order to gather information concerning the location of the enemy and also on the terrain the army was to advance through.\textsuperscript{268} Some of the scouts as represented in the reliefs were armed (generally with a bow and arrow) but they probably did not take part in the actual combat. A rider on horseback from the reign of Thutmose III (the rider could in fact be the king himself) is, however, armed with a mace along with a bow.\textsuperscript{269} Schulman also lists additional examples of horseback riders, and a number of these are clearly scouts or have some sort of military

\textsuperscript{265} A. Schulman, “Egyptian Representations of Horsemen and Riding in the New Kingdom”, \textit{JNES} 16 (1957), 263-71.

\textsuperscript{266} The view that Egyptian horses were not strong enough to be ridden may not be entirely correct. Of the more complete remains known to us, the Buhen horse measured 14.5 hands (150 cm); a mare buried near the tomb of Sen Mut at Thebes was 14 hands (143 cm); and a Dynasty XVIII stallion from Soleb measured 13.5 hands (136 cm at the withers), J. Clutton-Brock, \textit{Horse Power: A history of the horse and the donkey in human societies} (London, 1992), 80-3. A similar argument can be made for the horses of the Eurasian Steppes which were also sufficiently ‘robust’ enough to be ridden: D. W. Anthony, \textit{The Horse, The Wheel and Language}, 237, 488 note 38. On the other hand, it was not a simple or straightforward progression from the taming and domestication of the horse to the development of riding: U. L. Dietz, “Horseback Riding: Man’s Access to Speed?”, in \textit{Prehistoric steppe adaption and the horse}, M. Levine (et al.) (eds.), (Cambridge, 2003), 190-1.

\textsuperscript{267} Although it has been argued that one could achieve a secure seat on a horse without resorting to stirrups or saddles (refer, for example, to Xenophon’s “On Horsemanship” in \textit{The Whole Works of Xenophon}, trans. Walter Moyle (London, 1936), VII.5), and was proven by the North American Indians and real world experiments. Horses could be effectively controlled utilising rope and leather bits alone, D. W. Anthony, \textit{The Horse, The Wheel and Language}, 237 and 488 note 38. Another factor to consider was that chariot horses were easier to train than cavalry mounts, and also worked well when paired together, A. Cotterell, \textit{Chariot}, 48;

\textsuperscript{268} A. Schulman, “Egyptian Representations”, 264. According to Maurice, scouts should be lightly armed and mounted on fast horses, \textit{Strategikon} 103. For intelligence gathering in general, see Chapter VI.

\textsuperscript{269} A. Schulman, “Egyptian Representations”, 264.
connection. One in particular is found on a fragment believed to be from the Memphite tomb of Horemhab. The rider in this example is not armed but he does accompany a group of soldiers performing logistical tasks and thus he is quite likely a scout. Also depicted in this fragment are two chariots at rest, their drivers having dismounted.

From Dynasty XIX we have four definite examples of scouts in action all found in the Qadesh reliefs. In the Luxor reliefs (L3), we find a single scout with a quiver on his back and armed with a bow and whip. From Abu Simbel (I), three scouts are depicted and here we find them performing additional functions. One of the scouts, with quiver and bow is accompanied by an inscription which states that he has been sent in an attempt to hurry the Ptah division to the main battle. Another scout, according to the accompanying inscription, is performing a similar function. He possesses a quiver (but no bow) as well as a whip. The third scout does not appear to be armed (except for a whip) but he is accompanied by some Egyptian infantry and chariots.

Conclusions: The Question of Combined Arms Warfare

Combined arms warfare is defined as the successful use of two or more separate components of the army in order to achieve tactical success. For the Egyptians, the main components of their army were the general infantry (their mainstay fighting force) used for close quarter combat, missile troops on foot (either archers or slingers), and finally the chariot force. Additional components, however,

270 A. Schulman, “Egyptian Representations”, 264 and 268-9. Eight of these date from the latter half of Dynasty XVIII and four from Dynasty XIX or XX. There are also a number of examples depicting the goddess Astarte on horseback, ibid., 269-70.


272 W. Wreszinski, Atlas II, pl. 64.

273 Ibid., pl. 170.

274 Ibid., pl. 170.

275 As noted most pertinently by Ian Shaw and worth quoting in full here: “each individual weapon is part of an organic and dynamic system, so that individual pieces of military technology constantly interact with one another and adapt to the system, operating as components in a complex and slowly changing overall military strategy”: “Egyptians, Hyksos and Military Technology”, 59. The Assyrians,
could include auxiliary units which should be treated as distinct from the general Egyptian infantry due to their ability to perform specialised functions. From the Egyptian battle images that we have looked at, and even considering the fact that it was not until Dynasty XVIII that chariots made their first appearance, only a select few scenes actually depict more than one component fighting at the same time. As we have seen above, many of the battle images feature the Egyptian king single-handedly defeating the enemy with minimal or no actual support from the rest of the army (with the possible exception of the royal princes). In this respect some of the earliest battle scenes, those which predate Dynasty XVIII, are therefore among the more informative in our attempts to reconstruct Egyptian tactics. There are, nonetheless, a select number of New Kingdom and Ramesside battle scenes (the Qadesh reliefs aside) that do provide us with what is possibly a relatively realistic picture of how the Egyptians fought their battles.

The chest of Tutankhamun depicts that king in his chariot and armed with a bow attacking Asiatics on one side and Nubians on the other.276 As we have seen, Egyptian infantry have engaged both enemy forces, while additional elements of the army, even though present, do not yet take an active part in the fighting. These two images deserve a mention for the fact that they are among the first to depict multiple components of the army (including chariots) on the battlefield: infantry and chariots for the Asiatic scene; and infantry, archers, and chariots in the Nubian scene. In the Asiatic battle scene from Tutankhamun’s now destroyed temple, we find chariots working in conjunction with Egyptian infantry. Indeed, from Johnson’s reconstruction, it is clear that both components are fighting at the same time: Egyptian infantry against Asiatic infantry; and Egyptian chariotry against their enemy counterpart.277

Turning now to the reign of Ramesses II (the battle images of Sety I are of no use to us here as they only depict the king, without his army, engaged in combat), the

---


277 W. R. Johnson, *An Asiatic Battle Scene*, 188 fig. 18. Johnson noted especially that the Egyptian king was “completely surrounded and enclosed by his supporting Egyptian chariotry forces”, *ibid.*, 58.
Qadesh battle reliefs provide the best examples for combined arms warfare for that particular king. We have already commented on the numerous chariot warfare scenes: Egyptian chariots attacking their Hittite and Asiatic counterparts; and the select scenes depicting hand-to-hand combat between Egyptian infantry with their allies on the one hand and Hittite soldiers on the other. With the exception of the city assault scenes of this king, only one other battle relief comes close to depicting combined arms warfare (from the Luxor temple) yet this must be discounted as only the princes take part (both on foot and in their chariots).\textsuperscript{278}

Although the city assault scenes will be treated more fully in the following chapter, some preliminary remarks can be made here. In the scene depicting the assault against Satuna we see all the main components of the Egyptian army.\textsuperscript{279} While the city itself has not yet been attacked, the Egyptians are well on their way to finishing off the Asiatic force in its vicinity. Ramesses, in his chariot with bow and arrow, dominates the central portion of the scene while in front of him we see the Egyptian princes in their chariots and on foot attacking enemy soldiers and capturing some of them. The enemy soldiers in this case appear to be made up at least partly of archers, one of which also possess as dagger. Behind the king’s chariot we find the rest of the army including more chariots (driven by the princes). It must be stressed, however, that only the king and his sons engage the enemy in combat. This is also the case with the assault against the enemy force outside the city of Dapur. Only Ramesses (in his chariot with bow and arrow) and two princes (engaged in hand-to-hand combat with Asiatic soldiers) fight the combined enemy force consisting of infantry and chariots. The latter have been decimated by volleys of arrows fired by the king. One charioteer (the shield bearer) has even been hit in the backside, while his companion (stick in right hand and bow in left) attempts to drive them both to safety. Another Asiatic attempts to flee the scene on horseback but has been struck by an arrow in his right shoulder while behind him we find a horse running free without chariot or rider.

Moving further forward in time, none of the four extant scenes dated to the reign of Merenptah depict more than one component of the army fighting at the same time. This situation changes markedly with the battle images of Ramesses III and it is

\textsuperscript{278} What we have, therefore, is a generic Asiatic field campaign: W. Wreszinski, \textit{Atlas II}, pl. 77.

\textsuperscript{279} \textit{Ibid.}, pl. 67; Aspects of this scene will be discussed in the following chapter. See also: G. A. Gaballa, \textit{Narrative}, 111.
from his reign that we find some of our best examples of combined arms warfare. In the first of these, which recounts his Nubian campaign, we find Egyptian chariots (first component) attacking along with Egyptian infantry (second component) and auxiliary troops (third component). Their Nubian enemy consists solely of infantry although some civilians are also present.

In the first of two scenes depicting Ramesses III’s Year 5 Libyan battle we are again provided with an excellent example of combined arms combat. While the composition is in part dominated by the king in chariot (with bow and arrow) who charges from the left into the enemy force, we can still clearly divide the action up into four distinct registers. In the lowest we see the Egyptian chariotry (first component) charging into battle. The chariots are, however, preceded by a row of archers (second component) who are in turn protected by a row of four Egyptian heavy infantry armed with sticks (third component). This register concludes with two scenes of hand-to-hand combat involving Egypt’s auxiliaries (fourth component). Above this register is a line of enemy dead which effectively separates the bottom register with the next one up. In this register we see a small mass of enemy dead that have been slain by the king’s arrows, and following this, more Egyptian archers. Next we see Egyptian soldiers engaged in close quarter fighting while a group of Libyans (one apparently upside down) attempts to flee the battlefield. In the third and fourth registers, Libyan soldiers (many of them archers) are under attack from the king’s arrows and some attempt to flee. Some of the Libyans are also missing one of their hands (although the number is not as high as in the following scene), and are for the most part, given their proximity to the king, either dead or dying. In the five (or more) visible cases the missing hand is the right one.

In the second and somewhat puzzling scene, Ramesses III (who dominates the composition in his chariot with bow and arrow) attacks a chaotic mass of Libyan soldiers who are putting up no resistance whatsoever. Surprisingly, the king is assisted in his struggle by infantry made up of almost entirely of Philistines (first component). They are in part being assisted by Egyptian chariots (second component). The Libyan foe is in the process of being decimated by the king’s arrows especially those who are immediately in front of his horses. At the same time

280 Medinet Habu I, pl. 18; and W. Wreszinski, Atlas II, pl. 130.

281 Medinet Habu I, pls. 19-20; and W. Wreszinski, Atlas II, pl. 122.
individual Philistine soldiers move through the scene dispatching or capturing Libyans. But even though this death and destruction is taking place, no Libyans are depicted actually *fleeing* the battle (although there may be one exception), nor are any weaponry visible. We do not see one single spear, sword, or shield among the entire enemy force. Another curious feature is the number of enemy soldiers that are missing their left or right hands, something that reminds us of the battle image of Thutmose IV. Although the relief is damaged in places, we find at least eight soldiers missing hands, five missing their right hand and three their left. Taking all these factors into consideration we are presented with what looks more like a wholesale massacre rather than an actual battle.

In the scene depicting the Sea Peoples invasion by land, the action, while somewhat confused and chaotic, can still be followed without too much difficulty. The first thing that strikes us as unique here is that the enemy force is not yet entirely broken. It is close to collapse for sure, but here and there we still see pockets of resistance and apart from a small group of soldiers in the upper left corner, the enemy is not yet fleeing the battlefield. The king in chariot and armed with bow and arrow dominates the right portion of this battle scene, while below him we see Egyptian chariots (first component) attacking from the right into the mass of the enemy. Below the king’s horses a line of possibly four Egyptian heavy infantry (second component) advance against the Sea Peoples. The latter, who are within the immediate vicinity of the Egyptians, are for the most part finished. It is only when we move further left that resistance begins to stiffen. We come across, for instance, a number of enemy troops armed with spears and circular shields (although one is armed with a dagger), as well as an ox drawn wagon and some of their chariots. Although a number of their comrades have been slain, the remainder still possess all their weapons. Unfortunately their escape route has been blocked by two additional formations of Egyptian heavy infantry who are attacking from the left. Further to the left, more enemy soldiers have been slain but still some isolated formations hold out against the combined Egyptian and Sherden (third component) attack. In the top register we see the attack on the enemy baggage train taking place. The latter consists of a line of three two-wheeled wagons drawn by four oxen each. Sherden and Egyptian soldiers are in the process of defeating the baggage train’s escort while helpless civilians look on. Here the action

resembles more a massacre rather than the more balanced battle that is taking place below.

The battle scenes depicting the second Libyan invasion provide more examples of combined arms assault. In the first scene, the king is once again in his chariot armed with bow and arrow attacking a mixed force of enemy infantry and chariots. He is being assisted by Egyptian infantry (first component) and auxiliary soldiers (second component) in addition to chariots (third component) which attack from the left. The action is broken into two main registers with the main battle taking place in the upper one. The action in this register itself can be divided into three further sub registers. In the lowest we see Egyptian chariots in action chasing down fleeing Libyan foot soldiers and chariots. Some of the Libyan troops have already been run over by the Egyptian chariots. Of the three enemy chariots in this register, one is being attacked by an Egyptian, while the crews of the other are also in trouble. The archer of one (bow still in his right hand) has thrown his left arm over the shoulder of his wounded driver who in turn attempts to control his horses. The middle sub register consists predominantly of dead and dying enemy soldiers (having been hit by volleys of arrows fired by the king) along with some enemy chariots. A number of Egyptian soldiers are visible here engaging the enemy in hand-to-hand combat. The final (uppermost) sub register predominantly consists of fleeing Libyan soldiers armed with bows and long swords. In the bottom register, some fighting is also taking place but this is mainly being conducted by the auxiliary troops who engage the enemy in vicious hand-to-hand combat. Egyptian soldiers, however, are in close support and some soldiers have entered the battle while others follow behind in formation.

Another scene of this battle adds additional elements to the battlefield. While the king (in chariot with bow and arrow) charges the enemy foot soldiers and at least one chariot from the right, he is accompanied by Egyptian heavy infantry (first component) and chariots (second component). The king is in the process of firing off volleys of arrows effectively decimating the enemy ranks, while in the meantime, Egyptian foot soldiers have moved up to engage the Libyans in some close quarter fighting. So far everything is as expected, but in the background and just behind the

---

283 Medinet Habu II, pls. 71-2; and W. Wreszinski, Atlas II, pl. 137.

284 Medinet Habu II, pls. 69-70; and W. Wreszinski, Atlas II, pl. 141a.
hard pressed enemy force, we see two Egyptian fortresses. They are both manned with archers (third component) who fire at the enemy as they pass the walls. In the third scene of this battle, the king is seen binding enemy prisoners while Egyptian infantry (first component) engage the enemy while being supported by royal archers (second component). Two formations of additional Egyptian infantry, not yet committed to the battle, advance from the right. As for the scene of this battle from the Mut precinct, apart from the king, only Egyptian archers appear to be present on the battlefield, yet at least three of them are performing the role of heavy infantry by engaging the enemy (a force consisting of both infantry and chariots) in hand-to-hand combat.

Turning now to the Asiatic wars, only two battle scenes, one from Medinet Habu and the other from the Mut precinct, come close to depicting combined arms warfare. In the assault on the city of Tunip, which will be dealt with more fully in the next chapter, we find Sherden auxiliaries (first component) as well as Egyptian infantry (second component). The former, however, appear more interested in the city rather than the battle taking place behind them. Additional heavy infantry as well as chariots (third component) enter the battlefield from the right just behind the king, although only the latter participate in the fighting at this stage. Dominating the scene of course is the king in his chariot armed with a sickle-shaped sword which he uses to attack an Asiatic charioteer. The remainder of the Asiatic force consists of foot soldiers (although at least one soldier holds a bow), and it has been mostly decimated by the Egyptian attack. In the second example, only part of the battle is preserved (the king and his chariot are all but lost). Egyptian chariots (first component) are attacking the Asiatic force from the right shooting arrows and running down some enemy soldiers while an Egyptian archer (second component) and Sherden warriors (third component) engage the enemy in hand-to-hand combat. Providing covering fire on the far left is a line of royal archers. Overall, the enemy force appears to be made

---

285 Medinet Habu II, pls. 67b-68; and W. Wreszinski, Atlas II, pl. 140.

286 RIK II, pl. 116; and W. Wreszinski, Atlas II, pl. 62b.

287 Medinet Habu II, pls. 88-9; and W. Wreszinski, Atlas II, pl. 152.

288 RIK II, pl. 114; and W. Wreszinski, Atlas II, pl. 62a.
up predominantly of infantry although at least one chariot (being attacked by the king) is present.

In summary, it is evidently clear that based on what is presented in the battle images, the Egyptians possessed a sufficiently high level of military sophistication to be practitioners of combined arms warfare.\textsuperscript{289} The utilisation of distinct components of the army to achieve tactical level goals is clearly evident as is the incorporation of new pieces of military hardware into existing doctrine. This fundamental step is a vital prerequisite for the utilisation of operational art although, before we can argue this conclusively, there are numerous other factors that need to be considered before we leave the tactical plane.

\textsuperscript{289} One important factor that cannot be discounted of course was the unquestionable influence of foreign military doctrines, in particular from Syria-Palestine (resulting from Egypt’s involvement in this region), in formulating Egypt’s own military complexity, I. Shaw, “Egyptians, Hyksos and Military Technology”, 68 and our comments in Chapter IV: Strategic Level Logistics.
CHAPTER II

Siege Warfare

Egyptian proficiency at siege warfare remains a topic of some debate. Certain scholars believe the Egyptian army may have been deficient in this area and as a result their ability to attack and capture well defended centres would have been severely limited.¹ There is, however, considerable evidence to the contrary, and it is likely that “siege warfare”, to use that somewhat inaccurate term, played a significant part in Egyptian military activity.² This chapter will therefore attempt to trace the development for Egyptian assault techniques as derived from both royal and private pictorial as well as certain textual accounts. Emphasis will be placed on instances of siege warfare predating the New Kingdom as not only do they testify to its long and established history, but these earlier accounts also serve to illustrate the fact that the Egyptians themselves must have had an awareness of the importance of being able to successfully assault and capture a fortress or city. Naturally there are difficulties in dealing with the pictorial evidence and care does need to be taken so to separate out useful information from the more fictitious elements. To highlight just one difficulty, recent archaeological evidence has indicated that certain cities (as found in a select number of battle representations and to a lesser extent the textual accounts) may not have possessed some of the features generally associated with fortresses or fortress-cities.³ This fact alone poses a dilemma in our attempt to reconstruct Egyptian siege

¹ See, for example, the comments of: R. Gonen, “Megiddo in the Late Bronze Age - Another Reassessment”, Levant 10 (1987), 97.

² See, especially, David O’Connor who is critical of the idea that the New Kingdom Egyptian military was deficient in such areas: “Thutmose III: An Enigmatic Pharaoh”, in Thutmose III: A New Biography, E. H. Cline and D. O’Connor (eds.), (Michigan, 2006), 31. See also: A. Schulman, “Siege Warfare in Pharaonic Egypt”, Natural History 73 (1964), 12-21. Schulman rightly makes the distinction between a siege “surrounding of a fortified place by an army attempting to take it by a continued blockade and attack” and an assault: “The Battle Scenes of the Middle Kingdom”, JSSEA 12 (1982), 179. The difference in these tactics is no better illustrated than in the debate over the best method to capture Memphis as recounted in the stela Cairo JdE 48862. One group in Piye’s army advocated that the city be placed under siege whereas another recommended a general assault, see: J. Darnell, “Two Sieges in the Æthiopic Stelae”, in Ägypten im afro-orientalischen Kontext: Aufsätze zur Archäologie, Geschichte und Sprache eines unbegrenzten Raumes, D. Mendel and U. Claudi (eds.), (Köln, 1991), 73.

³ One particular point of importance being the degree in which certain Late Bronze Age cities were fortified (if at all), see for example: M. Hasel, Military Practice and Polemic: Israel’s Laws of Warfare in Near Eastern Perspective (Berrien Springs, 2006), 96 and in particular 114 note 5; A. Kempinski,
tactics and undermines somewhat the historical accuracy of the representations (especially when we consider those accounts which are known to be fictional). We must also be aware of the fact that these images were not intended to serve as historical documents. Regardless of these obvious difficulties, it will be argued that the battle images do indeed provide us with a valuable insight into Egyptian siege warfare tactics.

With respect to assaulting a fortified location, Yigael Yadin identified five main methods that could be employed. These were not always mutually exclusive and in many cases a combination of two or more techniques may have been needed in order to capture a city or fortress. The first of his three methods involved overcoming the walls of the city or fortress. The “easiest” way to accomplish this was simply to attempt to go over the top (scaling) with the aid of siege towers, ladders or other devices. Alternatively, an effort could be made to breach the gates or walls of a city/fortress (utilising battering poles, rams or even hand weaponry) but this could be somewhat more of a time consuming process. The third method was to penetrate the walls from below (sapping). This generally took a considerable amount of time and was not always possible to carry out. Unlike the first two methods, however, this one did offer the attackers some sort of protection from enemy fire. If the attacker was reluctant or unable to risk an active (and potentially costly) assault, then the fourth option was available for them – the siege. This was the least desired of the five methods. There was no way of knowing how long the siege could last, and it was

“Middle and Late Bronze Age Fortifications”, in Architecture of Ancient Israel from the Prehistoric to the Persian Periods, A. Kempinski and R. Reich (eds.), (Jerusalem, 1992), 136-42; and R. Gonen, “Urban Canaan in the Late Bronze Period”, BASOR 253 (1984), 61-73. Kempinski, for example, noted with respect to Palestine the general lack of innovation during the Late Bronze Age and even a noticeable decline and neglect as compared to the Middle Bronze Age, ibid., 136. On the other hand, one must also consider that the locations for a number of these fortified cities (as depicted for instance in the Ramesside reliefs) is still the subject of debate, see: N. Na’aman, “Did Ramesses II Wage Campaign against the Land of Moab?”, GM 209 (2006), 63-9. Furthermore, difficulties also arise when later generations made use of earlier fortifications (MB II fortifications proved to be considerably durable): R. Gonen, “Urban Canaan”, 62; and J. Baumgarten, “Urbanization in the Late Bronze Age”, in Architecture of Ancient Israel from the Prehistoric to the Persian Periods, A. Kempinski and R. Reich (eds.), (Jerusalem, 1992), 145. For the presence or absence of other fortification devices, see especially: D. Oredsson, Moats in Ancient Palestine (Stockholm, 2000).


therefore necessary to ensure sufficient resources, and most importantly time, were available in order to see it through to a successful conclusion. Further difficulties included the need to maintain an effective blockade, the possibility of fighting off relief forces, or even counter attacks originating from the besieged target. There was also the problem that significant forces were tied up for an undetermined period of time and thus could not be utilised elsewhere. The fastest and least expensive way (in terms of resources and casualties) of capturing a city was by trickery or through other deceitful means, but this was probably the most difficult to accomplish. We can add two additional methods not mentioned by Yadin. The first was intimidation, which as the Assyrian and Mongol armies discovered, could also be an effective way of taking a city without bloodletting. Another (far more indirect) method was instead of attacking fortresses directly, other more vulnerable locations could be targeted in the hope of forcing the enemy to abandon their strongholds. The last three methods share

---

6 Indeed, the besiegers did not always hold the advantage in a siege and they themselves could come to grief as seen, for example, with the Athenian expedition which was annihilated after attempting to capture Syracuse, Thucydides, VII. 31-87.

7 This method was, however, widely employed whenever possible and to provide a sampling of examples: Abraham Malamat believed that deceit was an important element utilised by the early Israelites to offset their military weaknesses with respect to siege warfare, see his: “How Inferior Israelite Forces Conquered Fortified Canaanite Cities”, 25-35. The Spartan general Brasidas, compensating for inferior military forces and siege doctrine, successfully utilised oratory as well as traitors to capture seemingly impregnable cities, see: G. Wylie, “Brasidas – Great Commander or Whiz Kid?”, Quaderni Urbinati di Cultura Classica 41 (1992), 80-1 and 85. Maurice for his part, advised that arrows be fired into a besieged city with letters attached promising freedom and immunity, Strategikon, 81. If the enemy city proved not to be receptive, however, fire bearing arrows were an alternative, ibid., 103. Muslim armies also tended to avoid siege warfare where possible and instead favoured the use of negotiation and traitors. The latter were employed to good effect to capture the city of Shushtar in Khuzistan which had held out against conventional Muslim assault for two years. The city fell only when an insider, whose house was on the city walls, agreed to open tunnels for the attackers. Treachery also led to the fall of the city of Amorion where a traitor informed the Muslims of a weak point in the city’s walls, see: H. Kennedy, The Armies of the Caliphs (London, 2001), 6 and 134 respectively. More imaginative methods involved the capture of the supposedly impregnable Krak des Chevaliers in 1271 by the Sultan Baybars; whereas relying on bluff alone could also bring about disparate results as noted with the fall of British Singapore in 1942 to numerically inferior Japanese forces.

8 To the beleaguered city, clear threats were made that death and destruction would follow if resistance was offered. Alternatively, if they were to surrender without a fight, there was generally a promise of favourable conditions. For Mongol siege practices, refer to: T. May, The Mongol Art of War, 77-80. The use of fear as a means of achieving victory was an important aspect of Mongol warfare, see especially: P. Linebarger, Psychological Warfare (Washington, D.C., 1954), 15.

9 By avoiding the main concentration of enemy strength and attacking less defended but vital areas was an operational concept that, as will be argued later in this study (see especially Chapter VI), the Egyptians were familiar with. The Mongols, likewise, employed this “indirect” method to bypass especially difficult fortified targets, T. May, The Mongol Art of War, 78.
certain commonalities in that not only is a fortified target taken without reliance on brute strength, but also they are examples of the so-called “indirect approach”, an important component of operational art. In the following analysis of Egyptian assault scenes and textual accounts, we should see some indication of the employment of these methods in their attempts to capture either fortified cities or fortresses. This would argue that the accounts (or aspects thereof) were based on historical fact.

Late Predynastic Period - Old Kingdom

From the Late Predynastic period to the end of the Old Kingdom, we possess only a few pictorial and textual accounts relating to fortress and city assaults. While one might be tempted to interpret this as an indication that such military activity was rare, it must be remembered that pictorial or textual references to warfare in general during this period are not really that extensive in the first place.10 No doubt, a great deal of the evidence has simply not survived. Nevertheless, the fact that we do possess evidence at all would seem to indicate that assault warfare was at this early stage a definite and probably important aspect of Egyptian warfare.11 It is possible that this was the case for the Early Predynastic period as well. For instance, a model of what appears to be two garrison soldiers peering over the rampart of a fortress may serve as an indication that fortress assaults were a common occurrence and extended quite far back into Egypt’s past.12

Late Predynastic - Early Dynastic Periods

Some of our earliest examples of assault warfare, dating from the Late Predynastic to Early Dynastic period, are unfortunately of limited value in our efforts to reconstruct the tactics utilised. These images are predominantly stylistic in that


11 Although there have been attempts to discount the military value of some of these early images, see below.

12 G. Gilbert, Weapons, 97; and M. Campagno, “In the Beginning was the War”, 689-90.
what we are presented with is often birds, insects or other animals hacking away at iconic enemy cities or fortresses.\textsuperscript{13} Regardless of these difficulties, Regine Schulz noted that collectively these early images do appear to present three distinct stages of attack. For the first stage, where the wall of the city remains intact, we see indications of an open battle prior to the attack on the fortress or city itself, as seen most notably on the Bull palette.\textsuperscript{14} In the palette in question, a bull attacks a luckless foreign enemy outside the unbroken walls of a hostile city. The Narmer palette likewise shows bearded enemies fleeing away from what may possibly be their as yet undefeated city or fortress. With the second stage, the attack against the city or fortress itself commences. On the Town palette, seven enemy cities, each shown in plan view and surrounded by a fortified wall, are being attacked by hoe wielding animals.\textsuperscript{15} Within the walls, a combination of signs serves to indicate the name of each target under attack and thus provides some historical authenticity.\textsuperscript{16} With the final stage, the walls of the city have been breached as dramatically illustrated with the enemy city found on the Narmer palette which has succumbed to an attack by a bull.\textsuperscript{17} A fortress with a smashed wall is also seen on four ebony year labels dated to the reign of King Den.\textsuperscript{18} The identification of these three stages at this very early period is important as they will be repeated to varying degrees in our later images. Admittedly, the historical aspect of these images is just one part of their purpose and we must not forget they did in fact possess multi-layered meaning spanning ideological (in particular

\textsuperscript{13} R. Schulz, “Der Sturm auf die Festung: Gedanken zu einigen Aspekten des Kampfbildes im Alten Ägypten vor dem Neuen Reich”, in Krieg und Sieg, M. Bietak and M. Schwarz (eds.), (Vienna, 2002), 19-20; The symbolic nature of these images has served to discourage the notion that they could in fact be seen as reflecting actual events, see, however: G. Gilbert, Weapons, 99 who is not so dismissive.

\textsuperscript{14} R. Schulz, “Der Sturm auf die Festung”, 22-3 and fig. 11.

\textsuperscript{15} \textit{Ibid.}, 20; and C. Vogel, Ägyptische Festungen und Garnisonen bis zum Ende des Mittleren Reiches (Hildesheim, 2004), 11-2. The animals include a lion, scorpion, hawk and two falcons. Gilbert noted that attempts had been made to see the utilisation of the hoe in such a context more along the lines of breaking soil as part of a foundation ceremony rather than a military attack, Weapons, 98-9. This has also been argued with respect to the use of the hoe in the Palermo Stone (see below).

\textsuperscript{16} R. Schulz, “Der Sturm auf die Festung”, 22.

\textsuperscript{17} As Gilbert noted, there is no ambiguity here. This is not part of any foundation ceremony, Weapons, 99; and J. Sliwa, “Some Remarks Concerning Victorious Ruler Representations”, 105.

\textsuperscript{18} G. Gilbert, Weapons, 97. A hoe is found next to the breached wall.
emphasising resistance against the “Northern Enemy”), ritual/mythological, as well as historical considerations.  

*Old Kingdom*

By the Old Kingdom, the historical value of our pictorial evidence, while still few in number, improves markedly. Scenes from the tombs of Khaemhesy at Saqqara and Inty at Deshasheh, both dated to Dynasty VI, depict assaults on what are either cities or fortresses. The battle scene of Inty will be considered first as this image marks a transition from the earlier stylistic assault images and to what becomes commonplace later. In this scene, Egyptian soldiers are depicted attacking a fortified location which is shown in plan view. This harkens back to our earlier siege warfare images and is the only extant example of its kind. With our “bird’s eye” view we are able to note that the fortress (or city) is oval shaped and possibly possesses rounded salients. The interior of this fortress, however, is presented conventionally and we are able to see how the luckless inhabitants react to the attack. Of particular interest is the possibility that this fortress/city was not Egyptian (as supported by the ethnicity of the inhabitants), but rather was located in southern Palestine. If this was indeed the case, it would support the assumption that the Egyptians were militarily active in this region and as such would indicate a more developed logistics, operational, and strategic reach than previously believed. As for the attack itself, the Egyptians are depicted assaulting the city with the aid of a ladder which has been placed against the “side” of the fortress and it is clearly being held in position by a single Egyptian soldier.

---


21 As proposed by: A. Lawrence, “Ancient Egyptian Fortifications”, *JEA* 51 (1965), 71. On the other hand they could simply represent buttresses. For a detailed discussion of the visual elements of this scene, refer to: R. Schulz, “Der Sturm auf die Festung”, 29-34; and I. Shaw, “Battle in Ancient Egypt”, 256-7.

22 The interior is divided up into five registers with mini dramas playing out in each, see: G. A. Gaballa, *Narrative*, 31; and R. Schulz, “Der Sturm auf die Festung”, 30-1.

soldier. In addition, three soldiers (or two soldiers and an officer) are armed with battering poles, which appear to have been a low level predecessor to the battering ram, and are attempting to break open the gate (?) of the city. As this two pronged tactical assault takes place, covering fire is provided by either Egyptian or Nubian archers who were likely depicted in the topmost register (now partially damaged). We see, for example, that a number of the city’s defenders have received multiple arrow hits. In addition, Egyptian infantry, armed with axes, are also engaged in heavy hand-to-hand fighting with enemy troops who, having already being subjected to arrow bombardment, are in the process of being decimated.

Unlike with the previous scene, the fortress/city from the tomb of Khaemhesy at Saqqara, identified by Smith as also being Asiatic, is depicted in side view. We are still able to see the action taking place within its interior which is divided into four registers. The scene is of particular interest in that this is the first and only time we see an assault ladder equipped with wheels being utilised to attack a fortress. Three soldiers scale the ladder while two others near the top are using their axes against the walls of the fort or town. At the base of the ladder, we find two additional soldiers

---

25 As described by Schulman in: “Siege Warfare”, 14. He has also suggested that the soldiers in this particular scene may be engaged in sapping, see also: G. A. Gaballa, Narrative, 31 who follows this view. This interpretation is supported somewhat by the reaction of one the inhabitants – he appears as if he is listening intently to the sound of digging while at the same time hushing (or beckoning) those behind him. Ian Shaw, “Battle in Ancient Egypt”, 256 and R. Schulz, “Der Sturm auf die Festung”, 31, however, believe that they are merely attempting to breach the walls which may in fact be a more valid interpretation.
26 On this scene and the survivability from receiving numerous arrow hits, see our commentary in Chapter I. In this case, one individual, an enemy Bowman, has been hit by five arrows but only finally succumbs after being struck by an Egyptian wielding a battle axe.
27 The use of missile troops to “soften up” the enemy before the main attack, as is evident here, is an enduring motif. During the siege of Hermopolis, for example, as mentioned in the Æthiopic stelae, archers and slingers, positioned on a raised platform, subjected the city’s inhabitants to continuous fire, J. Darnell, “Two Sieges”, 75. Of interest, the type of ammunition used by the slingers is termed ʔnaw.
28 W. Smith, Interconnections, 149. The upper two depict the inhabitants engaged in some sort of frenzied activity, in the third register we find the farmer directing his cattle and sheep through an opening, while in the lowest register, and possibly inside the shelter proper, we find women and children. For a detailed description of this scene and its composition, see: R. Schulz, “Der Sturm auf die Festung”, 25-8. Schulz also argues for an Asiatic identification for the inhabitants, ibid., 26-7.
30 W. Smith, Interconnections, fig. 15.
who, like in the Inty scene, are again depicted armed with long poles. Their actions, however, have been the subject of some interpretation. It is possible that they are either engaged in some form of sapping or were using battering poles to breach the walls. This interpretation is supported somewhat by the reaction of the two male figures in the lowest register inside the shelter who may be listening to their progress. This two pronged assault (utilising battering poles and assault ladders) is therefore similar to the activity that takes place in the Inty assault scene. Another simpler interpretation, on the other hand, is that our two Egyptians are instead attempting to secure the mobile ladder in order to stop any backward or forward movement.  

Another peculiarity to consider is the rather haphazard way that the Egyptian soldiers scale the ladder. Was it the artist’s intention to actually represent a siege tower? As noted above, two of the Egyptians soldiers at the top of the ladder are attempting to breach the walls of the fortress/city with their personal hand weaponry. This is one of our earliest representations of this type of assault. While the use of hand weaponry may appear suspect and not a particularly effective technique to gain access into a fortified target, Schulman noted, however, during a visit to Egyptian Nubia in 1962 the effectiveness of such “primitive” weapons when employed against mud-brick structures. Unlike the previous scene, there is no open battle and nor is there any indication of supporting fire being provided by archers. Two additional points are worth noting. First, inside the fortress/city, one of the inhabitants, as suggested by Smith, appears to be driving cattle into what is possibly an underground shelter in


32 As mentioned already, this is the only time that we see a ladder equipped with wheels used in an assault and it is difficult to believe that such an unwieldy device could have been employed in a hostile situation. One would also expect that even a ladder with wheels would have been depicted resting against the wall and not standing parallel with it.

33 In addition to the soldiers attacking the side of the fortress with hand axes, we also see an Egyptian above doing likewise but armed with a mattock, A. Schulman, “Siege Warfare”, 14. Adjacent to this soldier are two additional figures (apparently leaning on staves) who have been identified as officers, G. A. Gaballa, Narrative, 31.


35 Some type of “combat” does appear to take place in the form of a struggle between unarmed individuals.
order to seek safety from the Egyptian attack. Second, near the top of the ladder, we find a soldier who is possibly transporting additional weapons to the battlefield. Both elements reflect possible logistic considerations and as such add an additional layer of realism to this scene. Cattle could either be slaughtered or captured by enemy soldiers and therefore had to be safeguarded, whereas additional weapons, in order to replace those expended, lost or damaged in combat, along with extra supplies of arrows were also a vital requirement. Of all the assault scenes that we know of, this particular one is in many respects the most problematic.

Our textual evidence for Egyptian assaults on fortified locations for this entire period is unfortunately both less abundant and illuminating. One of our primary sources is the Palermo Stone which records a number of military actions alongside more peaceful endeavours. Mention is made, for example, that King Den of Dynasty I smote or captured the town of Werka, while the Dynasty II King Ninetjer, during Year 13, hacked up the fortresses of Ha and Sherma. It is worth noting that the attack against Werka is indicated by the hieroglyph of a stick wielding man whereas against the fortresses, the hoe hieroglyph alone is used. Therefore, it is likely the town was unfortified (the name is not surrounded by a fortification wall) and specialised siege weaponry was not required. A second useful textual source is the autobiography of the private official Weni as this provides us with an indication of the strategic reach of Egypt’s armies at this time. Weni was not only able to conduct a number of campaigns into Asia (possibly on a regular basis), but if his account is to be believed,

---

36 W. Smith, *Interconnections*, 149. On this particular motif, see Chapter IV: *Treatment of Crops and Livestock*. Driving cattle away to safety in preparation of an impending siege by a hostile force was among the recommendations of Maurice, *Strategikon*, 108.

37 The weapons may be either spears or arrows. A similarly equipped soldier is also seen in one of the Beni Hasan scenes (from tomb no. 14). In the latter case, Schulman considers the objects to be javelins: “The Battle Scenes”, 177. For the presence of “ammunition parties” on the battlefield, see our further comments in Chapter III notes 4 and 195). The importance of carrying extra weaponry, including bows and arrows, is noted in Maurice’s *Strategikon*, 14.

38 On the destruction of logistically valuable resources, see Chapter IV: *Counter Logistics*.

39 G. Gilbert, *Weapons*, 97: Ha may have been a Delta fortress (as suggested by the papyrus plant determinative). The same may also have been true of Shemra although a locale in Palestine is also possible.

40 For the complete text, see: *Urk* I, 98.1-110.2.
his army also possessed the ability to sack (sšn) Asiatic strongholds (wn(w)t).\textsuperscript{41}
Unfortunately, no details are provided as to the methods utilised.

Overall, while both the textual and pictorial accounts testify to the fact that fortified establishments were attacked both domestically and outside of Egypt, it is only the latter type of evidence that actually provides us with an insight to the tactics employed. From these images we can see that even by this early period some of the more important assault techniques were already being utilised: covering fire provided by archers; an open battle preceding the actual assault; the employment of multiple assault weapons; and a preference for scaling. With respect the last point, it must also be noted that breaching the walls likewise appears to have been a commonly employed method especially in the very early Dynastic period. Overall, by the end of the Old Kingdom, many of the key pictorial narrative episodes commonly found in the Egyptian assault warfare images are for the most part already in place. These include elements of the initial advance, open battle, the assault itself, and the eventual capitulation.\textsuperscript{42} Later images will tend to incorporate some if not all of these episodes with only minor variations.

First Intermediate Period – Middle Kingdom

Pictorial and textual accounts from the First Intermediate and Middle Kingdom Periods are slightly more numerous and again we are provided with some notable examples of Egyptian “siege” warfare techniques. From the tomb of General Inyotef (386) at Thebes we find an excellent scene of Egyptian assault warfare dated to Dynasty XI.\textsuperscript{43} Egyptian and Nubian soldiers are shown assaulting an Asiatic city or fortress. This identification is certain as the defenders are depicted with beards and

\textsuperscript{41} The determinative used for the strongholds is a fortress wall with buttress or tower like protrusions which is not too dissimilar to the fortress represented in plan view from the tomb of Inty, \textit{Urki}, 103.12. There remains the difficulty, nonetheless, as to whether these campaigns did in fact reflect historical reality. Hamblin noted, for example, that if these campaigns each resulted in the sacking of two (or more) city-states, this would have resulted in a considerable amount of destruction, which admittedly is reflected in the archaeological record, W. J. Hamblin, \textit{Warfare in the Ancient Near East to 1699 BC: Holy Warriors at the Dawn of History} (London, 2006), 275-6.

\textsuperscript{42} R. Schulz, “Der Sturm auf die Festung”, 34.

shoulder length hair and, in addition, their style of dress serves to set them apart from their Egyptian and Nubian attackers. The most notable part of the assault, however, is the use of a moveable siege tower. Unlike with the Khaemhesy scene, there is no ambiguity here. The tower is presented as being open-sided in which the soldiers have to climb up its interior using both hands to reach the fighting platform at the top. There also appears to be some sort of protruding bridge which would have enabled the soldiers to cross from the tower and over to the enemy walls. Curiously, this is the only time this particular weapon. It is never again depicted in any of the extant battle images. Covering fire for the assault is provided by Nubian archers. Unlike with our earlier scenes, the besieged inhabitants are this time depicted actively resisting the Egyptian attack. As well as enemy archers, we also see individuals armed with small hand held stones. Both classes of troops are intermingled with each other, and indeed as we shall see, a defence force comprising of archers and stone throwers appears to have been fairly common during this period.

Fragments of another Dynasty XI siege scene uncovered at the temple of Mentuhotep II at Deir el-Bahri depict an assault on a city or fortress. While the

44 A. Schulman, “The Battle Scenes”, 168-70; G. A. Gaballa, Narrative, 38-9; and S. Cohen, Canaanites, Chronologies, and Connections, 35. Schulman has suggested that this was not an Asiatic town being attacked, but rather a distorted representation of the capture of Herakleopolis. This, he argues further, tends to better fit the narrative that he has reconstructed based on the battle-scenes from this tomb, “The Battle Scenes”, 182-3. This argument, however, has not received much support, see for instance: I. Shaw, “Battle in Ancient Egypt”, 247-8. Schulz, on the other hand, argues against the possibility that this scene depicts a possible Asiatic campaign and covers various arguments for alternative localities for the battle including Nubia: “Der Sturm auf die Festung”, 40.


46 R. Schulz, “Der Sturm auf die Festung”, 36; C. Vogel, Ägyptische Festungen, 52; and M. Bietak, “Zu den Nubischen Bogenschützen”, 87. Bietak noted that Nubian auxiliaries likely constituted a not too insignificant percentage of the Theban army.

47 Such projectiles, while crude, could be effective. Of the sixty or so soldiers uncovered at Deir el-Bahri, Herbert Winlock noted that fourteen had received wounds consistent with being hit by stones thrown from a height. Many of these blows, while not immediately fatal, would have been disabling, The Slain Soldiers of Neb-hetep-Re Mentu-hotpe (New York, 1945), 15. On the cranial injuries suffered by these soldiers, see also the comments of: J. Filer, “Ancient Egypt and Nubia as a Source of Information for Cranial Injuries”, 61-3. Some of Winlock’s other conclusions have, however, been challenged, in particular the idea that these soldiers were killed in the storming of Herakleopolis, see: C. Vogel, “Fallen heroes? – Winlock’s ‘slain soldiers’ reconsidered”, JEA 89 (2003), 239-45. Although we cannot consider in detail her conclusions here, Vogel does correctly point out that the acute angle of the arrows of which the soldiers were struck may have been the result from their being fired at ground level at a 45° angle (as opposed to being shot down from the ramparts of a fortress), ibid., 241.

48 W. Smith, Interconnections, fig. 185; C. Vogel, Ägyptische Festungen, 54 and fig 9; and S. Cohen, Canaanites, Chronologies, and Connections, 35. In addition, see also: E. Naville, H. Hall and E.
fragments show very little, we do see part of an assault ladder being climbed by at least two Egyptian soldiers (one of which is armed with a socketed battleaxe), while at the same time enemy soldiers are seen tumbling towards the ground.\(^{49}\) Little can be ascertained concerning the fortress (shown in elevation) in this scene, but the wall appears to have been supported by a buttress. Schulman, in his analysis of the fragments, believed the assault that was pictured here was not too dissimilar to the Beni Hasan scenes (see below), namely, a fortified city being surrounded and attacked on all sides by Egyptian soldiers supported by Nubian archers.\(^{50}\) The assaulting troops may also be making use of a “battering ram”. Schulman believed that the butt-end of this weapon (similar to what is pictured in the Beni Hasan scenes below) can just be made out in fragment “A”.\(^{51}\) It is, however, impossible to determine the general location of this fortress or city although the defenders appear to have been Asiatic.\(^{52}\) Asiatic prisoners (for the most part women) are also seen being led away from their doomed city whereas other Asiatics manage to flee from the Egyptian troops.\(^{53}\) Schulman argues that despite this Asiatic connection, this scene (as well as the Inyotef scene above) may represent the fall of Herakleopolis.

The next group of assault scenes of note were uncovered from four private tombs at Beni Hasan. The tombs belonging to Khnemuhotep (no. 14), Baket III (no. 15), and the nomarch Khety (no. 17) are dated towards the end of Dynasty XI and the beginning of Dynasty XII whereas the tomb of Amenemhet (no. 2) is dated to the

---


\(^{50}\) A. Schulman, “The Battle Scenes”, 172-6. The attackers probably occupied two registers on each side of the city with the archers providing covering fire for the advancing Egyptian troops, *ibid.*, 175. The presence of archers at this battle is supported by fragment “D” in which we see falling enemy soldiers that have succumbed to multiple arrow wounds: E. Naville, H. Hall and E. Ayrton, *The XIth Dynasty Temple Deir el-Bahari I*, pl. XIV.

\(^{51}\) For fragment “A” see: *ibid.*, pl. XV; and A. Schulman, “The Battle Scenes”, 173. This interpretation is, however, open to debate. See our discussion below on the use of this weapon.

\(^{52}\) Schulman identified the defenders as Asiatic as one of them is sporting a short beard, “The Battle Scenes”, 172. See also: R. Schulz, “Der Sturm auf die Festung”, 35; and S. Cohen, *Canaanites, Chronologies, and Connections*, 35.

\(^{53}\) A. Schulman, “The Battle Scenes”, 175. Although as Susan Cohen rightly noted, the presence of Asiatics need not imply this assault took place in Asia, *Canaanites, Chronologies, and Connections*, 35.
reign of Sesostris I. Unfortunately, due to the fragmentary condition of the scenes from tomb no. 14 we are unable to incorporate it fully into our discussion here. The remaining scenes, on the other hand, are believed to represent the one same event and as such have generally been discussed as one unit. Indeed, they do share many common elements with only certain notable differences. The fortresses under assault, for instance, differ only slightly in two of the scenes (nos. 15 and 17) but substantially more so in the third (no. 2). While we cannot and should not place too much reliance on visual representations of fortresses as reflecting historical reality, some basic observations can be made. The fortress from tomb no. 15 possesses one gate in addition to buttresses, turrets, and a crenellated parapet. These same features are also found in the fortress from tomb no. 17. Indeed, these two fortresses are quite similar although in the case of the latter, the structure appears to be resting upon a sloping earthenwork platform. Another key difference is that this fortress also possesses two gates. The fortress from tomb no. 2 possesses turrets and a parapet with crenellations as well as a single gate but is somewhat different in design than the previous two. It also possibly rests on a splayed base of brick or mud plaster. While the geographical location of these fortresses (or single fortress) remains uncertain, the defenders have been identified as Egyptian and Schulman has further argued that what is represented here in the three scenes may in fact be the final assault against the city of Herakleopolis.

As well as similarities in presentation, the three fortresses are also assaulted in essentially the same way again indicating they should be viewed as a record of the one same event. In all three scenes, the Egyptian attackers are making use of a type of “battering ram” under the protection of a mantelet. In the scenes from tombs nos. 15

54 P. Newberry, *Beni Hasan* I, for tombs no. 2 (pls. XIV and XVI) and no. 14 (pl. XLVII); and *Beni Hasan* II, for tombs no. 15 (pl. V) and no. 17 (pl. XV). The scenes from tomb no.14 are for the most part lost. For a detailed discussion of these scenes, see: C. Vogel, *Ägyptische Festungen*, 44-50.


56 As suggested by Bruce Williams, “Serra East”, 440.

57 A. Schulman, “The Battle Scenes”, 182-3. That this battle could possibly be taking place between Egyptians and not a foreign enemy may explain, as suggested by Ian Shaw, the absence of civilians: “Battle in Ancient Egypt”, 257. Civilian captives were one of the many spoils of war but to have Egyptians leading away other Egyptians may have been too sensitive to record.

58 The long, presumably wooden, shaft of this weapon appears to have been capped with another unidentified material: B. Williams, “Serra East”, 440.
and 17, the ram is manned by three Egyptians who do not appear to possess any personal weapons. The scene from tomb no. 2 once again differs notably from the previous two. The ram with mantelet is again present but this time it is manned by only two Egyptians. Bruce Williams has argued quite convincingly that a ram used in such a way would have had only a minimal impact on the walls of a fortress.

Rather, instead of a weapon for breaching walls, this device may have been utilised to probe for imperfections along the wall in order to pick out hand and foot-holds. This could have been accomplished relatively quickly and at multiple points along the walls of the fortress. Once completed, the attacking infantry would then begin their assault. In order to guard against this, countermeasures included stone lined ditches (two or more metres deep) with low walls lining the inner parapet in order to prevent easy picking at the curtain. As with the siege tower from the tomb of Inyotef, and the wheeled ladder from the tomb of Khaemhesy, we do not see this combination of siege equipment utilised again. The mantelet, however, does reappear albeit without the “ram” component in Dynasty XIX.

Supporting the assault are Nubian archers, and from tomb no. 17 we can see how they prepared themselves for battle. First, they would lay their arrows on the ground and string (or check) their bow. This was done at a safe distance from the fighting. Next, they would move up closer, carrying their arrows in their free hand and once in range they would thrust their arrows into the ground. Once they had set themselves up in this fashion, with arrows in front of them and in easy reach, they would then fire off their complement. Support troops in the meantime would bring up

---


60 Ibid., 440-2. Williams points out that the walls of these mud brick fortresses were not solid constructions. While the mass would have been brick, they also contained additional material as well as open space within (poles and beams for strength, mats to control moisture, vents and so forth). These imperfections would have been hidden from view by layers of mud plaster but an attacking force would eventually have been able to pick out these weak spots. Indeed, given the nature of construction, the attackers could potentially have used fire to weaken the walls although this method of attack is not depicted in any of the extant siege scenes, ibid., 442.

61 Ibid., 442. Williams adds that such defences were not insurmountable and would have only slowed down a determined attacker, although, given the fact that most of the fortresses in Nubia employed such defences does indicate their perceived effectiveness.

62 As was noted with the model of the Nubian formation from the tomb of Mesehti at Asyut, the archers did not possess quivers but carried their arrows in their right hand, M. Bietak, “Zu den Nubischen Bogenschützen”, 89.
fresh supplies. The bowmen depicted in tomb no. 2, rather than thrusting their arrows into the ground, have instead set their arrows up in a more organised fashion. In most of the Beni Hasan scenes (and indeed in other scenes as well) the bowmen shoot their arrows standing, but from tomb no. 15, one of the Nubian archers in very close proximity to the enemy fortress, is shown kneeling while firing. Elements like this reflect sound military practice and thus add a touch of realism to these scenes.

There is also indications that open combat took place either during or preceding the main assault. In the scene from tomb no. 15, the attacking Egyptian soldiers are armed with spears and are in the process of stabbing their opponents, and from tomb no. 17, violent hand-to-hand combat is taking place with a pile of corpses depicted right in the middle of the battle. The surviving fragments from tomb no. 14 are of interest as we see some Asiatic auxiliaries who are armed with bows and slings. A pile of corpses is also depicted and is being inspected by a Nubian bowman. Finally, from tomb no. 2, we find two registers of fighting on the south side of the east wall. Schulman believes that what is represented here should be considered separate from the city assault scene on the north side, but it is more likely that the two events are connected. The attacking Egyptian and Nubian troops advancing from the left in the upper register are a mixture of archers and infantry. The latter are armed with eye-axes, spears, throw-sticks and shields. Their enemy,

63 Although, in some cases, these may actually be javelins, see: A. Schulman, “The Battle Scenes”, 176-7.

64 A kneeling or prone position represents a smaller target to the enemy.

65 A. Schulman, “The Battle Scenes”, 177; and C. Vogel, Ägyptische Festungen, 45-8. The inclusion of corpses littering the battlefield provides a morbid touch of realism to this image. Yet surprisingly, while slain enemy soldiers do appear frequently in the Egyptian battle images, especially during the New Kingdom period, they often have only been recently dispatched and also tend to exhibit a certain clinical sterility unlike what is found in parallel images from Mesopotamia with, for example the stela of Eannatum where vultures are seen circling the bloodied battlefield, Z. Bahrani, Rituals of War, 147-50. Furthermore, in a number of the Egyptian images, the enemy, more often than not, is depicted as still in the world of the living either in full retreat, being wounded or in the process of dying, rather than strewn across the battlefield and being trodden upon by advancing troops (as again noted in the Eannatum stela).

66 The one exception is armed with an Asiatic style 'eye-axe', in addition to his bow, see: A. Schulman, “The Battle Scenes”, 178; and C. Vogel, Ägyptische Festungen, 48.

67 C. Vogel, Ägyptische Festungen, 48-50.


69 C. Vogel, Ägyptische Festungen, 49-50.
consisting of a mixture of Egyptian and Nubian troops, are similarly armed although they appear to lack archers. Instead, one individual to the extreme right appears to carry a club. The lower register depicts two somewhat confused melees and is notable for the inclusion of Asiatic troops. Schulman is uncertain as to whom these soldiers are allied, but one would expect that the Herakleopolitans (if they were indeed on the defensive) would not have had any major qualms about enlisting the support of Asiatic mercenaries.

The fortress defenders in each of the Beni Hasan scenes are also similarly armed. From tomb no. 17, the defenders are a mixture of four archers and six stone throwers. Two of the stone throwers are also equipped with shields. From tomb no. 2, four stone throwers are present (one of which holds a shield) along with two archers, while from tomb no. 15 we can make out a mixed force of nine soldiers consisting of archers and stone throwers. Unlike with the attacking infantry, we never see slingers taking part in the defence. This was most probably due to the fact that there may have been little space available for their deployment. Typical defensive practices meant that soldiers would have been in very close proximity possibly with one or two stationed for every metre along the curtain wall.

The textual accounts of fortress assaults also become somewhat more numerous especially during the period of reunification. Ankhtify of Mo’alla, for example, had to come to the assistance of the commander of Armant as his fortress (ith) was under threat by the forces of Thebes and Coptos. The enemy had possibly decided to lay siege to the fortress as they had combined their separate camps into a single major camp. The details of how Ankhtify raised the siege are unknown. That he was successful, nonetheless, is evident, and on his return journey he was even able to assault and destroy an enemy fortress. In his second campaign, Ankhtify was somewhat less successful. After landing in one district, the inhabitants refused to meet him in combat and (presumably) remained behind their city walls, and the same

---

71 C. Vogel, Ägyptische Festungen, 44, 48 and 50.
72 B. Williams, “Serra East”, 440. It is likely that the stones are to be thrown overhand.
73 Ibid., 446 note 38.
74 See, for example: H. Goedicke, “Ankhtyfy’s Fights”, CdE 73 (1998), 29-41 as well as our comments in Chapter VI.
occurred when he advanced on the city of Sega which shut its gates on him. Wahankh Antef during his military campaigning appears to have effectively neutralised the fortresses of the Thinite nome by simply bypassing them and establishing a defensive line further to the north. It is uncertain whether the forts, once bypassed needed to be attacked. They may have simply capitulated without a fight and were then incorporated into his defences. This is one of earliest examples (if not the earliest) we possess of the employment of an “indirect approach” to neutralise a fortified target.75

Following the reunification, we possess only two notable textual references to assaults against cities or fortresses. This should not come as too much of a surprise as Egyptian military activity was during most of Dynasty XII focused predominantly towards the south against Nubia rather than the more populous Asiatic territories. Nevertheless, Egyptian armies occasionally made forays into Asia either for trade or purely military purposes.76 The stela of Nesmontu (Louvre C1) dated to Year 24 of Amenemhet I, for example, records an assault against Asiatic sand dwellers.77 General Nesmontu appears to have been a practitioner of surprise warfare as he states that not only was he able to sack strongholds (\(hn(w)t\)), but he was also able to stealthily infiltrate these settlements, moving through the streets (\(mr(w)t\)) in order to conduct surprise attacks.78 This is the first occasion that we know of where subterfuge is utilised to gain access to a hostile location. It is also the only reference we possess to fighting being conducted within a settlement. As for the second text, it appears more conventional methods were utilised. The Mit Rahina inscription dated to the reign of Amenemhet II provides a fairly straightforward and brief reference to two attacks upon walled cities. The inscription mentions the returning of regular infantry (\(mnf\beta t\)) from Asia possibly by ship after hacking up (\(hb\delta\)) the fortified towns or locations of

---

75 See Chapter VI: Sequential Operations.

76 For a recent and useful overview of Egypt’s interactions with Asia during this period, see: J. Gee, “Overlooked Evidence for Sesostris III’s Foreign Policy”, JARCE 41 (2004), 23-31; and, for a more comprehensive examination, S. Cohen, Canaanites, Chronologies, and Connections, 33-50.

77 S. Cohen, Canaanites, Chronologies, and Connections, 38. But see also: C. Obsomer, “La date de Nésou-Montou (Louvre C1)”, RdE 44 (1993), 103-140.

78 W. Helck, Die Beziehungen Ägyptens, 43; K. Sethe, Aegyptische Lesestücke (Leipzig, 1924), 82; and J. H. Breasted, “When Did the Hittites Enter Palestine?”, AJSL 21 (1905), 153-8. See also the recent translation and general comments in: D. Grajetzki, Court Officials, 103-4.
Little else is known about the military action although it is likely that both targets were in close proximity to each other with a possible identification of the former as Ura (or some other nearby location) and Cyprus for the latter. If correct, the sacking of two quite distant Asiatic towns by what was likely a limited number of Egyptian infantry engaged in an amphibious operation was not an insignificant achievement. It may in fact mark the furthest extent so far of Egyptian military activity and would indicate that they did possess at this time significant strategic reach.

The pictorial and textual accounts for this period highlight certain key points. First, fortresses and fortified cities had a significant impact on military operations at both the tactical and operational levels. At the tactical level, while fortified targets were assaulted on a regular basis we are for the first time provided with an indication that they could prove difficult to capture as noted during the wars of reunification. From our pictorial evidence we see a clear preference for scaling as opposed to breaching. Although, it is possible that the two Asiatic cities mentioned in the Mit Rahina inscription both had their walls breached. The use of missile troops to cover the assault troops continues to be a feature of the assault as does the open battle that preceded the assault itself. At the operational level, as fortresses or fortified cities tended to lie on or near important communications routes (the Nile in particular), they proved not easy to bypass. Yet certain commanders did manage to circumvent such centres, thus quickly rendering them impotent. We also see a continued preference of launching attacks against fortified targets from sea. This is especially evident in the Mit Rahina inscription where the military activity recorded was primarily naval based.

---

79 The names of both towns are surrounded by a wall with buttress/tower protrusions. See also the comments of: H. Goedicke, “Egyptian Military Actions in <<Asia>> in the Middle Kingdom”, *RdE* 42 (1991), 94. See Chapter V note 218 for further references to this important account.

80 E. S. Marcus, “Amenemhet II and the Sea: Maritime Aspects of the Mit Rahina (Memphis) Inscription”, *Ägypten und Levante* 17 (2007), 145. Goedicke likewise expressed some uncertainty over the exact locations, but believed that both cities were located not too distant from each other and adds that they were likely destroyed by the Egyptians, “Egyptian Military Actions”, 94. On the maritime aspect of this military action, see Chapter V.
Unfortunately, it is not until late in Dynasty XVII and early Dynasty XVIII that we again find references to city assaults. The struggle to liberate northern Egypt from Hyksos rule involved a number of attacks against Hyksos controlled cities culminating with the capture of their capital Avaris. While we do not possess any visual representations of the Hyksos expulsion with the possible exception of some fragments dated to the reign of Ahmose, the textual records on the other hand provide us with some valuable insights into the military operations that took place during this period. In a passage recounting Kamose’s assault against the city of Nefrusy, the Egyptian king spent one day and one night outside the city and possibly had it surrounded in order to ensure its leader was not able to escape. The details of the attack itself are vague but it appears that Kamose launched his surprise (?) assault early in the morning (“when day dawned”). This may have caught his opponents off guard and begs the question of whether or not there were specific (or expected) times for fighting and for rest. In any event, Kamose was successful and notes further that he destroyed the walls, slaughtered the inhabitants, and overthrew his opponent all by “breakfast time”.

Following this action, Kamose continued his northward advance eventually reaching the environs of Avaris. His account states that he engaged in a considerable amount of logistic destruction and plundering around the Hyksos capital (see also Chapter IV) which involved the complete destruction of local towns and the burning down of other dwellings. Most significantly, however, was that Kamose was able to capture 300 ships that were berthed in the city’s massive harbour. There is no indication that the Hyksos attempted to engage the Egyptians in an open battle, rather

---


82 D. Redford, “Textual Sources”, 14. In other words, the attack which was launched at dawn and successfully concluded by “breakfast time” must have lasted a mere couple of hours. The speed of the assault is impressive and it is not beyond the realms of possibility that the city fell so quickly.

83 Part of his northward progression is lost.

they appeared to have been content to remain behind their fortifications and weather out the attack. Kamose for his part was either unable or unwilling to capture the city itself at this stage and subsequently returned south.85

**Dynasty XVIII**

The capture of Avaris was instead to be accomplished by his successor Ahmose whose campaigns against the Hyksos are recounted in the autobiography of the soldier-sailor Ahmose son of Ebana as well as in a brief passage found on the verso of the Rhind Mathematical Papyrus.86 We will deal with the latter first as the actions recounted here preceded the attack on Avaris. Ahmose, we are informed, entered Heliopolis possibly without any resistance offered. From there the Egyptian king advanced against the border fortress of Tjaru which was definitely taken after an assault.87 Details are lacking, but this passage does indicate that Ahmose was employing a more indirect approach to defeat Avaris than his predecessor. That is, by taking Tjaru, Avaris was cut off by land from receiving any additional reinforcements from Asia.88 While the sea route may have remained open, we must not forget that a large portion of the Hyksos fleet may have been lost after Kamose’s earlier assault.89 This double blow would have effectively isolated Avaris from receiving any outside assistance. In this autobiography, Ahmose notes that the city was placed under siege (hms) and that a number of battles (both naval and on land) were fought before its


86 Urk IV, 3.2-5.2; and A. Spalinger, “The Rhind Mathematical Papyrus as a Historical Document”, *SAK* 17 (1990), 335.

87 From the Rhind Mathematical Papyrus, it is clear that prior to the final assault against Avaris, both Heliopolis and Tjaru had already been captured, see: E. Morris, *The Architecture of Imperialism: Military Bases and the Evolution of Foreign Policy in Egypt’s New Kingdom*, (Leiden, 2005), 47; A. Spalinger, “The Rhind Mathematical Papyrus”, 335; and A. Spalinger, “The Army”, 122.

88 The Sinai, for instance, was a major source of manpower which would have been denied to the Hyksos after the closing of the border, see the comments of: E. Oren, “The ‘Kingdom of Sharuhen’ and the Hyksos Kingdom,” in *The Hyksos: New Historical and Archaeological Perspectives*, E. Oren (ed.), (Philadelphia, 1997), 279. With respect to this action, Warburton actually utilises Liddell Hart’s term “indirect approach”, *Egypt and the Near East*, 159.

89 See also our comments in Chapter IV: *Counter Logistics at the Three Levels of War*. 

116
eventual capture.\(^{90}\) Such open battles were a common occurrence in our earlier (and later) assault scenes. Unfortunately, we are not provided with any information as to how the city itself fell (only that it was sacked). Following this successful action, we are next informed that Ahmose lay siege (hmst) to the Asiatic city of Sharuhen.\(^{91}\) This is our first clear reference to a siege proper and not just simply a city or fortress assault. While no details of the actual siege process are given, we are informed in a rather factual way that its duration was three years following which the city fell and was plundered (ḥšk).\(^{92}\) Sharuhen was possibly the last major possession of the Hyksos and its capture would have marked an end to an uncomfortable chapter in Egyptian history.

Although attacks on hostile cities continued to occur during the course of Dynasty XVIII, especially as the Egyptians extended their control into Asia, our evidence which remains predominantly textual tends not to be overly descriptive as to the assault methods utilised. An exception, however, is the somewhat more verbose accounts of Thutmose III, in particular his account of the battle of Megiddo.\(^{93}\) This battle commenced with a standard open engagement between the Egyptian army and a coalition of enemies outside the city of Megiddo. The Egyptians defeated the bulk of

\(^{90}\) *Urk* IV, 3.2-4.13.

\(^{91}\) Generally identified as Tell el-Ajjul, this was a 28 acre site located near the eastern end of the “Ways of Horus” and at the head of the Via Maris. As such, it occupied a decisive point in that its occupants could potentially interfere with land traffic between Egypt and Canaan, see: E. Morris, *The Architecture of Imperialism*, 29 and 52; and J. C. Darnell and C. Manassa, *Tutankhamun’s Armies*, 14. The importance of this site was further elevated due to the fact that it possessed its own inner harbour measuring some 300 m wide, E. Oren: “The ‘Kingdom of Sharuhen’”, 255. Other (less likely) candidates for the site of Sharuhen include Tell el- Fârah (S), which was only 7.5 acres in size and was located around 25 km southwest of Tell el-Ajjul in an isolated stretch of the Wadi Ghazzeh (E. Morris, *Architecture of Imperialism*, 52; J. Hoffmeier, “Reconsidering Egypt’s Part in the Termination of the Middle Bronze Age in Palestine”, *Levant* 21 (1989), 184; and W. Shea, “The Conquests of Sharuhen and Megiddo Reconsidered”, *IEJ* 29 (1979), 2). Donald Redford, on the other hand, championed Tell Haror as being the possible location, see his: *The Wars in Syria*, 11-2. Another proposed location was Tel Sera’, see: M. Hasel, *Domination and Resistance*, 174-5.

\(^{92}\) *Urk* IV, 4.14-15.2. Hans Goedicke, however, argues that the siege of Sharuhen was not the investment of just one city for a specific period of time but possibly a series of sieges or assaults carried out within a district over a three year period, *The Battle of Megiddo*, 18-9. For a discussion of the terms hmst and ḥšk, see: J. Hoffmeier, “Reconsidering Egypt’s Part”, 183. Hoffmeier noted that ḥšk referred more to the acts of pillaging and plundering rather than to any actions to describe the condition of the city during or following the attack. This was also noted by: M. Hasel, *Domination and Resistance*, 71-3. With respect to the siege itself, Hoffmeier suggested the Egyptians had militarily exhausted themselves in driving the Hyksos out of Egypt and were therefore content to starve the garrison and population into submission rather than relying on further potentially costly assaults, J. Hoffmeier, “Reconsidering Egypt’s Part”, 183.

\(^{93}\) See: Chapter I note 7 for references to this battle.
the enemy force, but the army due to a crucial lapse of discipline, failed to follow up this victory with an immediate assault on the city. Therefore, the survivors were able to retreat into the city in somewhat good order. Megiddo was not to fall to a quick and easy assault as was the *modus operandi* of the Egyptian army, rather a proper siege was needed. In preparing for this siege, the city was measured and surrounded by a ditch. A wall was then built using local wood (“fresh timber” *ht w3d*) and this was strengthened by additional fortifications. The king took up residence at the fortress “Menkheperre-Encircler-of-Asiatics” on the east side of the city. Once the siege was underway, the Egyptians appeared to have been quite content to wait for the enemy to surrender – something which was eventually to take seven months. As for its apparent passiveness, in as much that no attempt was made by the Egyptians to storm the city, and nor did the entrapped attempt to break the siege, this likely reflected the fact that both sides had only limited numbers of men available. The enemy had suffered sufficiently high enough loses to cause them to flee the battlefield and were likely not in a position to contest the siege, whereas on the part of the Egyptians, Thutmose III probably departed the area with the bulk of the Egyptian force shortly after setting up the fortifications. What troops remained would have been sufficient to ensure the city remained blockaded (and to defend against any breakout attempt), but not enough to carry out an aggressive siege. This passivity may be reflected in the long duration of the siege of Sharuhen. Indeed, one may hypothesize that there was a certain reluctance on the part of the Egyptians to attack such fortified targets, even though they possessed the technical skills to do so. The potential loss of life from conducting an aggressive siege must have been calculated as too high a price to pay

---

94 Urk IV, 657.2-660.1.

95 Urk IV, 660.4-662.6. This is only our second clear reference to a siege.

96 M. Hasel, *Military Practice*, 105. A similar account is found in the Victory Stela of King Piye, where it is mentioned that King Namart had besieged Herakleopolis “encircling it completely”, M. Lichtheim, *Ancient Egyptian Literature Volume III: The Late Period* (Berkeley, 1980), 68. Indeed, this account as a whole almost reads as a treatise for city assault warfare. Piye, himself, would go on to capture a number of cities in Egypt (see also note 249 below) including Hermopolis which he besieged through the construction of an embankment. During this action, Piye also had a siege tower constructed which served as an elevated platform for his archers and slingers, *ibid.*, 71-2. Apparently, they were able to inflict so many casualties on the residents that the resulting stench from the fallen became unbearable, *ibid.*, 72. This contrasts markedly with the sterility of the Thutmose III siege account. Piye’s military successes continued culminating with the siege of Memphis (see note 104 below).

97 Although, Goedicke has argued the siege was only one month and seven days long: *Battle of Megiddo*, 126.
This would have been especially so if one was contemplating further military action in the not too distant future (either within this campaign or in subsequent campaigns). The Egyptians, therefore, were quite content to wait until the city’s food supplies ran out.

The account of the battle of Megiddo provides us with our best insight into Egyptian siegecraft practices as sadly we do not possess any sort of military treatise on this subject for this period (but see our comments in note 96 above). The only text that provides anything close to a theoretical examination of aspects potentially related to siege warfare is Pap. Anastasi I in which military related problems (among others) are posed to the hapless scribe Amenemope. In one passage, which may possibly reflect Egyptian siegecraft practices, Amenemope must work out the quantity of (mud)bricks required to build a ramp (sTA). Unfortunately, it is not explicitly stated in the text that the ramp was to be utilised as a siege tool and nor do we possess any extant images of one ever being employed in such a capacity. On the other hand, a military context may be inferred as soldiers are to be involved in its construction and that Amenemope himself possessed a high military rank. One must also not forget

98 This behaviour also fits well with a military force that favoured “indirect” and operational level actions over attritional battles.

99 Urk IV, 660.4-662.6. According to the annals, 103 inhabitants fled the city prior to its surrender due to hunger, Urk IV, 665.11. These fugitives were subsequently pardoned by the Egyptians. Once again, an indirect approach to achieve victory is employed.

100 For this text, see: A. H. Gardiner, *Egyptian Hieratic Texts* (Hildesheim, 1964), 16-7 (13,5-14,14); and H. Fischer-Elfert, *Die satirische Streitschrift des Papyrus Anastasi I. Übersetzung und Kommentar* (Wiesbaden, 1986), 121-32 (13,8-14,8). The analysis of Gardiner (*Egyptian Hieratic Texts*, 31-3) has been improved upon by Fischer-Elfert (see below). We will be considering some of these problems throughout this study.

101 The measurements for the ramp, as given in Pap. Anastasi I, are: 730 cubits long; 55 cubits wide (at its base); 60 cubits high (at the apex); 30 cubits high (at its midpoint); 15 cubits in total for both embankments (a maximum of 7.5 for each side of the ramp); and 5 cubits for the foundation and walls. With respect to the last two measurements, see: H. Fischer-Elfert, *Die satirische Streitschrift*, 125. In addition, the interior was also to include 120 compartments (or possibly only 60, *ibid.*, 125) each measuring 30 cubits long and 7 cubits wide. For a brief discussion of the term sTA alone, see: P. Frandsen, “A Word for ‘Causeway’ and the Location of ‘The Five Walls’”, *JEA* 75 (1989), 118-9.

102 An image of a construction ramp is, however, known to us, see: N. de Garis Davies, *The Tomb of Rekh-mi-re’ at Thebes* (New York, 1973), pl. LX.

103 However, soldiers often participated in civilian projects as apparently did Amenemope. This same passage also includes a brief mention of the scribe’s inability to provide rations for his soldiers who were tasked with digging a lake (or a ditch to surround a city?). In the next section our scribe must also determine how many soldiers would be required to transport an obelisk. While these were clearly not military operations, one cannot rule out the importance of such exercises for military training. For the latter task, see: H. Fischer-Elfert, *Die satirische Streitschrift*, 133-42.
the Asiatic orientation of this papyrus and furthermore, we possess a much later textual reference to what is clearly a siege ramp from the Dynasty XXV stela Cairo JdE 48862.\textsuperscript{104} Assuming that the ramp in Pap. Anastasi I was to be utilised as a siege weapon (theoretically at least) then would it have been effective? To begin with, the theoretical height of this ramp is given as 60 cubits (or around 30 m) which provides us with some indication of the height of the walls (plus embankment/glacis) that it could have been employed against. A height of 60 cubits seems reasonable if not excessive. Second, as the ramp was also to be around 380-400 m long and thus possessing an inclination of $9.9^\circ$, this would easily have allowed heavily armed soldiers to traverse the distance at some speed without exhausting themselves. The soldiers would also have been able to begin their ascent outside of bow shot. Third, the width of the ramp (around 20 m) would have accommodated a rank of fifteen assault troops.\textsuperscript{105} Again, this too is acceptable. Finally, the construction method is somewhat reminiscent of how the walls of the Nubian fortresses during the Middle Kingdom were built in that they also contained chambers filled with other materials in order to economise on the number of mud-bricks needed.\textsuperscript{106} The main difficulties associated with the utilisation of this ramp, however (or any other type of siege ramp for that matter), is that its construction would have been both a labour and material intensive task to carry out, even under ideal circumstances.\textsuperscript{107} It is likewise problematic to believe that the Egyptians would have invested that much time and effort into a siege where, as it will be argued below, their preferences lay whenever possible with quick assaults. The siege of Megiddo as covered above was an exception rather than the rule. But even in that case, while considerable effort went into the construction of the fortifications and ditch, these were intended to be

\textsuperscript{104} In this account, it is recommended to King Piye that a siege ramp ($s\text{fr}$) be utilised against the newly refortified city of Memphis, J. Darnell, “Two Sieges”, 73-4. In this case, the proposed ramp was to be built possibly using earth strengthened with wood, \textit{ibid.}, 75-6. Piye, however, appears to have instead favoured a naval assault against the Nile facing (weaker) walls of the city, \textit{ibid.}, 81-4. For this action, and Piye’s campaign in general, see: A. Schulman, “Siege Warfare in Pharaonic Egypt”, 19-20.

\textsuperscript{105} The surface of the ramp, as estimated by Fischer-Elfert, was 40 cubits wide (55 cubits maximum including the embankment at the base), \textit{Die satirische Streitschrift}, 131. This differs from Badawy who estimated 85 cubits at the base (55 cubits plus 30 cubits (15 for each embankment)), A. Badawy, “The Three Construction Problems by Scribe Hori”, \textit{ZÄS} 110 (1983), 13.

\textsuperscript{106} \textit{Ibid.}, 13.

\textsuperscript{107} For an estimation of the volume of the ramp and the probable number of mud-bricks required, see the detailed analysis of: H. Fischer-Elfert, \textit{Die satirische Streitschrift}, 124-32.
ephemeral works designed to economise both on troop numbers required to effectively maintain the blockade and materials which were sourced locally. A siege ramp constructed of mud-brick, on the other hand, would have required a considerably larger investment of troop numbers (both to build the ramp and, simultaneously, maintain the blockade) and materials (at least 14,000,000 mud-bricks, plus support beams). It would also have become an almost permanent fixture on the landscape. As such while it is more than probable that the Egyptians possessed a theoretical awareness ramps could be utilised as a siege weapon, it was one of the methods suggested to King Piye to capture Memphis but was not taken up, other more quicker methods were instead relied upon, as we shall see below.

As well as the rare occurrence of a proper siege, the military records of Thutmose III also make reference to the capture of a city by the equally rare method of trickery. In what may be a fictional tale, General Djehuty was able to smuggle soldiers hidden in baskets into the city of Joppa.108 Even though most scholars see this account as an imaginative piece of fiction, it still highlights the fact that the Egyptians understood that it was theoretically possible, at least, to capture a city by such means and therefore we cannot exclude the account from our discussion.109 In the tale, Djehuty is able to kill the prince of Joppa by trickery.110 Afterwards, he selects 200 soldiers and hides them along with fetters in baskets. These 200 baskets, plus another 300 empty baskets, are to be carried by 500 of Djehuty’s best men. Word is then sent to the mistress of the prince stating Djehuty and his family have been captured by the prince and that they are being sent to Joppa along with gifts in baskets. The plan evidently worked. The gates of Joppa were opened allowing the soldiers to enter. Once inside, the 500 soldiers released their 200 companions and the combined assault force of 700 were able to seize the town. All the men, young and old were immediately placed in fetters and stocks. Capturing a city in such a way was most desirable as it was quick and avoided unnecessary bloodshed.


109 Schulman, for example, made only a brief mention of this incident: “Siege Warfare in Pharaonic Egypt”, 17.

110 Thereby eliminating the leadership from the outset, see our discussion in Chapter VI: Centres of Gravity.
The remaining textual records of Thutmose III, while not providing the level of detail as the Megiddo account, are still worth examining. The annals alone for instance refer to numerous towns being attacked albeit the methods utilised are generally not stated. Rather, only the fate of the city is mentioned and this could vary in severity as noted by the terminology employed. In his Year 29 campaign, we are informed that Thutmose III plundered, or more correctly captured (ḥiḳ), the town of Wrṭṭ,\(^\text{111}\) before proceeding on to sack (sk) the town of Ardata.\(^\text{112}\) In his sixth campaign (Year 30), Qadesh was sacked (sk) along with Sumur and (again) Ardata,\(^\text{113}\) whereas Ullaza was captured (ḥiḳ) during the course of his Year 31 campaign.\(^\text{114}\) The major campaign of Year 33 saw a number of towns belonging to Mitanni being plundered (ḥiḳ) and villages (whyt) raised (ḥbi).\(^\text{115}\) In Year 34, the Egyptian king plundered (ḥiḳ) two towns while another capitulated (ḥtp).\(^\text{116}\) During the tenth campaign (Year 35), the Egyptian army had reached the town of Arana but was forced to do battle with a large enemy coalition (extending to the “ends of the earth”\(^\text{117}\)) that had been assembled together by Mitanni.\(^\text{118}\) It is likely the latter were attempting to bar any further Egyptian advance but were in any case soundly defeated. Open battles taking place in close proximity to towns or cities tended to be a common occurrence (see further our discussion below). In Year 38, Thutmose III sacked (sk) a number of towns in the district of Nukhashshe,\(^\text{119}\) and another unidentified town was likewise sacked during his fifteenth campaign.\(^\text{120}\) In the final (?) campaign (Year 42) we cannot

\(^{111}\) Urk IV, 685.8; and D. Redford, *The Wars in Syria*, 62 and 64-5.

\(^{112}\) Urk IV, 687.5; and D. Redford, *The Wars in Syria*, 63. For occurrences of this verb during Dynasties XIX and XX, see: M. Hasel, *Domination and Resistance*, 57. In these cases, however, the verb was used more to indicate the destruction of regions rather than specific cities or towns.

\(^{113}\) Urk IV, 689.4-15.

\(^{114}\) Urk IV, 690.11-691.10; and D. Redford, *The Wars in Syria*, 71-2.

\(^{115}\) Urk IV, 697.7-8; and D. Redford, *The Wars in Syria*, 74. For the term ḥbi, see: J. Hoffmeier, “Reconsidering Egypt’s Part”, 183. As with the terms sk and sksk, ḥbi appears to indicate that a site has received a higher (if not total) level of destruction than selected plundering.

\(^{116}\) Urk IV, 704.6; and D. Redford, *The Wars in Syria*, 79.

\(^{117}\) See also our discussion in Chapter V: Force.

\(^{118}\) Urk IV, 710.1-9; and D. Redford, *The Wars in Syria*, 83-5.

\(^{119}\) Urk IV, 716.14.

\(^{120}\) See: D. Redford, *The Wars in Syria*, 93 for the restoration.
help but note a higher level of severity on the part of the Egyptians. To begin with, we are informed that the Egyptian army, advancing north along the coastal road, were intending to destroy (sksk) the town of Irqata. Following this action, two additional towns (kana and Tunip) were sacked (sk), while another may also have been attacked. Finally, the Egyptians plundered (hik) three towns in the district of Qadesh.

In the Gebel Barkal stela, a late inscription of this king (Year 47) which recounts some of Thutmose III’s earlier military actions, we are provided with a brief passage (referring back to the Year 33 campaign) that parallels a similar passage in the annals. We are informed that the king destroyed/hacked up (hbst) the cities (niwt) and villages (wHyt) of Mitanni. They were then further destroyed by fire and turned into mounds (išt) never to be inhabited again. Clearly this indicates the complete and utter destruction of these cities and villages, and this was indeed likely. They belonged to Mitanni and were thus outside Egypt’s sphere of interest.

Private inscriptions are likewise of interest. In the biography of Amenemhab, two separate passages refer to the Egyptian assaults against the city of Qadesh. In the first, the soldier notes only its capture, whereas in the second (which provides a greater level of detail than found in the annals) he relates how the ruler of that city attempted to “distract” the stallions of the Egyptian chariot force by sending out a mare. Apparently the danger of losing control of their horses must have been real as Amenemhab risked his life in order to slaughter this unwanted distraction. Our intrepid soldier next mentions the not too insignificant part he played in the assault against the city. He states quite clearly that Thutmose III had sent the army, or rather every valiant man, to breach (sd) the city’s walls and that he was first to do so. We

121 Urk IV, 729.7-8; and D. Redford, The Wars in Syria, 95-7.

122 Urk IV, 730.8-10.

123 Urk IV, 1231.8-9. The inhabitants themselves were carried off by the king.

124 See further our comments in Chapter IV: Treatment of Enemy Cities.

125 The two relevant sections are: Urk IV, 892.6-892.15; and 894.5-895.7.

126 For this episode alone, see: Urk IV, 894.5-894.15.

127 Urk IV, 894.16-895.7. This is a classic example of being “first over the wall” a considerable honour for any soldier in any time period. The term sd, as well as referring to the penetration of physical barriers, also possessed abstract qualities, see discussion in: M. Hasel, Domination and Resistance, 59-60.
have truly descended to a face-of-battle description here. The stela of Minmose, another private inscription of some importance, refers to three separate military campaigns conducted by possibly two different kings.\textsuperscript{128} The first two campaigns likely took place under the authority of Thutmose III, whereas the third (which is of most interest) may have been conducted personally by Amenhotep II.\textsuperscript{129} In this campaign, Minmose notes that the Egyptian king plundered (ḥwḥk) no less than thirty towns in the region of Takshy.\textsuperscript{130} If this is indeed a reflection of historical reality, which is not unreasonable, we are provided with an important indication of Egyptian assault warfare capabilities. That is, it was possible at this time for a considerable number of cities, towns or villages to be “captured” during the course of a single campaign.

Following the Takshy action, Amenhotep II conducted two additional campaigns into Asia where he again claims to have assaulted numerous cities.\textsuperscript{131} Unfortunately, these accounts are all too brief providing next to no information as to the assault tactics utilised. For example, during his first official campaign (in fact his second), we are only informed he hacked up, in an instant, the city of Shamash-Edom. Here at least the fate of the city is provided along with a timeframe which tends to confirm the notion that quick assaults were still favoured. During his second official campaign more cities were attacked with specific mention made that the villages (ḫwhyt) of Mapasin and Hatasin in addition to two towns (dmi) west of Socho which were plundered (ḥwḥk).\textsuperscript{132} A similar fate also befell Anuhrarta which was also plundered.\textsuperscript{133} Otherwise, we are only informed that the king was en route to, or had already reached, such and such location.


\textsuperscript{130} *Urk* IV, 1442.17.

\textsuperscript{131} For the Years 7 and 9 campaigns, see: *Urk* IV, 1301.3-1305.11 (Memphis); *Urk* IV, 1310.2-1314.12 (Karnak) and *Urk* IV, 1305.13-1309.20 (Memphis); *Urk* IV, 1314.14-1316.5 (Karnak) respectively.

\textsuperscript{132} *Urk* IV, 1305.18-1306.2.

\textsuperscript{133} *Urk* IV, 1308.5.
Pictorial evidence of city assaults during this period, on the other hand, is exceedingly rare. Indeed, it is not until the reign of Tutankhamun that we find our first (and at present only) late Dynasty XVIII assault scene. The scene in question was reconstructed from a number of fragmentary talatat by W. Raymond Johnson and appears to depict an Egyptian attack on a walled Asiatic city.\(^\text{134}\) That the Egyptians were militarily active during the Amarna and post Amarna periods is beyond dispute and as such this scene likely reflected an aspect of one of these campaigns. Unfortunately, little remains of the actual assault in question but in one fragment we see an Egyptian soldier armed with a spear and shield ascending an assault ladder.\(^\text{135}\) The ladder proved to be the mainstay of the Egyptian siege arsenal and, as a siege tool it was ideal in that it could be constructed quickly and easily “on site” and to the specifications required, that is, numbers and height needed.

*Dynasty XIX*

The situation improves dramatically with respect to pictorial evidence during Dynasty XIX and from the reigns of Sety I, Ramesses II, and Merenptah we find numerous images depicting Asiatic cities under attack.\(^\text{136}\) We also see for the first time the aftermath of a successful assault: the abandoned fortress with breached doors surrounded, no doubt, by devastated fields.\(^\text{137}\) The pictorial records of the military campaigns of Sety I as recorded at Karnak include two city assault scenes as well as one image of an abandoned city (table 2.1). In the first, the king advances towards the city of Yenoam but must first engage in open battle with a force of Canaanites

\(^{134}\) W. R. Johnson, *An Asiatic Battle Scene*, 158 fig. 12. Johnson also reconstructed another battle scene where open combat between Egyptian and Asiatic forces takes place. No city or fortress appears in this scene.


\(^{136}\) See: S. Heinz, *Die Feldzugsdarstellungen*, 121-2 for a discussion of the various “city types”.

\(^{137}\) See especially: W. Wreszinski, *Atlas* II, pl. 65. Other examples include: Mutir (*ibid.*, pl. 55); Akko (*ibid.*, pl. 55a); \(\text{Krmjn}\) (S. Heinz, *Die Feldzugsdarstellungen*, 271); \(\text{\textless}\text{\textless}n\text{\textless}\text{\textless}\) (W. Wreszinski, *Atlas* II, pl. 54a); \(\text{\textless}\text{\textless}\) (K. A. Kitchen, “Some New Light on the Asiatic Wars of Ramesses II”, *JEA* 50 (1964), 59-62); and one unidentified abandoned Asiatic city where we see a number of birds emerging from it as if suddenly startled, *ibid.*, 56.
equipped with chariots.\textsuperscript{138} Other Asiatic soldiers, who are supposed to be protecting that city, are depicted hiding among nearby trees.\textsuperscript{139}

<table>
<thead>
<tr>
<th>City</th>
<th>Comments</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qadesh</td>
<td>Surrendering. Defenders are equipped with bows and quivers. One defender begins to topple to the ground while two others exit the city through one of the gates in order to surrender.</td>
<td>Epigraphic Survey, (1986), pls. 23-4.</td>
</tr>
<tr>
<td>Qader</td>
<td>Abandoned. Gate has been breached.</td>
<td>Epigraphic Survey, (1986), pl. 10.</td>
</tr>
</tbody>
</table>

Table 2.1: City assault scenes of Sety I (Karnak)

In the second scene, Sety I attacks the city of Qadesh.\textsuperscript{140} He must again overcome enemy defenders equipped with chariots plus a healthy number of bowmen.\textsuperscript{141} Unlike with the city of Yenoam where the inhabitants are engaged in a religious ritual, we see soldiers defending Qadesh armed primarily with bow and arrows. The city is shown being attacked by arrows, yet no Egyptian archers are depicted.\textsuperscript{142} Also of note is a lone Asiatic driving his cattle to safety. Unfortunately, the historical value of these scenes is limited somewhat due to the fact that in both instances it is the Egyptian king alone who conducts the assault.

The majority of fortress/city assault scenes from Dynasty XIX, however, are dated to the reign of Ramesses II. These vary greatly in usefulness with respect to ascertaining Egyptian assault tactics. In one of the two fragmentary scenes from the temple of Amara West, for example, we can just make out an Egyptian soldier armed with an axe assaulting the walls of the Asiatic city of Irqata (table 2.2).\textsuperscript{143} This soldier

\textsuperscript{138} RIK IV, pls. 9-14.

\textsuperscript{139} For a recent study of such images and their comparison with similar occurrences in Asian art, see: T. Gilroy, “Outlandish Outlanders: Foreigners and Caricature in Egyptian Art”, GM 191 (2002), 35-52.

\textsuperscript{140} The termed used here is ḫ(f) (KRI I, 24.14). Hasel noted that this term had a similar meaning to ḫsk (“to plunder, to capture”) in that it may have referred to the penetration of a city and its subsequent plundering, Domination and Resistance, 43-4. It is unlikely that it was meant to indicate the complete destruction of a city, ibid., 52.

\textsuperscript{141} RIK IV, pls. 22-16.

\textsuperscript{142} Ibid., pl. 23.

\textsuperscript{143} P. Spencer, Amara West I (London, 1997), pl. 34a-b.
is working under the protection of a mantelet, the first appearance of this particular piece of equipment since the Middle Kingdom.\textsuperscript{144} Another soldier to the left appears to be armed with a long spear but it is difficult to make out if this is in fact a type of siege weapon. Further to the left additional soldiers advance towards the city. In the second scene from this temple, the assault has been successfully concluded (the city gate has been penetrated) and a procession of prisoners is being led away from the conquered Asiatic city.\textsuperscript{145}

| AMARA WEST: Temple, Hypostyle Hall, North Wall (1) and West Wall (2) |
|---|---|---|
| City | Comments | Reference |
| 1. | Iqrata | Surrendering. At least one defender topples to the ground (remainder of the scene has been lost). | P. Spencer, Amara West I, pl. 34a-b. |
| 2. | Unknown | Surrendered. City gate has been breached. Captives are being led away. | P. Spencer, Amara West I, pl. 34c-d. |

Table 2.2: City assault scenes of Ramesses II (Amara West)

The single city assault scene from the temple of Beit el Wali is unfortunately of more limited value (table 2.3). Ramesses II and one of his sons are depicted attacking an unidentified city. While the king grasps the hair of the oversized enemy ruler, his son attacks the walls with his axe.\textsuperscript{146} This last point is of more interest as the use of hand weaponry to attack the walls of a fortress directly was first seen in the Khaemhesy image. In this case, such a weapon would not have made much impact on the stone walls of an Asiatic fortress city.

| BEIT EL-WALI: Temple, Entrance Hall, North Wall (1) |
|---|---|---|
| City | Comments | Reference |
| 1. | Unknown | Surrendering. One defender topples to the ground. The ruler of the city as well as another defender are both armed with a bow | W. Wreszinski, Atlas II, pl. 163. |

Table 2.3: City assault scene of Ramesses II (Beit el-Wali)

The assault images from the Karnak temple are likewise of dubious value (table 2.4). In the majority of them, it is only the king who is depicted, either on foot

\textsuperscript{144} Kitchen saw this as more of an instance of sapping, that is, an attempt to undermine the walls of the city, see his: \textit{RITANC} II, 124.

\textsuperscript{145} P. Spencer, \textit{Amara West I}, pl. 36: c-d.

\textsuperscript{146} W. Wreszinski, \textit{Atlas} II, pl. 163.
or in his chariot, personally conducting the assault. Generally, no resistance at all is offered, and in most cases, the enemy simply flee the battlefield, whereas the towns (*dmi*) are depicted either surrendering or have already been abandoned.

<table>
<thead>
<tr>
<th>City</th>
<th>Comments</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Top Register</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>(Top)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>(Bottom)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. <em>Unknown</em></td>
<td><em>Unknown</em> (The two fortress cities in this scene have been lost).</td>
<td>W. Wreszinski, <em>Atlas II</em>, pl. 54a.</td>
</tr>
<tr>
<td><em>(Top)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Unknown</em></td>
<td><em>Unknown</em> (City is mostly lost).</td>
<td>W. Wreszinski, <em>Atlas II</em>, pl. 54a.</td>
</tr>
<tr>
<td><em>(Bottom)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>(Top)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>(Bottom)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. [<em>pk</em>]</td>
<td>Surrendering. One defender still possesses his shield. Two others fall to the ground.</td>
<td>W. Wreszinski, <em>Atlas II</em>, pl. 54a.</td>
</tr>
<tr>
<td><em>(Top)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>n</em></td>
<td>Abandoned. Gate has been breached.</td>
<td>W. Wreszinski, <em>Atlas II</em>, pl. 54a.</td>
</tr>
<tr>
<td><em>(Bottom)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Middle Register</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>(Top)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>(Bottom)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>(Top)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>(Bottom)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>(Top)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Mutir</em></td>
<td>Abandoned. Two gates have been breached.</td>
<td>W. Wreszinski, <em>Atlas II</em>, pl. 55.</td>
</tr>
<tr>
<td><em>(Bottom)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bottom Register</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>(Top)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>(Bottom)</em></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2.4: City assault scenes of Ramesses II (Karnak: West Side)

While the depictions are for the most part generic, certain aspects do stand out. First, it is noted that these towns were plundered or captured utilising the term *hf*.

---

147 For a discussion of this finite verb, refer to: M. Hasel, *Domination and Resistance*, 40-52 as well as our comments above. Hasel noted that in the majority of instances, this term was used when referring to attacks against enemy cities or towns, *ibid.*, 41.
and unlike with the images themselves, there is no variation in the terminology used. In the assault against the city of ʿIlī (no. 5) the defenders from the open battle are seen beating a hasty retreat up the hill back to their city.\(^{148}\) They retain their weaponry (spears) and an officer (?) with a bow is at their head. The defenders on the walls are also armed with spears. An open battle also appears to have preceded the assault against the cities of ʿIrī and Mutir (no. 8). The Asiatics, who appear to be primarily composed of infantry, have suffered from a heavy arrow bombardment (from the king) and are either dead or in the processes of dying. None retain their weaponry. An open battle also appears to have preceded the king’s assault against an unidentified city and ʿIrī (no. 6). While the enemy is again in full retreat, an enemy chariot is visible and its occupants and horses have, it appears, suffered multiple arrow hits. Further to the left, a formation of enemy archers runs towards the city. A similar state of affairs also can be seen in the assault against ʿṢabt and Ṭkt (no. 9). Ramesses II personally attacks an enemy chariot slaying its bowman and shield bearer driver. Other enemy soldiers fall to the wayside. Unlike with our earliest assault scenes, the defenders have essentially given up resisting and have turned instead to religious salvation. This ritual, which is evident in a number of these Ramesside images, will be dealt with separately below.

In addition to the above assault scenes, there are three additional scenes from Karnak (East) which differ slightly from the preceding images (table 2.5).\(^{149}\) The names of the cities under attack are not known but with two of the cities (nos. 2 and 3) open battle precedes the final assault. In the first of these scenes, the Egyptian king attacks a large contingent of enemy troops consisting of chariots, heavy infantry and bowmen. They appear to have suffered somewhat from an arrow bombardment, although one formation of troops, similar in composition to the unit retreating back to the city of ʿIlī (see above), attempts to reach the city while retaining some resemblance of order. Below and behind them, however, a number of their colleagues are less fortunate and are in the process of being cut down. The enemy leader, in chariot, has already been seized by the king while another charioteer (?) armed with bow and shield has cut loose his horse and attempts to flee riding bare back. Again, this is a

\(^{148}\) This is the only scene from the Karnak (West Side) collection that includes such a geographical feature.

\(^{149}\) For a commentary of these scenes, see: G. A. Gaballa, “Minor War Scenes of Ramesses II at Karnak”,  
*JEA*, 55 (1969), 82-8 and plates XVI-XX.
nice but rare touch of realism. The other open battle (no. 3) is not depicted in such
detail but once again the king attacks a mixed force of chariots and infantry. In this
case, the enemy force and city defenders have both suffered from a particularly heavy
arrow bombardment.

<table>
<thead>
<tr>
<th>KARNAK: Great Hypostyle Hall, South Wall, East Side (1-3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>City</td>
</tr>
<tr>
<td>Top Register</td>
</tr>
<tr>
<td>1. Unknown</td>
</tr>
<tr>
<td>2. Unknown</td>
</tr>
<tr>
<td>Middle Register</td>
</tr>
<tr>
<td>3. Unknown</td>
</tr>
</tbody>
</table>

Table 2.5: City assault scenes of Ramesses II (Karnak: East Side)

Moving to the Luxor scenes, we note a rather significant change with the city assault images there in that elements of the army are now present alongside the king. Whether this should be seen as a reflection of post Qadesh events is difficult to say. This change, nevertheless, is welcome for not only does this add a certain amount of realism (if one can use that term), but also the inclusion of elements of the army, a common feature of the earliest siege warfare scenes, had previously only been seen with the Tutankhamun talatat.150 Unfortunately, the accompanying texts to these scenes provide no additional details only informing us that each town (dmn) was plundered (hꜣ).151 Egyptian heavy infantry are present outside five of the cities (nos. 2-3 and 6; see table 2.6 below). Admittedly, they do not take part in the fighting as it is the king who once again personally leads the successful assault (in each case, the city is either surrendering or has already been abandoned). Open battle takes place outside only two of the cities (no. 1), where we see the king in chariot attacking a mixture of enemy chariots and infantry. The latter are armed with an assortment of weaponry including shields (round and square), bows, and at least one possesses a dagger. Egyptian soldiers are not present in this scene.

150 W. R. Johnson, An Asiatic Battle Scene, 188 fig 18.

151 KRI II, 180.2-183.4. See also the comments of: M. Hasel, Domination and Resistance, 48-9 who noted that some of these forts had structural damage around their gate areas.

130
<table>
<thead>
<tr>
<th>City</th>
<th>Comments</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Upper Register</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unknown (bottom)</td>
<td>Surrendering. City is mostly lost.</td>
</tr>
<tr>
<td>2.</td>
<td>iq’k (top)</td>
<td>Surrendering. At least two defenders are still armed, one with a bow and the other with a spear. Another two tumble to the ground.</td>
</tr>
<tr>
<td></td>
<td>[ ] (bottom)</td>
<td>Abandoned. Both gates have been breached.</td>
</tr>
<tr>
<td></td>
<td>Krjn (bottom)</td>
<td>Abandoned. Both gates have been breached.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>City</th>
<th>Comments</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lower Register</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unknown (top-right)</td>
<td>Surrendered? City is mostly lost.</td>
</tr>
<tr>
<td></td>
<td>Unknown (bottom-right)</td>
<td>Surrendered? City is mostly lost.</td>
</tr>
<tr>
<td></td>
<td>[n]d (right)</td>
<td>Surrendered.</td>
</tr>
</tbody>
</table>

Table 2.6: City assault scenes of Ramesses II (Luxor: East Wall)

Of particular note is scene no. 5 depicting the assault on the two cities of T[n]d and Tbn. The latter city was traditionally identified as Dibon. This appears, however, to be no longer the case and as such has important relevance with respect to those arguments which note the lack of correlation between the pictorial evidence (i.e. a city in possession of walls) and the archaeological evidence (where excavations conducted at the site of Dibon have not uncovered evidence for any Late Bronze city walls).

Turning now to the second collection of scenes from Luxor (West Side), we cannot but notice some further significant changes in the depictions in this part of the temple (table 2.7). First, not only do we again note the presence of Egyptian and even

---

152 See, for example, the earlier comments of: K. A. Kitchen, “Some New Light”, 51-5.

auxiliary troops in some of these scenes, but more importantly, they actually participate alongside the king in the assault. Second, and more alarmingly, the inhabitants in at least a couple of the cities represented have not yet decided to surrender but are depicted actively resisting the Egyptian attack. Again, these are features that we have not seen since our earliest images and as such, these scenes are considerably more informative with respect to ascertaining Egyptian assault tactics. Another notable change is with the terminology employed. Instead of the utilisation of the term $ hf $, both the towns of Dapur and $ Hn $ are rather said to have been “carried off” ($ ini $),$ ^{154} $ whereas the older term ($ h3k $) is used to describe the assault against the towns of Mutir and Satuna.$ ^{155} $

<table>
<thead>
<tr>
<th>City</th>
<th>Comments</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Upper Register (North Side)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lower Register (North Side)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lower Register (South Side)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Unknown</td>
<td>Abandoned. Both city gates have been breached. City itself is in disrepair and surrounding fields are overgrown.</td>
<td>W. Wreszinski, <em>Atlas II</em>, pl. 65.</td>
</tr>
</tbody>
</table>

Table 2.7: City assault scenes of Ramesses II (Luxor: West Wall)

With the Dapur scene (which is one of two dealing with this battle), Sherden soldiers armed with their characteristic round shields, horned helmets and swords participate in the assault. Their position does appear to be somewhat precarious as not only do they seem to be leading the assault, they are also in a somewhat exposed position at the base of the walls and as such are receiving a fair amount of enemy fire. Just to their right, however, additional support is provided by a formation of four Egyptian heavy infantry armed with staves and shields.$ ^{156} $ The defenders of the city

---

$ ^{154} $ *KRI* II, 173.1 and *KRI* II, 170.15 respectively.

$ ^{155} $ *KRI* II, 176.8 and *KRI* II, 176.5 respectively.

$ ^{156} $ Although, they may in fact be “encouraging” the Sherden to advance on the city.
respond to the assault by throwing stones as well as spears at the attackers (albeit generally at the Sherden troops and not the Egyptians). The assault against the city of Hn[ ] is likewise of interest. Sherden soldiers once again lead the assault whereas Egyptian soldiers, while present on the battlefield, are removed somewhat from the immediate action. Other Egyptians in the meantime lead captives away from the city. The city’s defenders appear not to be putting up as much resistance as with the previous scene but a number of them are still throwing rocks at the (Sherden) attackers.

The depiction of Ramesses II’s assault on Mutir, although tending to share elements in common with his earlier Ramesside siege scenes with respect to the presence of a generic city and an assault that predominantly features the king, does contain, however, some unique elements. The enemy, as noted in Chapter I, has for the most part been decimated, although a formation of four spearmen, one of which looks back at the carnage, retain some order as they retreat. Ahead of them, an Asiatic attempts to save his cattle, while hiding among the trees to the far right, we can just make out the head of another Asiatic soldier. Participating in the assault are some of the king’s sons. One of them pulls an Asiatic out of one of the gates while another leads some prisoners away. What is of most interest is that Egyptian troops are depicted as having already penetrated the city and are engaging in hand-to-hand combat with the defenders on the walls. This is the first time we see attacking troops who have actually breached the perimeter.

The assault on the city of Satuna is yet another impressive scene. The king, in chariot, charges a mass of enemy infantry. He is assisted in the attack by some of his sons (riding in chariots) whereas light and heavy infantry follow in formation. The city itself has not yet been attacked and its defenders are responding with bow and arrow. In the meantime, other princes are binding captives and leading them away. Included in this scene is another memorable image, this time of a hapless individual who has fled the city, and although he has escaped the Egyptian army, he did, however, run afoul of a wild bear. 157 The inclusion of such non sequitur elements which were likely witnessed on these campaigns helps add a sense of realism to these scenes. Yet even these can become formulaic in nature.

The final major group of subjugated foreign cities dated to the reign of Ramesses II is found in the Ramesseum (table 2.8). Included is a rather unique collection of eighteen captured or surrendered towns (three have definitely been lost although the original number could have been 36, or even as high as 54).  

<table>
<thead>
<tr>
<th>Upper Half</th>
<th></th>
<th>Lower Half</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>City</td>
<td>General Comments</td>
<td>Reference</td>
<td></td>
</tr>
<tr>
<td>1-3.</td>
<td>Top Register: Šrm, Lost, Lost</td>
<td>All cities have surrendered (three cities have been completely lost).</td>
<td>W. Wreszinski, <em>Atlas II</em>, pls. 90-1.</td>
</tr>
<tr>
<td>4-6.</td>
<td>Middle Register: Byl[ ]dl, [ ]brw, Lost</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7-9.</td>
<td>Bottom Register: Mrm, [ ]k/pn, [ ]rt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13-15.</td>
<td>Middle Register: Kn, Krp[n/m], 'n-Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-18.</td>
<td>Bottom Register: Mkt [ ], Gb [ ], Unknown</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2.8: City assault scenes of Ramesses II (Ramesseum)

The towns (*dmi*) were apparently captured (*hř*) during the course of Ramesses II’s Year 8 military campaign. Unfortunately, however, we only see the aftermath with the king’s sons leading prisoners away from each defeated city. Although we are not provided with any intimate tactical details, this collection is important to us as like the brief mention found in the biography of Minmose, it may serve as an indication as to the number of cities that could be “assaulted” during the course of just one campaign. Indeed, if Kitchen’s figure of 54 is accepted then this would tend to indicate a high degree of “siege warfare” proficiency where cities were able to be assaulted and captured within very short spaces of time. Naturally of course, certain cities may have only put up token resistance (or none at all) but the number of claimed attacks, even if we accept the lower figure of 18, is still impressive.

---

158 *RITANC II*, 55-6.

159 For full references, see: M. Hasel, *Domination and Resistance*, 40-2.

160 This fact would tend to indicate these were cities that were attacked and not just ones the army passed through.
As well as the above collection, one additional scene, which was possibly accompanied by many more, depicts the king’s assault against the city of Dapur (table 2.9). This is our second such image of this battle, with the first found at Luxor, and it is also one of the more spectacular assault images that we possess. One point of note is that the term *hf* is used to describe the assault here, unlike with the Luxor image where *ini* is employed.

<table>
<thead>
<tr>
<th>City</th>
<th>Comments</th>
<th>Reference</th>
</tr>
</thead>
</table>

Table 2.9: City assault scene of Ramesses II (Ramesseum: East Wall)

Unlike with the Luxor image, Egyptian soldiers, or rather the king’s sons, lead what again appears to be a two pronged assault. One prince makes use of a ladder in his attack against this non generically depicted city. It is the first time we see this particular piece of siege equipment used during Dynasty XIX. The second part of the assault is also being conducted by the princes. Four more of the king’s sons also actively take part in the assault albeit each one is under the protection of his personal mantelet, while two additional sons are engaged in hand-to-hand combat with the enemy troops. The garrison of Dapur, which seems to be putting up quite a spirited defence against the Egyptian attack, consists of spearmen, archers and stone throwers. The latter are throwing rocks both small and large at the attackers, and indeed one of the stone throwers (stone held with both hands above his head) is shown facing us directly and not in profile. This city appears, however, to have suffered a heavy arrow bombardment. Arrows have killed a number of the garrison who fall to the ground below. The standard, especially, has been hit four times (no doubt by the king’s

---

161 Admittedly, it has not been established with absolute certainty that these two images refer to the one same battle, see M. Hasel, *Domination and Resistance*, 42-3.

162 Ibid., 42-3.


164 It has been suggested that these mantelets originally contained battering ram crews (and thus were not too dissimilar to the Beni Hasan siege weapons) but were replaced with the princes: A. Schulman, “Siege Warfare”, 17. Alternatively, Hoffmeier believed that these shelters may in fact be tents: J. Hoffmeier, “Tents in Egypt and the Ancient Near East”, *JSSEA* 7 (1977), 18.
arrows, an explicit show of his marksmanship), and if we recall our first scene of this same assault, we in fact see the position of the four arrows that have pieced the enemy standard has changed which nicely reflects the fact that our vantage point of the battle has now moved. Thus what we have here is the same city assault depicted from presumably opposite sides of the city. The two representations of Dapur do (more or less) complement each other and as such provide us with a wealth of detail as to how the Egyptians conducted their city assaults. It is possible the attack commenced with an assault against one side of the city in the presence of the king (who is not in his chariot). The purpose of this assault was to act as a diversion, as it appears that no serious attempt was made to breach or scale the walls at this stage. Rather, the goal was merely to force the enemy defenders to concentrate in this part of the city in order to fight off the attackers. It is notable that the troops used for this dangerous task were foreign auxiliaries (Sherden). While this diversionary attack was taking place, the real assault begins on the other side. The king in the meantime mounts a chariot allowing him to quickly reach the other side of the city in order to be present for this part of the battle. The Egyptians, by engaging in this act of subterfuge, seem to have caught a number of enemy soldiers and civilians out in the open and as a result, the enemy ranks have been effectively decimated. Some of the luckier ones, however, have reached the walls of the city and are being pulled to safety by their colleagues. With the enemy garrison clearly distracted, the defenders are for the most part firing not at the Egyptians but at the auxiliaries who are attacking

165 W. Wreszinski, Atlas II, pl. 78: Prominent symbols such as flags have always been prime targets for enemy fire. During a major American Civil War battle, for example, a Confederate flag was shot three times out of the hands of its bearer by Yankee sharpshooters and by the end of the day the flag had a total of 58 bullet holes: J. Alexander, “Defending Marye’s Heights”, in With My Face to the Enemy: Perspectives on the Civil War, R. Cowley (ed.), (New York, 2001), 174.


167 Ibid., pl. 78.

168 For example, there is no visible siege equipment.

169 Sherden soldiers also lead the assault on the city of Hn[, and one may wonder whether another image of that assault was found at the Ramesseum depicting a similar ploy.


171 Ibid., pl. 109.
on the other side, the real assault is able to take place and this as we have seen above is conducted primarily by the Egyptians and not their allies.\footnote{172}{See, for example: Y. Yadin, \textit{The Art of Warfare}, 23-4. Yadin states that the main weakness of perimeter fortifications was the magnitude of their circumference (from around 700 m for an average size city to several kilometres for a large city). Thus, the assaulting force had the initiative here as they could launch diversionary attacks anywhere along the perimeter forcing the defending garrison to spread its forces. Once this was achieved, the attackers could then strike with their main force against a vulnerable point. The use of such stratagems is by no means unheard of in ancient warfare. Abraham Malamat, to provide just one example, has argued quite convincingly that the early Israelites employed a similar “Indirect Approach” in their conquest of Canaan, “Israelite Conduct of War”, 49-50; and “How Inferior Israelite Forces Conquered Fortified Canaanite Cities”, 31-4. The Israelites, who at this time were still a semi nomadic people with no real history of “siege warfare”, were at a notable disadvantage when directly going up against a major Canaanite city. As a result, one of their techniques they relied upon was deceit. They would split their attacking force into two unequal parts. The main force would attempt to assault the city directly, but feigning defeat, withdraw with the intention of drawing out the defenders in hot pursuit. Upon accomplishing this, the second (smaller) force would move in against the now virtually defenceless city. Once the city had been captured and torched, the main force, upon seeing the smoke from the burning city, would halt its retreat and engage the pursuing enemy force. In the meantime, the smaller force would advance from the city capturing the now confused enemy in a textbook pincer movement.}

Another factor that sets the Ramesseum and Luxor Dapur scenes apart from the other images is the accompanying text which is more descriptive than usual.\footnote{173}{See: \textit{KRI} II, 173.2-174.7 and \textit{KRI} II, 172.10-173.1 respectively; and (for both) \textit{KRI} II, 174.10-175.10.}

The Ramesseum record which is considerably longer than its Luxor counterpart informs us that Ramesses II caused the Hittites to abandon his town and that his cities were plundered and their places turned into red mounds.\footnote{174}{\textit{KRI} II, 173.14.}
The text then goes on to identify the princes that are taking part in the assault. Next, both records provide further intimate details of the assault against the city.\footnote{175}{\textit{KRI} II, 174.10-175.10.} Of particular interest, we are informed that the king personally took part in the assault along with his infantry and chariots. The Egyptian attack appears to have been sustained for two hours before Ramesses II decided to temporarily retire so in order to don his coat-of-mail or body armour.\footnote{176}{\textit{KRI} II, 175.4-9.} Following this, the assault recommenced. One again this would seem to indicate the Egyptian preference for quick assaults possibly with emphasis on a missile bombardment (one need only recall the pierced city standard). When this failed to bring about success, a direct assault with the king participating was therefore required.
Other temples which include assault warfare scenes include Abydos and Abu Simbel. In the one and only scene from Abu Simbel, the king in chariot and accompanied by three of his sons (also in chariots) attacks an unnamed city situated on a tell (table 2.10). The city itself has not yet been attacked but one unfortunate Asiatic is seen toppling over the wall having been hit by an arrow presumably fired by the king. The scene is also notable as once again an Asiatic attempts to drive his cattle to safety.

### ABU SIMBEL: Great Temple, Main Hall, South Wall

<table>
<thead>
<tr>
<th>City</th>
<th>Comments</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown</td>
<td>Surrendering. One defender is still armed with a spear.</td>
<td>W. Wreszinski, <em>Atlas II</em>, pl. 183</td>
</tr>
</tbody>
</table>

Table 2.10: City assault scene of Ramesses II (Abu Simbel)

The scenes from the Abydos temple unfortunately have suffered considerable damage (table 2.11). In one scene, the king on foot attacks a city accompanied by his sons. An open battle may have taken place prior to the assault as three Asiatics lay dying at the base of the city having been hit by arrows. Other Asiatics have been captured and bound. As for the garrison, one of their numbers has been hit twice and is toppling over the wall. The second scene from the pylon terrace is mostly lost, but we can still make out what may be an open battle. At least two Asiatics have been hit by arrows, one of which appears to be falling from the walls.

---


179 One of the enemy soldiers retains his dagger, while another still possesses his shield.


181 E. B. Ghazouli, “The Palace and Magazines Attached to the Temple of Sety I”, pls XXVIIA and XXVIIIB.
Table 2.11: City assault scenes of Ramesses II (Abydos)

The final group of scenes that we shall consider are those that depict the battle of Qadesh.\(^{182}\) While the city itself was not actually assaulted, the battle did take place in close proximity and as such we are able to see the garrison observing the course of the battle. The garrison is depicted armed with a mixture of weapons albeit not all these feature in the same scene. From Abu Simbel, the defenders are armed primarily with spears,\(^ {183}\) yet from Luxor the garrison appears to consist of a mixture of bow, dagger, and shield bearing troops.\(^ {184}\) In our two Ramesseum scenes, only one of the garrison troops in each appears to be armed (with a bow).\(^ {185}\) The rest of the garrison, in both cases, appears to be quite content to watch the battle unfold.\(^ {186}\)

During the course of Merenptah’s one and only Asiatic field campaign, he attacked the cities of Ashkelon, Gezer and Yenoam (table 2.12). Only in the first of these three scenes (Ashkelon) do we actually see a full assault in progress.\(^ {187}\) The king, in chariot and accompanied by his soldiers, engages an enemy force consisting of chariots and infantry outside the city.

---

\(^{182}\) W. Wreszinski, *Atlas II*, pls. 82-9 (Luxor), 169-78 (Abu Simbel), and 92-101 (Ramesseum).


\(^{184}\) As well as at least one spearman: *ibid.*, pl. 84.

\(^{185}\) *Ibid.*, pls. 96-106.

\(^{186}\) In the R 1 scene, a detachment of dagger wielding Hittites is, however, stationed just outside the city. A similar detachment (but armed with daggers, spears, shields and at least one bow) is also depicted in the Luxor scene.

\(^{187}\) This city was of particular importance for any land campaigning into Asia as it was located just 20 km (one day’s comfortable march) north of Gaza along the *Via Maris*, see: E. Morris, *Architecture of Imperialism*, 379.
<table>
<thead>
<tr>
<th>City</th>
<th>Comments</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Upper Register</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lower Register</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Ashkelon</td>
<td>Surrendering. One bowman falls to the ground having been hit in the head by an arrow.</td>
<td>W. Wreszinski, <em>Atlas</em> II, pl. 58a.</td>
</tr>
</tbody>
</table>

Table 2.12: City assault scenes of Merenptah (Karnak)

As noted in the previous chapter some of the troops engage the enemy in hand-to-hand combat while at the same time, two assault ladders have been placed against the walls of the city. A soldier scales one of these armed with a dagger and with his shield strapped to his back, which may have been worn in such fashion that if he were to duck, the shield may protrude far enough forward to protect his head. A second soldier, also with shield strapped to back, appears to be moving into position in order to attempt to breach one of the gates of the city. Once again, we find this two pronged assault used. While Ashkelon itself has not yet fallen, the accompanying text confirms an Egyptian victory noting that this disloyal town was carried off (*in*). The assault against the city of Gezer, on the other hand, appears to be all but over. There is no indication of an open battle, although the king does stand on some defeated foes, and nor is the city attempting to resist. In fact, captives are already being led away. In the third scene, the assault against Yenoam, which unfortunately has suffered some damage, an open battle takes (or rather has taken) place as the enemy are once again in full retreat. The attack on the city itself, however, has not yet commenced.

Before we move on to our examination of the textual accounts, it may be worthwhile to include one additional image of assault warfare. The image in question is found on a painted papyrus of unknown provenance, but is likely dated to either

---

188 *KRI* II, 166.2.

189 Gezer was another important location as it served as a link between the coastal areas and the hill country, see E. Morris, *Architecture of Imperialism*, 39-40.

190 While there are no accompanying or rather surviving texts to either the Gezer or Yenoam images, we do possess brief textual references to both assaults from other sources.
Dynasty XIX or XX. 191 What makes this image unique is that instead of human actors, the key roles are played by animals, or more specifically, mice and cats. 192 For instance, a mouse standing upright in a chariot drawn by two dogs, mimics the stance of the pharaoh as he advances towards an enemy city which is manned by felines. The latter appear to have given up on offering any resistance and instead are re-enacting the Canaanite ritual often found in such scenes. Below and ahead of the mouse pharaoh’s chariot we find retreating and slain cats (one has been hit by an arrow) indicating that an open battle must have taken place. In addition to the mouse king, mouse soldiers, some armed with bows and others with shields and personal arms, advance toward the city. An assault ladder has already been put in place and is being scaled by at least one mouse. Of course, what we see here is the reverse of the natural order of things but the idea of casting the Egyptians in the role traditionally reserved for prey is intriguing to say the least. 193

While the Dynasty XIX period is especially rich in pictorial representations of city assaults, this is not the case with the written records which tend not to be as informative as to the techniques used. In addition, we find very little evidence from the texts (and not to mention the reliefs) regarding instances of proper siege warfare. One of the more interesting accounts, nonetheless, dated to the reign of Sety I, records a simultaneous military action against three separate cities. As this particular action has important bearing on the idea that the Egyptians may have practiced a rudimentary form of operational art, it will be considered in greater detail in Chapter VI. Other references to city assaults during the reign of Sety are few in number and somewhat vague. The accompanying texts to the Karnak inscriptions, for example, make reference to the king (being) like fire when he destroys (sksk) Hittite towns. 194

191 For a complete treatment of the entire papyrus, including its more “adult” elements, see: J. A. Omlin, Der Papyrus 55001 und seine Satirisch-erotischen Zeichnungen und Inschriften, (Torino, 1973).


193 On the satirical aspect (or lack thereof) see the comments of: D. Flores, “The Topsy-Turvy World”, 234-6.

194 KRI I, 18.14. As Hasel noted, it is unlikely that actual fire itself was used to destroy these towns, but rather the Egyptian king is merely perceived as being like fire: Domination and Resistance, 58. Nonetheless, it is clear the term sksk was intended to indicate an attack that was more severe and destructive than say with the employment of either hík or ḫf, see for instance the discussion in J. Hoffmeier, “Reconsidering Egypt’s Part”, 183. The term was also utilised to describe the destruction of
That same king is also mentioned as one “who breaches (ṣd) the wall(s) in rebellious foreign lands”. Likewise, in the Qasr Ibrim stela, Sety is said to have devastated the orchards in Retenu as well as destroying (sksk) their cities. Such generic statements continue into the reign of Ramesses II. Along with the accompanying inscriptions to his battle images, one additional remark, not specifically related to the images, refers to the king as one who breaches walls. Textual references to city assaults during the reign of Merenptah are likewise minimal. The so-called Israel stela makes only brief reference to the three cities attacked by that king (which are represented in the Karnak reliefs) noting that Yenoam was “reduced to nonexistence” (tm), Ashkelon was “carried off” (ini), and Gezer has been “seized” (mh). With respect to the last city, the Amada inscription also informs us that Merenptah was the “plunderer” (ḥf) of Gezer. Unfortunately, as these brief accounts offer little to our discussion here, we must move on to the next period where we find some real surprises.

**Dynasty XX**

For Dynasty XX, all of our pictorial evidence comes from the Medinet Habu mortuary temple of Ramesses III. Recorded here are a couple of scenes which are

---

195 KRI I, 7.11; and M. Hasel, *Domination and Resistance*, 60.

196 KRI I, 99.3.

197 KRI II, 166.7. The passage accompanies the Dapur assault scene but likely does not refer to the method utilised by the Egyptians to capture the city, see: M. Hasel, *Domination and Resistance*, 60.

198 KRI IV, 19.5-7.

199 KRI IV, 19.5; and M. Hasel, *Domination and Resistance*, 35.


among the best preserved examples of Egyptian assault tactics against fortified locations. Ironically, the historical validity of these scenes has been called into doubt (see note 201). In his assault against an unknown Asiatic city (see table 2.13 below), Ramesses III is accompanied by two formations of Egyptian infantry although neither participates in the fighting. It is likely that an open battle took place as a number of dead and dying enemy infantry surround the king, who is armed with a spear in his left hand and a shield and bow in his right. The Egyptians have not yet commenced their assault on the city itself but some of the garrison have succumbed to arrows presumably fired by the king as he still retains his bow.

<table>
<thead>
<tr>
<th>City</th>
<th>Comments</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown</td>
<td>Surrendering. Some defenders fall to the ground.</td>
<td>Medinet Habu II, pl. 90.</td>
</tr>
<tr>
<td>Tunip</td>
<td>Surrendering. Egyptian soldiers have penetrated the outer enclosure.</td>
<td>Medinet Habu II, pl. 88-9.</td>
</tr>
<tr>
<td>Unknown (top)</td>
<td>Both cities are surrendering. Numerous defenders armed with (rectangular) shields fall to the ground.</td>
<td>Medinet Habu II, pl. 87.</td>
</tr>
<tr>
<td>City in Arzawa (bottom)</td>
<td>Egyptian soldiers have penetrated the outer enclosure of the unidentified city.</td>
<td></td>
</tr>
<tr>
<td>City in Amurru</td>
<td>Actively resisting. Garrison is solely armed with spears. Two defenders fall to the ground.</td>
<td>Medinet Habu II, pl. 94-5.</td>
</tr>
</tbody>
</table>

Table 2.13: City assault scenes of Ramesses III (Medinet Habu)

Overall, however, we are provided with little or no tactical information. This is not the case with the scene depicting the king’s (fictional) assault against Tunip as we find here virtually every artistic motif relating to siege warfare being utilised.202 To begin with, there is the full scale open battle (of which considerable space is devoted) against enemy chariots and infantry. The Egyptian king, in chariot, does not fight alone but leads his own force of chariots and heavy infantry into battle. While other Egyptians in the meantime are engaged in graphic hand-to-hand combat, it is the assault on the city itself that is of most interest. The initial, diversionary, attack may have been conducted by Sherden warriors who once again are in close proximity to

---

202 Medinet Habu II, pl. 88-9.

the city but do not assault it directly (we need, for example, only recall how they were utilised by Ramesses II). 203 Indeed, it is the Egyptian regular troops who, having crossed the (dry?) moat, lead the two pronged assault. The infantry have erected two ladders against the walls and each is being scaled by two soldiers (with shields on their backs). 204 Some Egyptian soldiers have already reached the top of the outer wall, and armed with sickle-shaped swords and shields (one soldier still has his strapped to his back) are engaged in hand-to-hand fighting with the garrison – an accomplishment that is not often depicted. While this takes place, the second part of the attack commences with three Egyptian soldiers attempting to breach the main gate with their axes. With their shields tied to their backs, they are able to wield their weapons with both hands. Further support for the attack is provided by a batch of light infantry who fire off arrows from the other side of the moat. Finally other troops in close vicinity are engaging in what appears to be some logistic destruction by cutting down trees nearby. 205 While there still remains the problem of historicity with respect to this and the other Ramesses III assault images, this “kitchen sink” approach nonetheless makes for excellent commentary. From a tactical point of view, we are provided with what amounts to a vivid display of multiple assault methods which at some level must be a reflection of the actual methods utilised at this time.

The next scene of interest, depicts the assault against two cities (the identity of the top one is unknown whereas the one below was located in the land of Arzawa). 206 Unfortunately, this scene adheres more to the format of the less informative earlier Ramesses II images (which if copied from this king is to be expected) but with some subtle points of note. The king once again leads his army, consisting solely of infantry, against the two targets. The enemy defenders have suffered from heavy arrow bombardment and many fall in what can best be described as an almost macabre waterfall from the two cities. Some type of open battle may have taken place considering that a number of enemy soldiers have fallen under the king’s chariot, but this is uncertain. The bottom city has not yet been directly attacked but the

203 Although, this may have been in part due to the fact that the Medinet Habu scenes were “inspired” by those of Ramesses II, see note 201 above.

204 Medinet Habu II, pls. 88-9.


206 Medinet Habu II, pl. 87.
unidentified (top) one has. One of the gates has been breached, and Egyptian soldiers armed with staves (but without shields) are seen in combat on the top of the outer enclosure. 207

In his assault against a city in Amurru, Ramesses III is accompanied by a formation of heavy infantry but the latter do not take part in the fighting. 208 There is, in addition, no indication of an open battle having taken place (although the king does stand on two defeated foes), and nor do we see Egyptian soldiers commencing the assault on the city itself. What we do find, on the other hand, are Sherden auxiliaries at the base of the city (reluctantly) leading the assault. 209 The defending garrison has suffered from an arrow bombardment (from the king only) and two of the defenders topple to the ground. In addition, the standard of the city has, in the fashion of Ramesses II, been pieced by two Egyptian arrows. But apart from these setbacks, they are armed to the teeth with spears and are actively resisting the Egyptian attack. It is also from this king’s reign that we have a rare representation of an Egyptian garrison defending their fortress. 210 In the scene in question, Egyptian archers shoot at Libyans who are in full retreat following the failure of their second invasion attempt.

As with the previous period, textual references to city assaults during Dynasty XX are not as illuminating. Ramesses III, for example, utilises the term *fh* to describe attacks against enemy cities (*niwt*). 211 This is noted in his account of the Year 8 Sea Peoples invasion, and in his actions against the Syrian cities. 212 Ramesses is also noted to have destroyed (*sksk*) their people and their towns (*dmi*). 213 The term *fh* is also utilised to describe the actions of the Meshwesh during the Year 11 Libyan war.

---

207 *Medinet Habu* II, pl. 87. They do in fact appear to be in the process of slaughtering the defenceless inhabitants.

208 Ibid., pls. 94-5.

209 Ibid., pls. 94-5. They are once more “urged on” by the three stick wielding princes behind them. This scene is quite similar to the Dapur scene of Ramesses II and again they appear to be employed in a diversionary role. Alternatively, is it possible these soldiers are being utilised as “cannon fodder”?

210 Ibid., pls. 69-70.

211 M. Hasel, *Domination and Resistance*, 34.

212 *KRI* V, 42.8; and *KRI* V, 79.5.

213 *KRI* V, 85.1.
against the Tehenu, “devastated (kfr) and desolated (fh) were their towns (niwt)”.\textsuperscript{214} Again, such references add little to our discussion here.

**Ritual and the Fall of the City**

In a number of Ramesside city assault scenes, the inhabitants of the beleaguered city appear to have relinquished their faith in conventional weaponry, and instead, have turned to a more spiritual form of defence. It would not be out of place to briefly consider at this juncture the ritual that we see performed in response to the Egyptian attack.\textsuperscript{215} While the hope of direct godly intervention during a military conflict from a modern perspective may now seem fantastic, this was not the case in the ancient world where religious scruples could play an important part in warfare.\textsuperscript{216} This held true not only for the Egyptians but also for those they attacked and therefore it should not come as much of a surprise to find that in the large majority of city assault scenes dating from Sety I to Ramesses III we often see a ritual being performed by the defenders of the besieged city. The ritual appears to have been conducted by the enemy prince (or other high official) and his retinue where a supplication is offered utilising a brazier (sometimes lit, sometimes not) to the Canaanite god in order to receive some form of divine salvation.\textsuperscript{217} The ritual is first recorded in Sety’s assault against the city of Yenoam.\textsuperscript{218} While the Egyptian king in

\textsuperscript{214} KRI V, 60.7. See also the comments of: M. Hasel, Domination and Resistance, 34.


\textsuperscript{216} See for example, the article of: M. D. Goodman and A. J. Holladay, “Religious Scruples in Ancient Warfare”, CQ 36 (1986), 151-171.

\textsuperscript{217} A. Spalinger, “A Cannanite Ritual”, 47-56. The idea that a Canaanite deity is the target of this offer has been challenged, see: V.A. Donohue, “A Gesture of Submission”, 84-7. Donohue argues it is the Egyptian king himself who is the intended recipient. This is not too implausible as in every single case the brazier bearing official faces the Egyptian monarch. On the other hand, as Donohue herself points out, there is an indisputable (later) tradition of such rituals involving braziers and child sacrifices (see below) conducted by cities under siege in order to gain some form of divine salvation not from the attacking force (which would seem pointless in any case) but rather their protective deity. This is likely what we have pictured here. For an actual prayer text, to be used by a city under siege, see: D. Pardee, “Ugaritic Prayer for a City under Siege (1.88)”, in The Context of Scripture: Canonical Compositions from the Biblical World I, W. Hallo (ed.), (Leiden, 2003), 283-5.

\textsuperscript{218} RIK IV, pl. 11; and W. Wreszinski, Atlas II, pl. 36.
the process of defeating the enemy forces in open battle, the city is shown to be quite
defenceless. Thus, out of desperation the prince of the city, accompanied by his
followers, is depicted holding an unlit brazier and all five individuals have their arms
raised towards heaven. 219 This same ritual is again seen in Sety’s assault against the
city of Qadesh. 220 Although the ritual is not as complete here, the prince of Qadesh is
shown holding a brazier and he and his followers are in postures similar to the ones
mentioned above. In the reliefs of Ramesses II, we again find numerous
representations of this ritual but with one notable addition. From the temple of
Karnak, a scene shows Ramesses single-handedly attacking the city of $J[p]k$ and [$]
$n. 221 The latter city has already been captured, as indicated by the doors which have
been breached, but the former is still resisting. The prince holds up a lit brazier while
he and his retinue also raise their arms. The same ritual is again depicted in Ramesses
II’s assaults against the cities of $Krmjn$ 222, $Itr$ 223 and $Sjbr$ 224. The ritual is also seen in
at least two other scenes from Karnak, 225 and was possibly present in all the other
assault reliefs as well. 226 However, in one of these scenes, the assault on the city of [$]
$rd, although we do not see the prince and his brazier, we do see a small dead child
being lowered over the rampart of the inner enclosure. This appears to have been the
second element of the ritual: a human, or to be more precise, child sacrifice or
offering. 227

220 RIK IV, pl. 23; and W. Wreszinski, Atlas II, pl. 53.
221 W. Wreszinski, Atlas II, pl. 54a.
222 Ibid., pl. 54a.
223 Ibid, pl. 55a.
224 Ibid., pl. 56.
225 In both cases, the city is not named: G. A. Gaballa, Narrative, fig. 8a; and W. Wreszinski, Atlas II,
pl. 55 (partially).
226 Unfortunately these remaining scenes are somewhat incomplete and therefore it is difficult to see
whether or not this ritual is being preformed: W. Wreszinski, Atlas II, pl. 54 assault on $Jf$; ibid., pl. 55
assault on [$]rd; and G. A. Narrative, fig. 8a (assaults on two unidentified cities).
227 In addition to the debate as to who this ritual was intended for (see note 217), the question of what
role the children played in these proceedings has proved to be another point of contention. The Ugaritic
prayer text referred to in note 217 above mentions a “firstborn” but it is not certain this is in reference
The city assault scenes from the Abydos temple are unfortunately inconclusive due to their poor state of preservation, but in a well preserved relief from the Abu Simbel temple we again find the ritual being performed. The prince of the (unidentified) city is depicted holding a brazier (unlit), and again he and his intimate followers raise their hands towards the heavens. The human sacrifice, in the form of a small child, is again present. Yet the ritual appears to be at an early stage as the child is still alive and is being supported by a female figure. From the Luxor temple, two scenes clearly show the first part of the ritual taking place (i.e. the prince with lit brazier). On the other hand, we do not see any indication that the ritual is taking place during Ramesses II’s assaults against the cities of Hn[ ], Satuna, and J[p]k. Of the remaining two scenes from Luxor, one is too incomplete, whereas the other, although it does not appear to depict the prince with his brazier, we do see the child sacrifice.

The ritual continues to be observed into the reign of Merenptah. During this king’s one and only Asiatic campaign he attacked no less than three cities of which only in one, the Ashkelon scene, do we see the complete ritual being performed. The prince of the city holds up the lit brazier, while a child sacrifice is being lowered from the ramparts. Unlike with previous scenes where only the prince’s closest followers are shown with arms raised, all the inhabitants except one are depicted taking part in the ritual. Incidentally, on the other side of the city, a figure (possible a young female)


230 The two scenes are as follows: the assault on Dapur, *ibid.*, pl. 78 (the ritual is also depicted in the Ramesseum Dapur scene, although the braziers in this case appear to be slightly different, *ibid.*, pl. 107); and the assault on Mutir which although incomplete, the prince and the bottom of the brazier can just be made out, *ibid.*, pl. 71.


235 Unfortunately the name of the city is lost: *ibid.*, 110.

236 F. Yurko, “Merenptah’s Canaanite Campaign”, 208. Yurko considers the young child simply to be dead and not a sacrifice.
is being either lifted into the city (as described at the battle of Megiddo\textsuperscript{237}) or is being lowered to the ground in order to escape the city before it falls.\textsuperscript{238} The ritual (or at least part thereof) is also being conducted in the city of Yenoam, and like Ashkelon, the inhabitants of this city have apparently given up on a conventional defence and all raise their arms towards heaven. The child sacrifice is seen on the left side (the child in this case is facing towards the city) being lowered to the ground. Due to damage to the Gezer scene, it is difficult to see whether the ritual is being performed here. A number of inhabitants are, however, depicted with arms raised.

A possible further variation of this ritual is seen in certain scenes of Ramesses III at Medinet Habu. In the assault against the city of Tunip,\textsuperscript{239} no less than three individuals are holding braziers while they, plus four others all inside the inner enclosure, participate in the ritual.\textsuperscript{240} The full ritual is depicted during another assault on an unidentified Asiatic city.\textsuperscript{241} Here two individuals are holding braziers and all the inhabitants of the city are taking part in the ritual, one of which is depicted lowering the child sacrifice. In another scene, where Ramesses is shown attacking two cities, one of which is unidentified, while the other is said to be in Arzawa or Ullaza/Iras,\textsuperscript{242} the prince of the unknown city is holding a brazier while all those inhabitants who are capable of doing so take part in the ritual. We do not see the prince and brazier in the other city but the ritual is nonetheless being performed and may possibly be in its final stage due to presence of a previously unrecorded element. What we see here is the sacrifice of two children both being lowered facing away from the city. However, due to the possibility of these scenes are in fact ahistorical, a double human sacrifice may actually have been a creation of the artist.

\textsuperscript{237} The Egyptians witnessed inhabitants of that city lowering their garments over the walls to hoist up those trapped outside the walls, \textit{Urk IV}, 658.4-7.

\textsuperscript{238} Although Spalinger has suggested that this older child is also a sacrifice: “A Cannanite Ritual”, 50. However, all the child sacrifices so far encountered are depicted without garments, and generally (although not always), they are lowered facing \textit{away} from the city.

\textsuperscript{239} \textit{Medinet Habu} II, pls. 88-9; and W. Wreszinski, \textit{Atlas} II, pl. 15.

\textsuperscript{240} The one exception appears to be a figure who is facing the viewer. Is this individual preparing the human sacrifice?

\textsuperscript{241} \textit{Medinet Habu} II, pl. 90; and W. Wreszinski, \textit{Atlas} II, pl. 153.

\textsuperscript{242} \textit{Medinet Habu} II, pl. 87; and W. Wreszinski, \textit{Atlas} II, pl. 145.
Conclusions: Egyptian Assault Tactics

From this overview of the pictorial and textual accounts of Egyptian assault warfare we are now in a position to make some general comments regarding the tactics utilised. Prior to the actual assault it was not uncommon for the targeted city or fortress to attempt to meet the attacking Egyptians in open battle. This is seen, for example, in the Inty Dynasty VI battle scene, the Deir el-Bahri fragments, and in the images found in the four tombs at Beni Hasan. There are indications that an open battle also took place during Tutankhamun’s assault while a significant number of Dynasty XIX assault scenes also depict the Egyptians engaged in battle with some type of defending army. Sety I, for example, prior to attacking Yenoam and Qadesh first had to defeat enemy armies consisting of chariots and infantry. Ramesses II also fought a number of such battles with some of the better illustrated being those taking place outside the cities of Mutir, Satuna and Dapur. The best example, however, is of the fighting that took place outside the city of Qadesh which is extensively illustrated. Of the twenty-two city assault scenes (treating scenes with multiple cities as one, and excluding the Qadesh reliefs) of Ramesses II that we know of, at least fourteen show some indication that an open battle took place. His successor, Merenptah engaged in an open battle outside Ashkelon and Yenoam but not Gezer. Surprisingly, of the five assault scenes of Ramesses III, it appears an open battle only takes place in the Tunip scene. A common theme that runs through the open battle scenes includes the important role played by archers who could devastate the enemy defenders at a distance. The textual records likewise record open battles taking place prior to the assault on the city. Kamose and Ahmose both engaged in battles against the Hyksos outside Avaris (although only the latter was successful in capturing this city).243 Further into Dynasty XVIII, Thutmose III, even though surprising his enemy, still had to engage an enemy force in combat prior to attacking Megiddo.244

That the open battle was a common occurrence in these scenes should come as no surprise. It was arguably the most important part of the assault as both sides had an equal interest in achieving a victory at this stage. From the attacker’s perspective, if the enemy could be defeated decisively on the field, this opened the way for an

243 Urk IV, 3.2-5.2.

244 Urk IV, 657.2-660.1.
immediate attack on the city or fortress with the possibility that it could be taken with little or no resistance being offered. For the Egyptians, one gains the impression that this was their preferred way of capturing a city, that is, a successful battle followed up by a quick assault. This was, for example, clearly the intention of Thutmose III following his victory over the defending enemy force outside the city of Megiddo. Unfortunately, instead of the immediate follow up assault, the army, in a lapse of discipline, plundered the enemy camp instead. As a result, the opportunity was lost and the city had to be placed under a siege that lasted seven months. 245 For the defender, attempting to meet the attacking force in open battle was likewise important, but for very different reasons. If the attackers could be successfully repulsed at this early stage, then the city and its immediate environs would be spared the damage that would result from a direct attack. Of particular concern of course was damage inflicted on the logistical infrastructure of the city (see Chapter IV). A beleaguered fortress or city may of course have been willing to suffer the effects of any logistic damage especially if they were unable or unwilling to meet their attackers in battle. Instead, their faith would be placed in the physical defences, in the competence of the defending garrison, and on the hope of divine intervention. 246

Once the enemy forces had been defeated in open battle, if one is offered that is, the assault on the city or fortress itself could begin in earnest. Ideally, this should occur as quickly as possible following the aftermath of the battle as any delay would allow time for the defenders to regroup and reorganise themselves. 247 If the attack is delayed, even for a short time, the opportunity could just as easily be lost as Thutmose III discovered. An immediate attack had the advantage that a quick and relatively easy victory may be achieved without the need for a drawn out and potentially nasty siege. It does seem quite clear that the Egyptians attempted to follow up the battle with a direct assault on the city. This is emphasised, artistically, by the fact that the open battle and city assault are often depicted in the same scene (in some cases, two cities are shown). In addition, the texts and the images often refer to luckless individuals (soldiers and civilians) being caught out in the open along with their cattle. Some are

245 Maurice warns against soldiers engaging in acts of plunder before a battle has been concluded as this could lead to unfortunate results, *Strategikon*, 68 and 78.

246 As the Athenians attempted to do during the Peloponnesian War, Thucydides, I.143.

247 This is keeping with Clausewitz’s principle of the continuity, see Chapter VI: *Culmination and the Principle of Continuity*. 
fortunate enough to be pulled to safety by their colleagues within. All of this points to an immediate and fast assault.

The attack on the city itself is often initiated, and then accompanied, by an arrow bombardment. Indeed, archers both Nubian and Egyptian, as well as playing an important part in the open battle phase, were crucial for their ability to target the defending garrison and provide covering fire for the attacking troops. Their presence on the battlefield is seen in our earliest images and continues through to those of Ramesses III. In many of the Dynasty XIX assault images, admittedly, we only find the king conducting the assault whereas the rest of the army (if present that is) remains in the background. These images are still notable in that an arrow bombardment against the city (even though conducted by the king) has still taken place and we see the numerous victims in these scenes toppling over the walls having being hit by arrows. The pierced standard of the city likewise serves as an indication of the heavy arrow bombardment that could occur, and, the continued presence of archers on the battlefield testifies to their importance in city assaults. Clearly they were a vital element in the attack.

While covering fire is being provided by the archers (or the king), the assault proper against the city and fortress was able to commence. Although the cities as seen in the Egyptian representations are not accurate depictions (see our comments below), they do highlight the important defensive features that needed to be overcome which included an outer, and sometimes inner, enclosure wall, moats, ramparts and city gates. It appears that the preferred method of attack was a direct assault against the walls of the city or fortress. The most commonly employed method was scaling with the use of ladders, although in our earlier scenes, mantelets armed with battering poles were also employed. Only on one occasion do we ever see a siege tower. The second most common method was breaching, utilising battering poles and personal hand weaponry. The former tended to be used against walls but later they were more often than not utilised against the gates. Battering poles are seen in our earlier images, but the use of hand weaponry is more often noted. It appears that the axe was the personal weapon of choice when attacking a fortress. Of particular interest, however, are a select number of scenes where the two techniques of scaling and breaching are utilised in conjunction. This double attack is seen in the assaults from the tombs of Inty and Khaemhesy, and the New Kingdom images of Dapur, Ashkelon, and Tunip.

A third assault method utilised by the Egyptians, as seen in both the textual accounts
and images, involved trickery. Both the capture of the city of Dapur (as argued above) and Joppa (by General Djehuty) involved some element of deceit. What this indicates is that the Egyptians clearly possessed an awareness of the fact that cities could be captured without reliance on a direct frontal assault. That we possess only a few references to its utilisation is probably more of a testament to the difficulty in successfully pulling off such a coup. Finally, another common occurrence in these scenes is the presence of auxiliaries. While Nubian archers performed a valuable service of providing covering fire, Sherden infantry, on the other hand, often appear to be utilised for the inherently more dangerous task of attracting enemy fire through leading the assault, although, their heavier armament would have afforded them some protection.

True instances of siege warfare, on the other hand, where the city is completely surrounded and invested for an undetermined period of time are rare. Of the two instances that we know of, one is problematic (Sharuhen), while the other (Megiddo) definitely qualifies as such. It is possible that Ramesses II may have been contemplating a siege when he advanced against the city of Qadesh in his fifth year. His first division had succeeded in reaching the city and had constructed a fortified camp nearby to the northwest. Due to the layout of the land, Qadesh was surrounded by the Orontes to the east and a minor tributary to the north and west, it was impractical to utilise the siege techniques which were used at Megiddo. Rather, a camp was constructed which would have effectively isolated the city from outside support. The fortified camp set up by the Egyptians was itself only a simple construction consisting of nothing more than shields positioned on all four sides acting as a rudimentary defensive wall. It was nevertheless an effective defence, as it enabled Ramesses II and his soldiers to effectively repel a Hittite chariot attack, and while the enemy did succeed in breaching part of the fortifications the camp was not overrun.

All in all, the lack of evidence for the use of sieges should not be seen as a reflection of lost evidence but rather that it was not a desired option. Sieges are inherently messy affairs and given the Egyptian pertinacity for low cost, low attrition (but high gain) warfare, see Chapters V and VI, it should come as no surprise that sieges do not figure greatly in their military operations. As for their being able to negate the importance of a particular fortress or city through either bypassing it or attacking more vulnerable locations, we are on firmer ground. At a wider, operational,
level it is clear that the Egyptians possessed the ability to successfully neutralise potentially problematic targets without attacking them directly. We will examine instances of this in Chapter VI.

As for the remaining two methods of sapping and intimidation, there is no real evidence that either was relied upon at this stage. The closest evidence we have for sapping is the Inty scene but this is highly dubious. While the Egyptians were of course technically proficient in this area, geographical and, more importantly, time considerations would not have made sapping a desirable option. Overt instances where the Egyptians were able to rely on intimidation alone to force a surrender are likewise unknown. Naturally this was probably a reflection of the fact that such offers were possibly incompatible with the Egyptian mindset. Cities either surrendered outright and if they did not, they were attacked and defeated. There was in the Egyptian view of things no room (nor need) for negotiation. How much of this was carried through to the real world may never be known.

This discussion so far has deliberately avoided any in depth commentary on the physical nature of the cities under attack. As mentioned at the beginning of the chapter there does exist the problem that the pictorial and textual descriptions may not reflect reality. Recent archaeological excavations have shown in the case of Megiddo at least, that this city may not have possessed city walls at the time of Thutmose III’s famous attack, and this may have been the case with a number of other

---

248 We may also not want to lightly discount the fact that Egyptian experience with underground building activity tended to be primarily associated with the afterlife. On the other hand, as this was a time and resource consuming siege technique, it would not have been favoured by an operationally minded military force.

249 Clear instances of the use of intimidation in the later periods are quite evident. In the Dynasty XXV victory stela of Piye, there are references to that king using intimidation to successfully capture cities during his northward advance. In one example, Piye gave the city of Per-Sekhemkhperre just one hour to decide whether or not to resist. Rather than suffer the consequences that would result from a defeat (generally death), the city surrendered without a fight and not a single inhabitant was slain. He then offered the city of Mer-Atum a similar blunt choice: surrender and live; or fight and die. This city too surrendered without a fight. This appeared to have been an effective tactic, as the next city encountered (Itjtawy) surrendered immediately upon arrival of Piye’s army. Finally, the king citing these previous cases as testament to the integrity of his word attempted to persuade Memphis to also yield without resisting. In this case, however, he was unsuccessful and as a result a bloody assault followed, M. Lichtheim, Ancient Egyptian Literature III, 74-5.

250 For example, see the comments of: A. Kempinski, “Middle and Late Bronze Age Fortifications”, 138; D. Redford, Egypt, Canaan, and Israel in Ancient Times (Princeton, 1992), 186; and, specifically for the earlier Old and Middle Kingdom images, P. B. McLaren, The Military Architecture of Jordan During the Middle Bronze Age: New evidence from Pella and Rukeis (Oxford, 2003), 7 and figs. 6a-d.
Asiatic cities as well. This should not, however, be seen as a major stumbling block in our examination of Egyptian assault tactics. To begin with, the absence of such walls would of course nicely explain why certain pieces of Egyptian siege equipment fail to reappear during the New Kingdom. For example, we never again see the siege tower utilised after its first and only appearance during Dynasty XI and nor do we ever see the (theoretically possible) siege ramp being utilised. If some of these cities did not possess walls or other defensive features, then how can we explain the presence of the siege equipment we do see? One explanation is that even a city without walls could still be considered a formidable target. A built-up urban centre would have posed a substantial obstacle to an invading army especially considering they were often sited to dominate key geographical areas. Even when an invading army had penetrated a city, street-to-street combat would have been just as deadly for the ancients as it remains today for a modern military force. In this respect, what siege equipment we do see represented (mainly ladders) could have been utilised to gain access to rooftops and so forth. Personal weapons in the meantime, while probably useless against the main doors (and walls) of a major fortress, would have been effective in gaining access to individual buildings. In the meantime support fire from archers could have targeted any defenders on the rooftops. Urban combat has never been a desirable option and the reluctance on the part of the attacking troops to enter into a hostile city, especially one which was manned be a considerable body of enemy troops, is understandable. This may explain in part that even though Megiddo may not have possessed formidable walls, the city was still placed under a siege which lasted seven months.

251 R. Gonen, “Megiddo”, 97; and A. Kempinski, “Middle and Late Bronze Age Fortifications”, 137.

252 For example, the walls of the outer layer of buildings on the perimeter of the tell would have provided some form of protection, see J. Baumgarten, “Urbanization”, 145 note 15.

253 See Chapter VI: Decisive Points.

254 This is best illustrated with the siege of Baghdad that took place during the Muslim civil war of 811-9. Only the round city (al-Mansūr) was walled while the remaining part of the city, largely consisting of numerous suburbs where most of the population lived, was not. This siege, therefore, featured a significant amount of street fighting and house-to-house combat not unlike a modern urban battle, H. Kennedy, The Armies of the Caliphs, 109-10.

255 Goedicke, however, argues for a significantly shorter siege, see note 97 above and his Battle of Megiddo, 126. For a comprehensive study on the New Kingdom army in Asia, see: G. Cavillier, Il faraone guerriero: I sovrani del Nuovo Regno alla conquista dell’Asia tra mito, strategia bellica e realtà archeologica. (Torino, 2001), passim.
Overall, what is of particular interest with the images and textual descriptions of Egyptian assault warfare is their remarkable sense of continuity. This of course could be seen, quite correctly, as an indication that the available options to capture a city or fortress were limited. With the images alone one may further argue that this continuity was also a reflection of a combination of artistic conventions and limitations, and again this would be a valid point. On the other hand, such “stagnation” could be seen as a clear indication of Egyptian limitations with respect to siege warfare in that there is a distinct absence of any identifiable major revolution. That last point, however, cannot really be entertained. It is probable that the Egyptians had already ascertained from a very early period the most viable ways in which a fortified location could be assaulted and what followed were refinements and minor improvements which are not overtly evident in the images and textual accounts. What is clear, nonetheless, is that we cannot but note a preference for victory to be achieved as quickly as possible. In this respect, the open battle followed by immediate attack on the city or fortress as a preferred tactic was to become established doctrine. The favoured assault methods of scaling, battering, and trickery or subterfuge (or some combination of the three), likewise point to the desire for a quick victory. These three methods were potentially the quickest way of overcoming a fortified target. Egyptian assault warfare tactics thus served as a clear reflection of their military capabilities as a whole. The desire for quick and cheap victories, something that is especially evident in the New Kingdom, where minimal expenditure of personnel and resources was also reflected in their bare bones imperial policy of Dynasty XVIII. As their proficiency increased at the operational level, we begin to see greater use of more indirect methods, in other words, Egyptian assault tactics clearly feature aspects of what we would consider “operational art”.
PART II

LOGISTICS
CHAPTER III

Logistics: Supply and Provision

There is no denying the fact that logistics plays a significant role in any military campaign and can even dictate to a considerable degree what strategy, operational means and tactics are employed.¹ Unfortunately, this particular area in respect to Egyptian warfare has been somewhat neglected. This should not come as too much of a surprise as dedicated studies on logistics in warfare in general remain few in number. Further adding to our difficulties is a belief that we may possess insufficient evidence in order to undertake a comprehensive study on this subject.² With this in mind, a study of Egyptian logistics comparable with those conducted by Engels and Roth, for example, in their respective fields would seem to be beyond our means.³ This is, however, a rather incorrect assumption, and although we may not be able to conduct at this stage an analysis as detailed as done by those above mentioned scholars, we do possess, both in the archaeology and the literature, sufficient evidence to provide us with at least a solid foundation in which to aid in our understanding of the role logistics played in Egyptian warfare.

¹ As Maurice noted, a commander who does not provide for his army faces defeat even in the absence of any enemy, Strategikon, 84.

² For studies on logistics, see: G. C. Thorpe, Pure Logistics: The Science of War Preparation (Washington, D.C., 1917), which is undoubtedly the earliest “modern” study for this field; G. S. Hatton, “The Influence of Logistics on Military Strategy”, Army Quarterly 72 (1956), 173-81 a rather dated, albeit chilling account of the impact of logistics on strategy; M. Van Creveld, Supplying War: Logistics from Wallenstein to Patton² (Cambridge, 2004) a somewhat controversial book for its time; J. A. Huston, The Sinews of War: Army Logistics 1775-1953 (Washington D.C., 1966), notable for its attempt to lay down the principles of logistics; A. Jones, The Art of War, a study of war in general but one in which logistics is considered alongside strategy and tactics; J. Thompson, Lifeblood of War, Logistics in Armed Conflict (London, 1991), a study of logistics from the viewpoint of an actual general; and J. A. Lynn (ed.), Feeding Mars: Logistic in Western Warfare from the Middle Ages to the Present (Boulder, 1993). For earlier works, both Baron Antoine Henri Jomini The Art of War (London, 1996), passim and Clausewitz, On War, 330-47 cover the subject of logistics. The account of the latter has often been accused as superficial, see, however, the comments of M. Handel, Masters of War, 36. Studies on aspects of logistics of the Egyptian military alone are few in number, but see most notably: W. Mayer (et al.), “Die Schlacht bei Qades”, 336-7; D. Redford, The Wars in Syria, 195-201; and A. Spalinger, War, 32-42. One may also add: B. Kemp, “Large Middle Kingdom Granary Buildings (and the archaeology of administration)”, ZÄS 113 (1986), 120-36; R. Miller, “Counting Calories in Egyptian Ration Texts”, JESHO 34 (1991), 257-69; and D. Mueller, “Some Remarks on Wage Rates in the Middle Kingdom”, JNES 34 (1975), 249-63.

Elements of Logistics

Military logistics is a broad subject area. One may, for example, simply be inclined to look at the system or systems employed to transport an army and its provisions on a campaign. This may, however, be extended to include the types of provisions, as well as their quantity (and quality). The supply of non foodstuff items such as weapons, ammunition, clothing, shelter, and even cooking gear may also be examined as all were essential for the well-being of an army. Having gone so far, one might then consider the presence of non-combatants accompanying the army and their logistical impact. Furthermore, one could also then discuss medical and sanitation practices (i.e. care for the wounded, disposal of the dead) and once reaching this point, why not then include a discussion on the logistic administration or bureaucracy of a military system as a whole including its even broader economic and industrial considerations? Finally, and for the sake of completion, as logistics could be used as a tactical, operational and strategic weapon in its own right, both on the offensive and the defensive, one may want to make mention of that as well. For the purposes of this study, we will attempt to address in the course of this chapter (and the next) most, if not all, of these many facets of logistics as it is only be considering this subject “as a whole” so to speak, that one can gain a true appreciation of its unique importance within the realms of military operations.

In this chapter, we will look at the kinds of provisions that were available to the Egyptian soldier, his daily dietary needs, as well as water, fodder and other vital logistic requirements. Next, the supply options available to the army will be examined, in particular, how these provisions were transported (or obtained in the

---

4 Even the Egyptians needed a steady supply of arrows, stones or pellets for slings, extra spears, shields, and swords – many of which may have been lost through accidental breakage or during the heat of combat. Replacement parts may also have been necessary in order to repair damaged chariots.

5 This would have included footwear which must have need constant replacement. The soldier’s basic clothing would probably have lasted through one small campaign, but extra clothing would have been needed for extended campaigns, especially into areas with colder climates. For clothing in general, see: G. Vogelsang-Eastwood, Pharaonic Egyptian Clothing (Leiden, 1993). Long coats, for example, would have provided additional warmth and protection, ibid., 157-9. These would have been an important supplement for an Egyptian soldier that was generally only equipped with a leather loincloth, ibid., 27.

6 These non-combatants could include anyone from family members or personal servants to prostitutes and poets, D. Engels, Alexander the Great, 11. The presence of these (often unnecessary) individuals can dramatically swell the size of an army and place an undue strain on its logistics system. Massive numbers also can reduce an army’s effectiveness, mobility, speed and range of operations. Both Alexander and Philip attempted to limit these camp followers whenever possible, ibid., 11-25.
field), what sort of animals were utilised, and what those animals themselves required (as they too needed to be fed and watered). In the final section we will briefly examine the regions where the Egyptians fought (Western Asia, Libya, and Nubia) as theatre geography, simply put, has the most profound impact on logistics system.

Types of Provisions (Supply needs and Rations)

This section is concerned with what could best be described as the basic or primary logistic requirements of the Egyptian army. In other words, we will attempt to cover some of the essential elements of logistics that were required by a soldier in order for him to function while on campaign.

A Soldier’s Rations

It is quite difficult, if not impossible, to reconstruct exactly the composition and quality of an Egyptian soldier’s field ration. Comparative studies conducted by Engels and Roth are useful to some extent, and although they cannot be relied on too heavily, they do provide us with a useful base to work from. Roth, for example, was correct in pointing out that a calorie intake of 3,600 for the soldiers of the Macedonian Army, as estimated by Engels, was too high. Engels based this figure on the recommended amount of required calories as stated by the U.S. Army for a soldier on active service. Roth argued that an average Roman legionnaire, being of lesser stature (and older), required less calories and protein. The same could be said for a Macedonian and of course an Egyptian. Winlock’s study showed that the average height of the 60 or so slain Egyptian soldiers was 169 cm, and that their average age was between 30 and 40 years. If these individuals were in reasonable shape, then their ideal weight would have been around 65 kg. Again, this serves only as a guide as Winlock’s soldiers may not accurately represent the average Egyptian

---


infantryman. Nonetheless, the recommended intake of 3,000 calories (as opposed to Engel’s 3,600) is a useful guide, and this amount would have served as sufficient nourishment for Winlock’s soldiers. In order to meet this daily calorie (and protein) requirement, the Egyptian soldier needed a reasonably balanced diet, and it would be beneficial, at this point, to look at what kinds of food resources were available.

Naturally, the kinds of rations would vary depending on where the Egyptian soldier was campaigning, yet these differences should not have been great. The foodstuffs available in the Nile Valley serve as an excellent starting point in reconstructing the Egyptian diet. The bulk of the daily ration was undoubtedly derived from grain - the principle crop of Egypt. This included barley (it) with *Hordeum hexastichum* (the six-rowed variety) being especially important. Four rowed barley was also fairly common while two rowed barley does not appear to have been used much at all. The Egyptians also possessed three different kinds of wheat: emmer (*bdt*) (*Triticum dicoccum*); einkorn (*Triticum monococcum*); and spelt (*Triticum spelta*). Einkorn, for its part, does not appear to have been extensively used. Emmer, however, was the most common grain found in Egypt after barley, and both were the main ingredients for making bread and beer, without doubt the two main staples of Egyptian life. Indeed, beer, when made with dates, honey and other spices, resulted in a beverage of low alcohol but high in nutritional value. It is possible that at least

10 In particular, there is the possibility they may be Asians rather than Egyptians, see: H. W. Müller, *Der “Armreif” des Königs Ahmose und der Handgelenkschutz des Bogenschützen im Alten Ägypten und Vorderasien* (Mainz am Rhein, 1989), 16-7.

11 As Roth pointed out, the figure provided by the U.S. Army was the recommended and not a minimal requirement. Thus a soldier of modern times was able to (and often did) operate on less than this amount. Too greater decrease, however, could easily dehabit a soldier both physically and mentally within a few days: *Logistics*, 8. See also the comments of: A. Spalinger, *War*, 40.


14 Beer brewed from barley (as was the case with the workers from Deir el-Medina) was particularly nutritional and with a local alcohol content, it could be drunk throughout the working day (its natural sweetness would also have been appreciated). The caloric intake of beer had the potential of being quite high (one kilogram of barley having roughly 3,600 calories according to Miller’s article (but
some of the Nubian fortress garrisons supplemented their diet with beer manufactured on site. For example, funnel-necked beer jars dating to the period from Sesostris III to Amenemhet III have been found in the vicinity of the fortress of Askut – a system of supply consistent with military garrisons.\textsuperscript{15}

For Roman soldiers, grain made up the largest portion of their military ration and also provided the bulk of the calories. However, this needed to be supplemented with additional foodstuffs in order to provide proteins that were absent from grain. Some of these proteins were derived from certain oils which could be extracted from flax (\textit{Linum usitatissimum}), sesame (\textit{Sesamum indicum}), olive (\textit{Olea europaea}), and safflower (\textit{Carthamus tinctorius}). Other oils included castor (\textit{Ricinus communis}) and almond (\textit{Amygdalus communis}) but these were generally not used in cooking. In fact, the former was a naturally occurring poison. The (edible) oils were important for their fat and high nutritional content. Their low bulk to high energy ratio makes them an important dietary supplement, especially from a logistical point of view.\textsuperscript{16} It is also worth noting that supply often exceeded demand, and thus oil was commonly included as part of the tribute sent from Asia. It was from flax (as well as providing the raw material needed for linen) that one obtained linseed oil.\textsuperscript{17} This was used in cooking, and also for burning in lamps, but it tended to spoil rather quickly. Sesame oil, although its widespread use in Egypt is the subject of debate, is high in protein and, unlike other oils, does not become rancid. It was used in unguents and as a burning oil, and there is also evidence that it was a dietary supplement. Safflower oil was used primarily for salads and cooking, and was known in Egypt from at least the New Kingdom onwards. The use of olive oil is also attested, and olives were


\textsuperscript{16} They provided the following essential fatty acids: linoleic; linolenic; and arachidonic. For flax and sesame oil, see respectively J. Janssen, \textit{Commodity Prices}, 364-5 and 330-3.

\textsuperscript{17} D. Brewer, \textit{Domestic Plants}, 34.
mentioned for the first time in Dynasty V. Although olive trees appear to be common in Canaan, attempts to grow the tree in great numbers in Egypt were apparently unsuccessful. It is, therefore, likely that Egyptians soldiers, campaigning in Asia or at least stationed there, may have had easier access to certain oils.

Fruits were another important part of the diet. Date palms (*Phoenix dactylifera*) are rich in carbohydrates and proteins, and the fruit could also be fermented into wine. A litre of palm wine consumed per day would have provided large quantities of Vitamin C as well as potassium, riboflavin, lysine, and nicotine acid. Doum palms (*Hyphaene thebaica*) were less widespread, but they were relatively common in Upper Egypt and in the desert oases. Both date and doum nuts were collected by the garrison at Askut, and we especially find large quantities of the latter. Although the fruit was consumed, the tree was more valued as a source of building material. Egypt also produced two types of fig: true fig (*Ficus carcia*); and the sycamore fig (*Ficus sycomorus*). The fruits of both were sugar rich, and the latter’s tree was also used as a source of wood. Grapes (*Vitis vinifera*) were, for the most part, used to produce wine (both red and white) and its cultivation is known as early as the Archaic Period onwards. Wine, however, appears to have been consumed more commonly for recreational purposes, rather than as a necessary part of the diet regardless of its medicinal properties. Other fruits, such as apples and carobs, were apparently known in Egypt, but were not that common until much later.

In addition to fruits, a wide range of vegetables were also available for consumption. Watermelons (from at least Dynasty V onwards), garlic, onions and

---

18 “The dry flesh of a ripe date is composed of about 75 to 80% sugar (glucose and fructose) and will provide about 1430 calories per pound. Dates are a good source of iron and provide moderate amounts of calcium, copper, magnesium, sulphur, and vitamins A, B1 and B2”: D. Brewer, *Domestic Plants*, 48. As part of the ration, see: J. Janssen, *Commodity Prices*, 472-4.


22 J. Janssen, *Commodity Prices*, 359-64 and 475-6. Generally, the terms *smw* and *wd* were utilised to refer to edible plants, although it has been argued that the latter term refers only to the edible part of the
leeks were all widely known in Egypt, as was a selection of important legumes. The latter provided a high protein content (2 to 3 times the value of cereals, and a similar, albeit slightly lower, protein level to meat). Legumes are the second most important food (after cereals), due to all parts of the plant being rich in protein. For the ancient Egyptians, lentils (*Lens culinaris*), peas (*Pisum sativum*), and fava (or broad) beans (*Vicia faba*) were among the most important legumes. For the pea, the protein content of the seed is about 22%, while the seeds produced from the fava bean plant have a content of 20-25% making them an ideal protein source, especially for the poor (or for soldiers). Less common legumes included chickpeas (again high in protein) and lupines, and, to round off the variety of vegetables, lettuce, celery, and radish were also grown. It is probable that most of these vegetables were grown in small plots and consumed locally, such as with the garden plot uncovered near the fortress of Mirgissa. No doubt other fortresses also possessed similar garden plots. Additional foodstuffs, such as milk and honey, were also available, although the latter tended to be the preserve of the wealthy.

The final key ingredients in the Egyptian diet were red meat, poultry, and fish products. Unlike certain other types of foodstuffs, one key advantage of meat was its

---

23 The desiccated remains of many of these vegetables have been found in a number of tombs, J. Renfrew, “Vegetables”, 192.


25 In addition to lettuce, cucumber may also have been grown. Both of these vegetables would have been especially valued for their “coolness” of taste, J. Renfrew, “Vegetables”, 199.

26 As in the Near East, garden plots were likely favoured over fields for growing vegetables and this appears evident in the many depictions found in painted tombs. The plots could be arranged in a checkerboard fashion (one type of vegetable per plot) and carefully tended, *ibid.*, 193-4. Lettuces, for example, were among the many vegetables likely cultivated in kitchen gardens, P. Newberry, *Beni Hasan* I, pl. XI. This vegetable was likely associated with the fertility god Min, or more specifically his sperm, possibly due to the fact of it being a milk-sap plant, see the comments in: B. Adams, “A Lettuce for Min”, *GM* 37 (1980), 11. Finally, gardens were also likely used to grow a variety of herbs including: parsley; coriander; cumin; fenugreek; mustard; and poppy seeds, J. Renfrew, “Vegetables”, 199.


28 An average of one litre of milk per day for each cow was possible under ideal circumstances: D. Brewer, 85. There is at least one instance of honey being issued to Egyptian soldiers: L. Habachi, *The Second Stela of Kamose*, 48-9. (and on other provisions taken, see below note 144). For the price of this product, see: J. Janssen, *Commodity Prices*, 352-3
year round availability. Oxen, bulls, and cows provided a ready source of beef with the taste and quality of the meat being altered by regulated feeding habits. Beef was definitely the meat of choice for most sectors of society. Goat and sheep were also utilised as a food source, although the Egyptians did appear to favour the former over the latter. They also kept goats for their skin, and possibly for their milk. Sheep, on the other hand, were probably valued more highly for their wool, butter, cheese, and milk, and it was likely that only once these qualities had been exhausted, were they used as a meat source. Pig was also a possible meat candidate, and a source for fat as well. There was, however, some reluctance to consume this particular animal, although the restrictions on eating pork may only have applied to select classes at certain times of the year. Fishing is attested from a very early date, and fish consumption appears to have become exceedingly common in the New Kingdom. By this time, it was clear that fish was consumed by most, if not all, classes of society, including members of the royal court. Evidence of fishing in the form of fishhooks, net sinkers as well as fish bone and shell fish remains have been found at Askut. In


30 For scenes of the slaughter of animals and birds, see in particular: N. Davies, The Tomb of Rekh-mi-Rē’, pls XLIII, XLIV, XLVI and (in connection to the rites before Osiris) pl. LXXXIII. For prices, see: J. Janssen, Commodity Prices, 165-7 and 172-7.

31 Sheep and goat rawhide, for example, may have been favoured over cattle for the manufacture of armour: T. Hulit, “Tut’Ankhamun’s Boby Armour”, 103. The process for making rawhide, as covered by Hulit, is worth recounting here in full: after the animal had been flayed and the flesh eaten, the hide is soaked in salt water until close to putrefying. At that point, the hair can then be scrapped off (lime could also be used to achieve this). The hide is then rinsed, stretched and dried. The resulting rawhide is very tough and light. Rawhide differs from true leather in that it is biologically still active having not gone through the tanning process, and therefore is more susceptible to decomposition, ibid., 102-3.

32 Fish was certainly issued as a ration to civilian workers, see: J. Janssen, Commodity Prices, 478-81. D. Brewer, Domestic Plants, 93.

33 Although not proven conclusively, it is quite likely that Taenia solium (tapeworm of the pork variety) did exist in Pharaonic times: J. Nunn, Ancient Egyptian Medicine (London, 1996), 71. Roman soldiers consumed pork and they may have favoured this animal due to its high reproductive rate, but even so, the most important meat source appears to have been cattle, W. Groenman-van Waateringe, “Classical Authors and the Diet of Roman Soldiers”, 263-4. Evidence would tend to indicate, nonetheless, this animal not uncommonly found in Egypt, J. Janssen, Commodity Prices, 177-8. With respect to fat, see: ibid., 337-42. In general, however, a low fat diet was important for ensuring troops remained healthy in desert climates, M. Van Creveld, Supplying War, 183.


35 D. Brewer and R. Friedman, Fish and Fishing, 15-6.
addition, fish may also have been distributed as military rations, as when prepared correctly, it was transportable by ship thus making it a convenient source of protein for campaigning soldiers. Indeed, its high nourishment content makes fish an important dietary supplement. Another valuable source for protein, and possibly one that was easily obtainable, may have been insects. Although modern collinearly practices might incline us to exclude such forms of nourishment from our own personal diet, insects were and still remain in many cultures a valuable source of protein. Excavations conducted at a remote Old Kingdom desert station south-west of Dakhla (Site: Khufu 01/01), for example, have shown that locusts were apparently consumed on site no doubt by Egyptians engaged in the “mefat” expeditions during the reign of Khufu. Finally, a further advantage of meat was that it could be preserved and with some care stored for long periods of time. This made it an ideal ration from a military point of view, especially in situations where it proved impractical or impossible for “live” meat to be transported with the army.

36 D. Brewer and R. Friedman, *Fish and Fishing*, 16: although this is by no means certain. Brewer states that Sety issued fish to his troops but this was based on an incorrect translation.

37 R. Kuper and F. Förster, “Khufu’s ‘mefat’ expeditions into the Libyan Desert”, *EA* 23 (2003), 28. Locusts could be easily prepared “in the field”. First they would be boiled in water and then roasted briefly. After allowing them to dry, the heads, legs, and wings would be removed before being consumed (possibly accompanied with a type of sauce), K. Radner, “Fressen und gefressen werden: Heuschrecken als Katastrophe und Delikatesse im Alten Vorderen Orient”, *WdO* 34 (2004), 19-20. This author had the opportunity to consume a variety of dried, prepared, insects including scorpions. The latter, which could only be consumed once the stinger and claws had been removed, was of acceptable taste with a notable presence of salt (which would have helped combat dehydration). It was felt that this meal served better as a food supplement rather than as a main source of nourishment. For the inscriptions from this site, see: K. Kuhlmann, “Der ‘Wasserberg des Djedefre’ (Chufu 01/1): Ein Lagerplatz mit Expeditionsinschriften der 4. Dynastie im Raum der Oase Dachla”, *MDAIK* 61 (2005), 243-89.

38 See: S. Ikram, “Through Process to Product: Studying Meat Preservation in Ancient Egypt”, in *L'apport de l’Égypte à l’histoire des techniques: Méthodes, chronologie et comparaisons*, B. Mathieu, D. Meeks and M. Wissa (eds.), (Cairo, 2006), 125-31, for a useful overview of the various methods that could be used to preserve meat as were attempted by the author. The results of some of her experiments are worth summarising briefly here: drying meat was found to be not too difficult nor time consuming to accomplish providing care was taken. The meat, however, will not last for a significant period of time (only up to six weeks) and one must ensure that while drying, the meat remains safe from birds, insects and the like, *ibid.*, 127. Salting was more effective for preserving meat and serves also to discourage birds and insects. Salted meat can be kept for up to two years and unlike dried meat is considerably more palatable.

39 Dried meat, for example, which was much lighter than the original product could be transported over long distances and difficult terrain, *ibid.*, 127. Of particular interest, in this context, is the existence of meat jars, labelled *iwf dr*, found at Malqata, *ibid.*, 126. Such storage facilities for meat may have been a common feature both within Egypt and its strategic theatres. This would have provided the army with a convenient, not to mention vital, source of supply of this product.
Having established the availability of an extensive variety of foodstuffs, there remains the unfortunate fact that very rarely do we find direct mention in the records of the military rations of an Egyptian soldier. Adding further to our difficulties is that some of the accounts that we do possess may not paint an entirely truthful picture. If we are to believe Pap. Lansing, for example, an Egyptian soldier received only the most basic rations, merely sufficient to keep him alive, and often he was forced to go hungry. Indeed, the quality of the grain was supposedly too low to even consider grinding it. As already mentioned, this alone would not have sufficed to sustain a soldier for any great length of time, and the bread ration would have needed to have been supplemented with other foodstuffs. Therefore, it is to a more detailed account, from a stela dated to the early part of Dynasty XIX, that we must turn. While the event discussed is not strictly speaking a military operation, it is nonetheless useful as it provides an indication as to what types of rations a soldier could receive out in the field. The stela in question was set up on the east shore at Silsileh and is dated to the sixth year of Sety I. It describes an expedition of 1,000 soldiers being sent out to acquire sandstone for one of the king’s building projects. Why this account is

---


41 A. Gardiner, *LEM*, 108: 9,8-9,9. This is not the only text that makes reference to the sufferings (real or imagined) of army personnel. Pap. Anastasi III 5,5-6,2, for example, notes that the Egyptian soldier had to carry his bread and water upon his shoulder “like the load of an ass” (R. Caminos, *Late Egyptian Miscellanies*, 91-2) whereas another passage in the same papyrus (6,2-10) indicates that not even chariot officers were immune to trouble (R. Caminos, *Late Egyptian Miscellanies*, 95-6). On this last text, see the additional comments of: H. Fischer-Elfert, “The sufferings of an army officer”, *GM* 63 (1983), 43-5. For a brief commentary on the historical background of these “anti military” texts, see: A. Spalinger, “The Army”, 126.

42 Hyperbole aside, Hans Goedicke pointed out that a dough ration would become stale quite quickly and was too bulky to carry (personally) or to transport in large quantities, H. Goedicke, “The Rules of Conduct for Egyptian Military”, *WZKM* 88 (1998), 120-1. Likewise, flour was also very susceptible to both decay and marauding insects, D. Samuel, “Bread Making and Social Interactions”, 135-7. Grain on the other hand was more durable and its grinding may have been undertaken at “squad” level as was the case with the Romans, J. Roth, *Logistics*, 48-9. Furthermore, the study of Delwen Samuel noted that at the Workmen’s village at Amarna, there is a clear indication that bread was largely produced within individual households (although there were some communal facilities) rather than as a collective undertaking of the entire community (65% of the excavated houses possessed both mortar and quern emplacements), “Bread Making and Social Interactions”, 135-41. It is not unreasonable to assume Egyptian “squad” units once issued their grain ration likewise assumed some bread making responsibilities.

43 *KRI* I, 59.9-61.6.

44 As Kitchen pointed out, the inclusion of standard bearers indicates that the participants were indeed military personnel: *RITANC* I, 56-57. It was not uncommon for military personal to participate in such operations and such excursions would have provided valuable training especially with respect to
important is that it describes in considerable detail the rations each soldier receives per day which are listed as follows (table 3.1):

<table>
<thead>
<tr>
<th>Provisions</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bread</td>
<td>20 deben</td>
</tr>
<tr>
<td>Vegetables</td>
<td>Bundles (more than one)</td>
</tr>
<tr>
<td>Roast beef</td>
<td>1 piece</td>
</tr>
<tr>
<td>Sacks of grain</td>
<td>2 per month</td>
</tr>
</tbody>
</table>

Table 3.1: Provisions as listed on the Silsileh Stela

The king also states he provided, for the army as a whole, ointments (or possibly oils), beef, bread (?), and plentiful vegetables, but this was a particularly special occasion as the king had increased the rations from their normal levels and possibly their quality (double rations?). The 20 deben of bread (around 2 kg) makes up the bulk of the daily ration as it did for the Romans. Roth has estimated that a Roman soldier received 2 sextarii of grain per day (about 850 grams). Various estimates have been given concerning the weight ratio of grain to bread. Some scholars believe that the resulting bread should weigh more than the grain, due to the addition of water, whereas others estimate that the final product should weigh less. Roth took the middle path, stating that the bread would likely weigh around the same as the grain (and this will be followed here), and that the two sextarii of grain would have provided 1,950 calories. Taking this estimate as a guide and applying it to the logistical organisation. Other notable expeditions that military personnel took part in included the massive mission of Sesostris I which was also accompanied by 1,000 soldiers (see below). Military (or security) personnel of high rank (along with Medjay troops) also accompanied the quarrying expeditions of Ramesses IV: KRI VI, 1.1-15 and KRI VI, 12.8-14.15.

45 The translation for “bread” in this case is tentative at best and was suggested by Kitchen in his translation: RITA I, 52. Breasted had “fish” for his translation but this was probably less likely: BRE, III, §207.

46 J. Roth, Logistics, 47-8. See, especially, the comments of: A. Spalinger, “Baking during the Reign of Seti I”, 311-2, 319 and 339-40 who argued for a loss in weight of about 10% or more during the baking process. Spalinger noted especially that the quality of the flour can affect water retention, ibid., 340. For a detailed discussion on the bread making process (using emmer), see: D. Samuel, “Bread Making and Social Interactions”, 129-31 especially fig. 2.
Egyptian ration list, we find that the 20 deben of bread, if indeed, we are talking about the final product, would have provided the Egyptian soldier with around 4,175 calories as well as other important nutrients. This was considerably more than even the 3,600 calories recommended by the U.S. Army but does tend to agree with the fact that what we have here were increased (special) rations and not the typical combat variety. The absolute minimum intake - that is the minimum amount of calories and protein needed to support someone engaged in moderate physical activity is fairly easy to work out, although the exact number will vary depending upon the individual. Most modern weight analysts state that the daily calorie intake (for a man) should never drop below 1600-1800 calories. The recommended protein intake needed for an average individual has been estimated at 70 grams per day although an Egyptian soldier being of smaller stature and weight could suffice with slightly less than this amount.

The provision of meat (presumably ox meat) is also of interest. Although we may not be able to ascertain the exact size of the portion, it might be possible to calculate roughly the number of oxen required to feed an army of 1,000 men. Beef was the prime meat diet of the Roman legionnaire, and the average soldier was provided with a 160 gram ration of roasted meat (1/2 libra) per day. Goldsworthy has estimated that an ox, on average, weighs 363 kg, but its weight could be anywhere between the range of 272 and 727 kg. The amount of the animal that was wasted was around 50% (head, offal and skin), although the Egyptians were known to consume the brain of the animal. Roth also uses the figure of 363 kg, and states that

47 Using Kitchen’s estimate of 20 deben = 1.82 kg (the equivalent of two modern wholemeal standard loaves): RITANC I, 57. The calorie figure calculated here may be considered to be on the upper end of the scale and the actual figure was possibly lower. The nutrients derived from wheat are as follows: 60-80% carbohydrates; 2% fat; 2% minerals (including vitamins E and B complex); and 8-15% protein (containing all essential amino acids except lysine, tryptophane, and methione), D. Brewer, Domestic Plants, 23.

48 This estimate agrees with that provided by Kemp. His figure was based on a report published in 1917 concerning Egyptian prison diets: 1800 for subsistence; 2200 for no work; 2800 light labour; and 3200 for hard labour, “Large Middle Kingdom Granary Buildings”, 132. The U.S. Army states that 1,500 calories is the bare minimum needed in order sustain civilians engaged in little or no work: Nutrition, 85.

49 J. Roth, Logistics, 28-9 and 43.

50 A. Goldsworthy, The Roman Army at War, 100 B.C. – A.D. 200 (Oxford, 1996), 292. These figures are based on Victorian estimates.

51 D. Brewer, Domestic Plants, 89.
the 160 grams of meat would have provided the Roman soldier with 640 calories and 15 grams of protein. If approximately half of the animal’s weight was wasted, this brought the edible weight of the animal down to 181.5 kg (theoretically speaking). Thus, the minimum amount of oxen needed to feed an army of 1,000 was around 1 per day. In other words, it was possible for one ox to provide more than enough meat for 1,000 men assuming a ration of 160 grams per man. Goldsworthy, however, estimates that each soldier received 450 grams of meat each day, and if his figure was adopted, that would mean three oxen would be needed per day – with meat to spare. This figure is too high and 450 grams would be a considerable amount even for a modern day meat eater of average weight and height.

Turning back to the Egyptian text, we must remember that we are dealing with increased rations. It is possible everything was increased in proportion (double the original amount), thus the reason that these figures were recorded for posterity. On the other hand, it is also possible that only the bread ration was increased, but if this was so, why mention the other rations? If the Egyptian soldiers were receiving a *double* meat ration say 320 grams, to use Roth’s 160 gram calculation as a base line, at most, this would have provided them with 1,280 calories and 30 grams of protein. Two oxen would have provided more than enough meat to feed 1,000 troops at 320 grams each.

Next we are informed each soldier received “bundles of vegetables”. Unfortunately the exact composition and quantity is unknown, but the Egyptians did have a variety of choice as to which vegetables could be issued as rations. Beans,

52 See also the brief study of Salima Ikram who calculated that a cow weighing 125 kg would be sufficient to feed 500 people, assuming a generous portion of 250 grams per person: “Through Process to Product”, 126. W. Groenman-van Waateringe, on the other hand, calculated that the meat ration of a Roman soldier may in fact have been as low as 63 grams (although this could have been supplemented through hunting and the like), “Classical Authors and the Diet of Roman Soldiers”, 264.

53 According to James Huston, however, a Union force during the American Civil War numbering some 125,000 was supposedly provisioned with “beef on the hoof” in the form of 8,000 – 10,000 heads of cattle. This supply was expected to last three days. Even with taking the lower figure of “8,000”, this would mean that each soldier would theoretically receive almost 4 kg of meat per day (assuming 182 kg of edible meat per head of cattle) for three days in addition to his other rations, *The Sinews of War*, 225. This figure is far too high.

54 Incidentally, the cost of the purchase of two oxen (during the reign of Ramesses XI) was 1 deben of gold, R. Leprohon, “What Wenamun Could Have Bought: The Value of his Stolen Goods”, in *Egypt, Israel, and the Ancient Mediterranean World: Studies in Honor of Donald B. Redford*, G. Knoppers and A. Hirsch (eds.), (2004), 170. But see also: J. Janssen, *Commodity Prices*, 172-7. Thus, the fiscal cost of supporting four divisions (c.20,000 men) in beef (160 grams per man) would have been around 10 deben of gold per day.
lentils, and peas are all high in protein, so they are possible candidates.\(^{55}\) Roth estimated the Roman ration of vegetables weighed around 40-50 grams and provided 170 calories and 10 grams of protein. If we still consider that the Egyptian soldiers are on double rations and that their normal allowance was only one bundle, possibly around the same size as the Roman quantity, then bundles of vegetables may refer to two or more. If 2 bundles weighing around 100 grams or more were distributed to the soldiers, this would provide double the calories and proteins.\(^{56}\)

Returning to the Egyptian rations, one can now provide a rough estimate of the calories and proteins derived for each serving (table 3.2):

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Weight</th>
<th>Calories</th>
<th>Protein</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bread</td>
<td>20 deben</td>
<td>1.82 kg</td>
<td>4,175</td>
<td>161</td>
</tr>
<tr>
<td>Vegetables</td>
<td>2 bundles?</td>
<td>100 grams</td>
<td>240</td>
<td>20</td>
</tr>
<tr>
<td>Roast beef</td>
<td>1 piece</td>
<td>320 grams</td>
<td>1,280</td>
<td>30</td>
</tr>
<tr>
<td>Totals:</td>
<td></td>
<td>2.24 kg</td>
<td>5695</td>
<td>211</td>
</tr>
</tbody>
</table>

Table 3.2: Estimated Calorie and Protein Levels

Roth’s measurements for the weight and calorie intake of the bread, vegetables and meat as used here, provide a good estimate to work with, for it is doubtful that the Egyptian figures could ever have exceeded this. The above amounts should, rather, be seen as the absolute maximum that could theoretically be consumed by an Egyptian soldier. In fact, the final totals as derived above are far too high for a typical daily ration.\(^{57}\) They are, however, possible for an increased ration, and this is especially so if the ration was administered for only a short duration (just a few days?). Nonetheless, it is the ratio of bread to meat to vegetables that is of interest. The ratio of provisions in respect to calories, as listed on the stela, is what one would expect,

\(^{55}\) J. Roth, *Logistics*, 33-4. These three vegetables appear to have been part of the Roman military diet. With respect to the issuing of vegetables as bundles, see the comments of: J. Janssen, *Commodity Prices*, 476-8.

\(^{56}\) Both the meat and vegetables were an essential part of the diet as both provided the important amino acid lysine that was lacking in grain.

\(^{57}\) Although, the amount noted here appears not too dissimilar to the wage rations provided to sailors, see note 223 below.
with bread making up the largest portion. The ratio in percentages works out as follows: bread 73.3%; fresh vegetables 4.2%; and meat 22.5%.\footnote{This differs from the ratio provided by Jane Renfrew who believed 90% of the daily diet would have come from plant products whereas the remaining 10% was made up with animal products (meat as well as dairy products), J. Renfrew, “Vegetables”, 202. However, we are here dealing with a military (not civilian) diet and the greater meat ratio is therefore not out of place given the higher strenuous activity that soldiers engaged in.}

If we take the above information and reduce the ration intake by half, we are provided with figures that are closer to what an Egyptian soldier may have received:

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Weight</th>
<th>Calories</th>
<th>Protein</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bread</td>
<td>10 deben</td>
<td>0.91 kg</td>
<td>2,087.5</td>
<td>80.5</td>
</tr>
<tr>
<td>Vegetables</td>
<td>1 bundle</td>
<td>50 grams</td>
<td>170</td>
<td>10</td>
</tr>
<tr>
<td>Roast beef</td>
<td>1/2</td>
<td>160 grams</td>
<td>640</td>
<td>15</td>
</tr>
<tr>
<td>Totals:</td>
<td></td>
<td>1.12 kg</td>
<td>2897.5</td>
<td>105.5</td>
</tr>
</tbody>
</table>

Table 3.3: Estimated Daily Ration for an Egyptian Soldier

In addition to this, the soldiers received 2 sacks of grain each month but just how this ties into the above rations is difficult to ascertain. The extra grain was possibly associated more with wages than for sustenance purposes, and on that note, it may be worthwhile, at this juncture, to look briefly at the subject of food rations administered to civilians and military personal as wages.\footnote{See, for example: D. Mueller, “Some Remarks on Wage Rates”, 249-63; and B. Kemp, “Large Middle Kingdom Granary Buildings”, 130-4. As Mueller pointed out, there can be some difficulty in differentiating between wages and rations. It is clear that the food-wage (ḥḫtrl) received by a worker would have provided that worker with his daily calorie intake, but just how much was left over to constitute a “wage” is difficult to ascertain. For a comprehensive discussion on civilian grain rations, see: J. Janssen, Commodity Prices, 455-93. Janssen especially noted that a monthly ration of 4 ḫṛ of emmer would equate to roughly 300 litres (but see our comments below in note 132) or 10 litres a day. This amount would have been sufficient for a family of 10 plus some children, ibid., 462-3.}

It is clear that rations were scaled by rank for civilians, and the same was likely true for the military. The above table, thus, is an indication of what an average foot soldier may have received. Officers’ rations would have been higher still (in both quantity and quality). Unskilled civilians, for their part, appear to have received a daily allowance of ten loaves of bread per day, and this was generally supplemented with beer, although this is by no
means conclusive. The inscription of Amen, dated to Year 38 of Sesostris I, is of particular interest here. The inscription records an expedition sent to Wadi Hammamat, and clearly sets out the wage-ration that each class of men should receive. At the lowest level, unskilled workers received an allowance of 10 loaves and 1/3 of a unit of beer. This would have needed to be a sufficient amount to sustain an individual engaged in moderate to heavy physical labour as well as there being the possibly of having some surplus left over. In addition, 1,000 military personal accompanied this expedition, and their wage-ration was set at 15 loaves and 46/60 of a unit of beer. Subsequent classes received even higher ration-wages, far in excess of what could be consumed in one day. An interesting question thus presents itself – what happens to the surpluses? From a logistical point of view, it would be impractical for the total daily allowances of every single man to be provided on that day, as the surpluses accumulated over the span of just a few days would have resulted in the expedition bogging down from sheer weight of food - that is if it was even possible for the bakers and millers to keep up with such a demand. Rather, it is likely that the part of the wage-ration not consumed could be traded or deferred elsewhere. Accurate record keeping would have assured that what was not consumed by an individual would be held over in “paper” form until that individual was ready to collect, or possibly trade up to more expensive foodstuffs such as meat. This makes better sense, as bread, if not consumed within a couple of days, would have certainly become inedible. Mueller’s detailed study also showed that the ratio of bread to bear could be altered depending on the circumstances. For example, if less beer was issued, the shortfall could be made up with additional bread. Thus, the ration-wage was relatively versatile.

As Kemp discovered, working out the bread ration (for sustenance purposes alone) can be problematic. His calculations, based on those of Baer, assumed that a hekat of wheat would weigh around 3.75 kg with a cubit metre weighing in around


62 See: J. Janssen, Commodity Prices, 463. The “detailed and intricate nature” of Egyptian record keeping with respect to bread making is no better illustrated than the highly complicated baking accounts of Sety I, see: A. Spalinger, “Baking during the Reign of Seti I”, 307-52 in particular 351-2.
The same amount of barley (which is lighter than wheat) would weigh 705 kg per cubic metre (one hekat being around 3.0 kg). Baer, in his study, also estimated that one hekat of wheat (3.7 kg) would have provided about 8,100 calories, while the equivalent amount of barley would have provided about 9,720 calories. If we use Baer’s hekat estimate but apply Roth’s estimates for calorie intake, we are provided with a figure of 8,603.4 (850 grams being equal to 1,950 calories). The differences are not that substantial. Kemp applied these calculations to Simpson’s analysis of daily rations, based on evidence uncovered from the fortress of Uronarti. He calculated that if Simpson’s ration of one hekat of wheat and two thirds of a hekat of barley were distributed as a ten-day ration, the total calorie intake of 14,580 would not have provided sufficient calories alone for ten days. It would need to have been supplemented with additional foodstuffs such as beer. Kemp did, however, believe that the daily ration of grain would have weighed around 1 kg. This was his upper estimate. This corresponds closely with the figure presented in table 3.3 above. Nonetheless, the figure of 1,458 calories each day should not concern us too much. This does seem a reasonable amount, as the individuals associated with the garrisons likely engaged in less strenuous activities, unlike, say, the soldiers participating in Sety’s physically demanding quarrying expedition.

Another text of interest is the Manshiyet es-Sadr stela dated to Year 8 of Ramesses II. Although not directly related to military affairs, the stela describes...
among other things, the generous provisioning by the Egyptian king of workmen engaged in the construction of a royal project. In the text, Ramesses clearly realises the importance of proper provisioning so to ensure a happy worker: “only on a full stomach are people glad to work on it”.\textsuperscript{68} The workers are amply provided with not only a wide variety of foodstuffs, including bread, meat, and cakes, but also other essential items such as a pair of all important sandals, clothing and unguent.\textsuperscript{69} Interestingly, the text also notes the use of vessels to cool water from the summer heat.

Papyrus Anastasi I dated to the latter part of Dynasty XIX is another important text which deals with rations.\textsuperscript{70} Although the information is presented in a rather less than ideal context, it is nonetheless of particular interest as unlike with the previous two texts the focus here is on proper military provisioning. Apparently the scribe responsible for ensuring that sufficient rations were available for an Egyptian division was mistaken resulting in there being not enough food for the 5,000 soldiers (Egyptian as well as auxiliaries).\textsuperscript{71} This figure excludes the officers who were no

\textsuperscript{68} RITA II, 194. As Kitchen commented in his Notes and Commentaries, this concern for the workmen was shared by both Ramesses II and Sety I (see above) and is reflected in a number of texts. For references, see: RITANC II, 217.

\textsuperscript{69} KRI II, 362.5-6. The mention of sandals is of particular interest. One would expect that they would have been part of a soldier’s kit, although admittedly, the (Middle Kingdom dated) model soldiers from the tomb of Mesehti at Asyut are depicted without footwear, as noted by: R. Partridge, Transport, 83. It is likely that most Egyptians did indeed go about barefoot, \textit{ibid.}, 82 at least within Egypt. Of note, Weni, in his autobiographical inscription, ensured that his soldiers did not steal the sandals of any traveller encountered, \textit{Urk I}, 102.9-16. On major expeditions, however, as one Middle Kingdom expedition testifies, spare sandals were carried for the troops, J. C. Darnell and C. Manassa, Tutankhamun’s Armies, 82.

\textsuperscript{70} A. Gardiner, \textit{Egyptian Hieratic Texts}, 19-20; and H. Fischer-Elfert, \textit{Die satirische Streitschrift des Papyrus Anastasi I.}, 148-57. A. Malamat, “Military Rationing in Papyrus Anastasi I and the Bible”, in \textit{Mélanges bibliques rédigés en honneur de André Robert}, H. Cazelles (ed.), (Paris, 1957), 114-21. Malamat also referred in detail to a similar episode mentioned in the Bible (1 Samuel 25) where David sought to supply a force of 600 men with resources acquired from the local population, \textit{ibid.}, 117-8. Malamat especially noted that the logistic difficulties David experienced were not too dissimilar to what the Egyptians had to face, \textit{ibid.}, 118-20. H. Fischer-Elfert, however, downplayed the connections between these two episodes noting that Malamat did not provide a reason as to why (after initially failing to acquire resources from Nabal) Nabal’s wife Abigail agreed to provision the men. Furthermore, with respect to the Egyptian episode, it is not clear as to who is actually providing the provisions, H. Fischer-Elfert, \textit{Die satirische Streitschrift des Papyrus Anastasi I.}, 153-4.

\textsuperscript{71} Recent analyses of the rations can be found in the following two studies: A. Spalinger, War, 150-2; and H. Fischer-Elfert, \textit{Die satirische Streitschrift des Papyrus Anastasi I.}, 156-7. Fischer-Elfert noted especially the inherent if not unsolvable difficulties that would have resulted with any attempt to work with the resulting fractions. A less comprehensive analysis was also attempted by A. Malamat, “Military Rationing in Papyrus Anastasi I”, 119-21.
doubt provisioned separately. The provisions that were apparently issued to the men are as follows:

<table>
<thead>
<tr>
<th>Provisions</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bread</td>
<td>300 loaves</td>
</tr>
<tr>
<td>Cakes</td>
<td>1800</td>
</tr>
<tr>
<td>Goats</td>
<td>120</td>
</tr>
<tr>
<td>Wine</td>
<td>30 measures</td>
</tr>
</tbody>
</table>

Table 3.4: Provisions as listed in Pap. Anastasi I

Were these provisions indeed insufficient for 5,000 soldiers? The 120 goats should have been more than adequate to feed this number of men for one day. It has been calculated that 120 sheep were needed each day to provision a Roman legion - assuming an average weight of 32 kg per head. Almost half of this weight (approximately 45%) would have been wasted bringing the edible amount down to 17.6 kg. The Egyptian goats likely provided a similar amount of meat if not more. This meant that every man should have received over 400 grams of meat - a considerable quantity. However, the caloric value of goat appears to be substantially lower than other types of meat. The 400 grams of goat would thus have provided only 570 calories although the protein acquired would have been around 110 grams. As a meat ration, it would have been adequate. Unfortunately, this is not the case for the remaining rations. The 30 measures of wine would have provided some dietary supplements but equal distribution would mean that each man should receive some one hundred and sixty-sixth of a measure! The bread and cakes if taken as a whole: 1800 + 300 would have also needed to have been portioned up as well and it is here that we see the major shortfall. The 2100 loaves and cakes would have been far below what was required by a force of 5,000 men. This is especially so if each soldier

72 A. Goldsworthy, *The Roman Army at War*, 292.

73 That wine was consumed on occasion by the army (and possibly to excess) is noted in the Qasr Ibrim stela dated to the reign of Sety I: “his army is drunk with wine” *KRI* I, 98.10-99.16.

74 The possibly that some soldiers received cakes and others bread must also be ruled out as evidence from other inscriptions (such as the one below, see note 77) seems to indicate that soldiers received both. See also the comments of: J. Janssen, *Commodity Prices*, 471-2.
was supposed to receive 10 loaves as his wage-ration as other evidence would seem to indicate. In terms of caloric value, Anthony Spalinger in his own analysis of this text, noted that the 2,100 baked items would definitely not have provided sufficient calories. Assuming for example a high caloric figure of 3,500 for 1 kg of bread, and taking into account that the bread and cakes combined would have totalled to some 1,372 kg, we arrive at the figure of 960.5 calories per soldier (this is a high estimate).\(^75\) Pushing Roth’s figures through these same calculations, he calculated that bread provided less calories and protein, we arrive at the lower figure of 630 calories per man.\(^76\)

Another important inscription, dated to the first year of the reign of Ramesses IV, records yet another expedition into the Wadi Hammamat.\(^77\) The expedition is considerably smaller than the one undertaken by Sesostris but is of interest as it provides a tally of the participants. Following this, there is a general comment concerning provisions that states that bread, beer, meat, and cakes were regularly provided to all individuals. Unfortunately exact quantities are not recorded.\(^78\) The large expedition that took place in Year 3 yields only slightly more information stating that porters provided bread, meat, and cakes but again the quantities are not given.\(^79\)

\(^75\) These figures differ from those provided by Spalinger due to the need to compensate for some minor errors in his calculations, see: A. Spalinger, *War*, 151. Accepting that some of his data is correct, in particular, assuming the 2,100 baked items equalled 140 oipe of grain and that each oipe weighed around 9.8 kg, we can calculate the following: the 140 oipe would come to 1,372 kg (not 1,374) and that the caloric value of 1 kg of wheat was 3,500 calories (again taking Spalinger’s high figure of 3,150 calories for 900 g of wheat). Therefore, the caloric total of 1,372 kg of bread would come to 4,802,000 (not 441,000) and when divided among the 5,000 troops we arrive at the figure of 960.4 calories per man (not 882).

\(^76\) That is, accepting Roth’s lower caloric value of 2,087.5 for 0.91 kg of bread.


\(^78\) The initial interpretations of this inscription by Goyon and Mueller differ from that given by Kitchen, as both these individuals believed that totals were indeed given: “10 bread loaves, three units of beer, two (?) pieces of meat, and three cakes”, D. Mueller, “Some Remarks on Wage Rates”, 256 and G. Goyon, *Nouvelles Inscriptions*, 104.

\(^79\) *KRI* VI, 12.8-14.15.
As well as food for the troops, fodder was needed for the pack and draught animals and, from Dynasty XVIII onwards, for the horses belonging to the important chariot units. On this note, a distinction must be made between primary and secondary logistical requirements. The primary requirements of logistics refer to the direct supply of the military units who engage the enemy in combat. Secondary logistical requirements, on the other hand, are concerned with supplying all that is necessary to meet the logistic needs of those elements of the army which supply the fighting troops. In other words, while donkeys and oxen transport supplies such as food and ammunition (primary requirements) to the fighting troops, both donkeys and oxen have their own supply needs (secondary requirements). It was essential that adequate supplies of fodder and water were available to feed and maintain the animals that accompanied the army, especially so as some of them may have ended up supplementing the army’s daily meat requirements. This last category of animals included cattle, sheep and goats which either accompanied the army initially or were captured while on campaign. To complicate matters, requirements tended to differ from animal to animal and ensuring sufficient amounts of fodder were available could sometimes prove a considerable logistical challenge. Fodder, due to its weight was difficult to transport over long distances and was also likely to be the first resource to run out if logistical difficulties arose. Animal feed is generally divided into three separate categories: hard fodder (i.e. barley and oats); green (or dry) fodder (various crops grown on farms especially for animals: hay, straw, clover, broad beans)

---

80 Fodder is one of two essential, but often overlooked, requirements for an army on campaign (the other was wood). Vegetius mentions that an adequate supply of fodder is one of the primary requirements for deciding where to place a camp. He also stresses the need to ensure a supply of fodder was prepared in advance in order to guard against an unexpected crisis: Vegetius, Epitome of Military Science, trans. N. P. Milner (Liverpool, 1993), I.22 and III.3; hereafter cited as Vegetius.

81 J. Huston, The Sinews of War, 658-9. This comes under Huston’s principle of “Economy”.

82 The use of barley is well attested in ancient Near Eastern documentary sources including Hittite texts, yet surprisingly would not be suitable for a modern horse reared on oats, S. Piggott, “Horse and Chariot”, 26,

83 Some scholars make a stronger distinction between green and dry fodder. Indeed, from a logistical point of view, less dry fodder was needed than green fodder in order to provision a horse: J. A. Lynn, “Food, Funds, and Fortresses: Resource Mobilization and Positional Warfare in the Campaigns of Louis XIV”, in Feeding Mars: Logistic in Western Warfare from the Middle Ages to the Present, J. A. Lynn (ed.), (Boulder, 1993), 141.
etc.); and pasturage (grasses and vegetation consumed by the animal directly from the field). From a logistical point of view, the last category is the most ideal as it avoided the necessity of transporting the fodder but was also the most difficult to rely upon especially when on campaign.

All three categories of fodder were utilised by the Egyptians to varying degrees. Within Egypt itself, land that was not suitable for maintaining crops could potentially be used for the grazing of large cattle. Such land, however, always took second place (in terms of resource expenditure) to the more important food crops necessary for human consumption. It is likely that the cattle were driven to new areas of pasturage on a regular basis in order to avoid over exploitation of any given area, although grazing was certainly possible even in supposedly barren regions. For example, it is clear that grazing by domesticated animals was undertaken in the Saras region. This meant that for the nearby fortress garrisons (especially Askut), milk, butter, and meat likely formed a significant portion of their daily diet. Alternatively, animals could be penned up (or tethered) and have the food brought to them – most likely in the form of grain feed or bread dough. This diet would have needed to have been supplemented with some green produce. Nonetheless, relying on hard fodder alone was not a practical measure for large quantities of cattle as it meant both the animals and their human masters essentially had to rely on the same foodstuffs. Therefore, in order to supplement the diet of an animal, one which was subsisting predominantly on grazing, the Egyptians made use of less mainstream foodstuffs such as the seed residue left after the oil had been extracted from flax. This was ideal for cattle feed as it was found to be high in protein. Cattle were also able to dine on the famous papyrus plant (Cyperus papyrus). In addition, it is possible that vetches and clovers also served as fodder providing the animals with important proteins and amino acids.

---

85 D. Brewer, *Domestic Plants*, 77-8. As technology improved and more land was able to be cultivated (thus modifying the land to water ratio), this resulted in less pasturage land being available.
87 D. Brewer, *Domestic Plants*, 38.
With respect to individual fodder requirements, goats, for their part, were ideal in this respect. They were able to subsist on the most basic foodstuffs and rely, if required, exclusively on grazing.\(^89\) They could also survive well in harsh environments ensuring they remained a viable source of fresh meat if needed for consumption. Sheep could likewise sustain themselves on minimal quality foodstuffs such as the stubble and other waste that remained after a harvest and unlike cattle, they rarely received additional dietary supplements.\(^90\) Donkeys, although of higher logistical value, were again not too demanding. They required little water and could subsist on poor quality forage. In general, their dietary requirements are estimated at around 1.5 kg of hard fodder and 5 kg of green fodder, and their water requirements were around 20 litres per day.\(^91\) Like their human masters, they could survive on less this amount for extended periods and also subsist on alternative rations if fodder was not available. In such cases, about 10.0 kg of pasturage was required.\(^92\) Grazing, when possible, meant that less dry fodder was needed thus lessening the logistical demand on the army. Oxen dietary requirements were greater than donkeys and approximate figures suggest that around 7.0 kg of hard fodder and 11.0 kg of dry and green fodder were required each day. The water requirements were also higher: 30 litres.\(^93\) Again, as with donkeys, pasturage could substitute this providing that the daily requirement of 22.0 kg was met. A team of oxen, therefore, required a hefty 45 kg of food per day.\(^94\) It is an intriguing dilemma in the fact that introducing this animal into the logistical system would have solved some logistical problems yet created entirely new ones. The horse also proved to be a logistically demanding animal.\(^95\) They required

---

\(^{89}\) D, Brewer, *Domestic Plants*, 92-3.

\(^{90}\) Ibid., 92.

\(^{91}\) As recommended by modern field manuals: J. Roth, *Logistics*, 65. See also: A. Dent, *Donkey*, 165. For additional estimates on the fodder and water requirements for the animals, see: A. Spalinger, *War*, 35-8.

\(^{92}\) Such as leaves, thorns, thistles and even sea-weed, J. Roth, *Logistics*, 65.

\(^{93}\) Ibid., 66-7.

\(^{94}\) A. Spalinger, *War*, 130.

\(^{95}\) A horse, as has been noted, was a “rapid and efficient powerful engine” and therefore required the best (i.e. most expensive) fuel to run optimally, which was grain. The slower ox, on the other hand, could make do with hay, S. Piggott, “Horse and Chariot”, 25. Ensuring that horses had an adequate supply of fodder was a problem that was to continually reappear even as late as the First World War, see: M. Van Creveld, *Supplying War*, 124-6; and J. Thompson, *Lifeblood*, 39.
high quality rations, around 2.5 kg of hard fodder and 7.0 kg of green/dry fodder each day. Horses also needed a minimum of 15 and possibly more than 30 litres of water each day (assuming the horse was operating in arid regions). While, it was possible for a horse to obtain most of its nourishment by grazing (it is estimated that around 14.0 kg of forage was required per day) this still needed to be supplemented with a small quantity of hard or dry fodder. This seems to have been the practice of the Egyptians who probably provided their horses with a ration of grass and forage consumed from the field – if operating away from supply centres such as vassal states. But as seen in the Qadesh reliefs, it appears that the Egyptians also relied in part on hard or dry fodder to provision their horses while on campaign. Justifying this heavy expenditure of resources, the war horse, it can be argued, did fulfil a vital “front line” military function. Therefore it should be considered alongside the combat forces (i.e. the soldiers), rather than as a secondary support element (the carrying capacity of the beasts of burden will be treated more fully below).

Secondary logistic considerations do not end with ensuring the various supporting animals were supported, but also extended to include any non-combatants that might be accompanying the army. These “camp followers” while again serving a vital function in supplying the army with its primary logistics requirements also needed to be feed and watered. Secondary logistics, while distinct in its own right, was clearly entwined with the primary logistics requirements of the army.

Wood

The acquisition of sufficient firewood may at first not appear to be high on the list of logistic priorities but if the troops were to be supplied with freshly cooked

96 J. Roth, Logistics, 62-4; and A. Spalinger, War, 35.

97 J. Roth, Logistics, 64. One could compare these figures with the requirements of an early 18th century horse which are estimated at 7.7-10.9 kg of dry fodder or 22.7 kg of green fodder each day: J. A. Lynn, “Food, Funds, and Fortresses”, 141. Engels, on the other hand, estimated that 9.1 kg of grain and forage (of equal mixture) was each day needed in order to adequately provision a Macedonian horse, in addition to 30 litres of water (more would have been required in hotter regions or as a result of strenuous activity), D. Engels, Alexander the Great, 126-7.

98 W. Wreszinski, Atlas II, pl. 92a. In this scene, some of the horses in the upper left hand portion of the camp appear to be receiving rations. However, this is not so for the majority of the horses in all the camp scenes unlike the more fortunate donkeys.
meals then wood for fuel was an important requirement. Vegetius, in his “Art of War”, stresses, therefore, the importance of setting up camp where there was a sufficient supply of firewood. Yet one may be inclined to expand on this further and include in this discussion all wood in general as the acquisition of this versatile material was of great importance to the Egyptians while on campaign. Wood is often overlooked as a logistic necessity yet it was crucial not just for mundane tasks such as baking bread and cooking meat but also for the manufacturing of siege equipment and fortifications. In order to undertake the siege of Megiddo, for example, Thutmose III had lines of contravallation constructed from the wood of all the fruit trees. In fact, it was not uncommon for the besiegers to exhaust the wood supplies in the immediate vicinity of the besieged city. No extant Egyptian text makes reference to the collection of wood, but we may have at least one visual representation. In the scene depicting Ramesses III’s assault against the city of Tunip we see soldiers in the background chopping down trees. As will be mentioned in Chapter IV, this may have been a representation of Egyptians engaging in either a bit of logistical destruction or collecting wood for the purpose of building siege equipment. On the other hand, they may simply have been cutting and gathering up firewood. In another scene depicting Sety I during his Yenoam campaign, we see some Asiatic princes

---

99 Jac Janssen noted especially that “Since wood was scarce in Egypt it was not easy to provide a household with fuel”, Commodity Prices, 481-8. See also: J. Janssen, E. Frood and M. Goecke-Bauer, Woodcutters, Potters and Doorkeepers. Service Personnel of the Deir el-Medina Workmen (Leiden, 2003), 12-7.

100 Vegetius, I.22.

101 To provide a recent example of the repercussions of not having sufficient wood: the French, when constructing their defences at Dien Bien Phu in 1953, stripped the local village and the nearby hills of all the available wood, while their cooking fires consumed what brush remained. The total amount of wood collected, however, was insufficient in quantity to provide adequate shoring for defences whereas by utilising all the surrounding brush, the defenders had effectively destroyed the natural camouflage, thus exposing their entire position to the enemy, J. Thompson, Lifeblood, 168.

102 Urk IV, 660.14-16.

103 The Romans, during their siege of Jerusalem, exhausted all wood supplies within 15 km of the city over a four month period: J. Roth, Logistics, 60-1.

104 W. Wreszinski, Atlas II, pl. 151. There is considerably more evidence, however, from the civilian arena for the acquisition and processing of wood. Woodcutters, for example, are found in a number of scenes in tombs and reliefs, see: R. Gale (et al.), “Wood”, in Ancient Egyptian Materials and Technology, P. Nicholson and I. Shaw (eds.), (Cambridge, 2000), 352-68. One of the earliest scenes, from the Dynasty IV tomb of Sekhemkara at Giza, depicts a number of Egyptians working on a felled piece of timber, ibid., 353 and fig. 15.17.
felling trees with axes and with the aid of ropes. Although the accompanying texts mention that this wood is destined for use in Egypt, it is not too unreasonable to assume that wood, for military use, would have been collected in a similar fashion. Far more common, however, are the many references to the destruction of trees in the Egyptian texts which will be covered extensively in the following chapter. Wood was also of great importance not just at the tactical level, as discussed here, but also at the operational and strategic levels. Large quantities were required to provide fuel for Egypt’s “military industrial complex”, or in other words, wood was needed to fuel the many furnaces which provided Egypt with its weapons of war. The idea that the Egyptians may have faced an energy crisis due to their inability to acquire sufficient quantities of wood as a result of changes in the way they conducted warfare will be examined further in Chapter V.

Water

While food and firewood were important, the acquisition of water also played a prime role in Egyptian logistic planning. It was possible for a soldier to survive on little or no food for an extended amount of time, but without water, a soldier would perish in a matter of days. This point appears not lost on the Egyptians in that the acquisition of foodstuffs rarely appears to be a major concern in the texts. This is not the case for water as time and time again we find mentions of the intricate preparations and lengths gone to in order to secure access to this valuable resource. Vegetius singles out access to clean water as being especially important while on campaign. He states that not only was it prudent to construct a camp near an accessible water source, it was also vital to ensure that it did not become

---

105 RIK IV, pl. 10. Such tribute may have placed a significant burden on these local princes, see: A. Ahituv, “Economic Factors in the Egyptian Conquest of Canaan”, IEJ 28 (1978), 100-1.


107 See, for example: U.S. Army, Nutrition, 5-6. Insufficient water intake, if prolonged, can result in severe dehydration eventually leading to fatal heat stroke. In addition, and contrary to popular belief, soldiers cannot be trained to subsist on less than the recommended amount of water.

108 In his analysis of the diet of Roman soldiers, Groenman-van Waateringe noted especially that in Africa and Spain, both hot and dry climates, water assumed considerable importance, “Classical Authors and the Diet of Roman Soldiers”, 262.
contaminated.\textsuperscript{109} Of interest, there is no definite evidence that the Egyptian army suffered from any waterborne diseases or lack of water.\textsuperscript{110}

The daily water requirements for an individual are estimated at around four litres with half of this amount being absorbed from consumed food.\textsuperscript{111} Although, according to Pap. Lansing, New Kingdom soldiers were only provided with water every three days and even this was of substandard quality.\textsuperscript{112} In reality, the Egyptians were in an enviable situation where the Nile provided all their water needs and there was very little in the way of logistical difficulties in this respect - providing they did not roam too far from this source.\textsuperscript{113} Even then, the situation was not too bleak. For operations in Libya, for example, the Egyptians were able to rely on natural water resources to some extent, in particular, the oases which enabled reasonably effective movement throughout a large portion of the region. The same was likely the case along the coastal region. One needed only to sink a well to find water.\textsuperscript{114} However, in areas where water supplies were scarce, special arrangements needed to be made. For this it would be best to look again at non military operations. Turning to the Eastern Desert, the Middle Kingdom expeditions into the desolate Wadi Hammamat provide valuable information concerning Egyptian logistical planning. When the Great Steward and Chief Treasurer Henu took 3,000 men into this region, he needed to

\textsuperscript{109} Vegitius, I.22 and III.1-2: Roman officers were instructed to be especially observant for any signs of waterborne diseases.

\textsuperscript{110} Which is surprising given the large number of water related diseases known of: B. Heagren, “Water Related Diseases in Ancient Egypt”, in L’Acqua nell’antico Egitto: vita, rigenerazione, incantesimo, medicamento: Proceedings of the First International Conference for Young Egyptologists (Chianciano Terme, 15-18 October, 2003), A. Amenta, M. M. Luiselli and M. N. Sordi (eds.), (Rome, 2005), 151-7. The Byzantines, as noted by Maurice, were aware of the dangers of stagnant water and utilised a relatively simple procedure to ensure stored water remained palatable: peg holes were drilled into casks allowing the stored water to flow drop by drop into prepared receptacles placed below. Once the receptacles were full, the water was then poured back into the casks. Vinegar was also used on slightly bad water to combat the odour, \textit{Stategikon}, 111.

\textsuperscript{111} At least 1.9 litres of water alone was required on a daily basis, A. Spalinger, \textit{War}, 35.

\textsuperscript{112} A. H. Gardiner, \textit{LEM}, 108: 10,1. The reference to salt in this passage, although supposedly meant to incite some reaction of disgust (or humour) from the reader, is nonetheless interesting. Did the Egyptians encourage their soldiers to consume some salt with their water in order to combat the effects of dehydration?

\textsuperscript{113} L. Casson, \textit{Travel in the Ancient World} (Baltimore, 1994), 22.

\textsuperscript{114} S. Snape, personal communication (2006).
prepare at least fifteen wells along the route. Yet this number pales in comparison to the expedition of Ameni which numbered just over 18,000 men. Ramesses IV in Year 3 also sent a considerable expedition into the region numbering over 9,000 men and while food is mentioned (see above), water does not appear to have been an issue at all. Indeed, acquiring access to the Eastern Desert regions may not have been substantially difficult. Underground water levels in select gold mining regions appear to have been higher in ancient times and water more easily accessible at certain times of the year. Numerous inscriptions, for example, throughout the southern part of this region make mention of the successful excavation of wells. Travelling at certain times of the year could also ensure there were sufficient reserves of water. With respect to the Red Sea Hills, for example, the rainy season runs from

L. Bradbury, “Reflections on Traveling to ‘God’s Land’ and Punt in the Middle Kingdom”, JARCE 25 (1988), 127. 12 wells were in the bush (scrub?), 2 in Idiht, and 1 in Tibth, ibid., 132. The 12 ‘bush’ wells were likely needed in the barren area between the Nile and Gidami hills: 1 every 8 km, ibid., 137 and note 47. The land portion of this expedition, starting near the vicinity of Coptos, to the Red Sea port of Sww (Mersa Gawasis), and back again to Coptos, covered a distance of around 200 km and took approximately 10-12 days, ibid., 134. This would work out to be a very reasonable 16-20 km of travelling per day. Of further interest, Henu, for his journey, utilised two different routes: the northern route (Wadi Hamama) to reach Sww which was less favoured for caravan travel but was slightly shorter (by around 2 days); and the longer more preferred southern route (Wadi Hammamat) for the return journey (travelling via W3g (Wadi Atalla), ibid., 134-5. For wells and cisterns in general, see: H. Franzmeier, “Wells and Cisterns in Pharaonic Egypt: The Development of a Technology as a Process of Adaption to Environmental Situations and Consumers’ Demands”, in Current Research in Egyptology 2007: Proceedings of the Eighth Annual Symposium which took place at Swansea University April 2007, K. Griffin (ed.), (Oxford, 2008), 37-51.

This is further confirmed by the Punt expeditions. As there was no direct water link between the Nile and the Red Sea, vessels were possibly dismantled and carried across the Eastern Desert via Wadi Hammamat and then resembled upon reaching the coast. Some smaller vessels may even have been pulled across the desert in one piece. Their hulls would have been capable of withstanding the rigours of such a journey, although sufficient manpower would have been needed. This process then had to be repeated for the return journey to Coptos. Once trade links had been established, however, reliance may have been placed more on native Red Sea ships or Egyptian ships may have been left at the Red Sea coast for future use, see: R. Partridge, Transport, 61-2. Finally, we cannot rule out the possibility of other routes being uncovered such as via the Wadi Abu Had and Wadi Dib further supporting the idea of deep Pharaonic penetration into this region, A. Bomann, “Search in the Eastern Desert”, EA 3 (1993), 41-3; A. Bomann, “Discoveries in the Eastern Desert”, EA 4 (1994), 29-30.

Thunder showers in Spring may have allowed for fresh water to be collected in natural basins and below ground level in May and June, see: L. Bradbury, “Reflections” 137 note 47 and references therein. See also the comments in: R. Rothe, W. Miller and G. Rapp, Pharaonic Inscriptions from the Southern Eastern Desert of Egypt (Winona Lake, 2008), 5-8 and fig. 1-4. The expedition team was at one place able to find water a mere 10 cm below the surface, ibid., 8.

For the inscriptions that refer to the acquisition of water, see: R. Rothe (et al.), Pharaonic Inscriptions, 18 (sk hnmt.sn “...excavating their well”); 298 (lst tw.tw gm mw im.s “when one found water in it” (there is also mention made of troops (gswt) in this inscription)); 312 (hnwt w.S r dw pmn h 22 “a well, it is distant from this mountain 22 cubits”); 352 (dd.f ink sd hnwt in... mh 10 w.S r s pn “I am the one who dug this well...It is ten cubits distant from this inscription”); and finally 368-9 (fr.n.i)( sdt hnwt ptnrd.i mw n ib, “By making the digging of these wells, I have given water to the thirsty”).
November to April meaning that by May the various wells, cisterns, and basins in the region would likely have held fresh water. The expeditions are important indicators of Egyptian logistic planning abilities and we note that even as early as Dynasty XII, the Egyptians were quite capable of moving and supplying with sufficient water these large expeditions. The same techniques as used here would easily be applicable to military operations. By revisiting the same specific area again and again, the Egyptians would have been able to work out precisely how much supplies were needed, how fast various sized expeditions could travel, and most important, how much water was needed.

From the Ramesside period, we find a small number of references to the great lengths the Egyptian kings (notably Sety I and Ramesses II) went to in order to ensure their workers had a sufficient supply of water. We learn, for example, of Sety’s concern over the particularly difficult and waterless route his workers had to traverse in order to bring in gold supplies from the Edfu desert. To remedy the situation, the king, in person, reconnoitred the desert and was able to find a suitable site for a well. Sety was, however, less successful in his attempts to dig a well in the desolate region of Akuyati, according to, that is, the Year 3 Quban stela of Ramesses II. In this text, the young Ramesses contemplates the digging of wells as a solution to overcome chronic water shortages along certain routes leading to gold bearing regions. Of these, the region of Akuyati was particularly troublesome in that insufficient quantities of water were supposedly resulting in 50% fatalities among the

119 L. Bradbury, “Reflections”, 139.

120 In the case of Henu, the expedition, with the help of asses, had to carry all their supplies, in addition to the materials required to construct the Kbni.t boats once the Red Sea had been reached, ibid., 136.

121 Ibid., 137 note 47.

122 Regarding the humane concern shown by these kings towards their subjects, see our comments above.

123 KRI I, 65.15-66.13; and RITANC I, 60-1.

124 A small temple supposedly marks the location of this well, which was located 55 km east of the Nile: RITANC I, 61. This distance could have been covered with a march of two days.

125 KRI II, 353.1-360.6. Commencing from Quban, an important fortress site since the Middle Kingdom, the region of Akuyati was reached via the desert routes of Wadi Allaqi and Wadi Gabgaba: RITANC II, 215; and see also Chapter IV.
workers (and their donkeys) sent out to prospect there. The king therefore held a meeting with his advisors during which he was informed of the attempts by previous kings (including his father) to open wells in that region. Sety, in particular, dug a well 120 cubits deep (or 63 m) without success. Ramesses was not deterred and sent orders that a survey party be sent halfway to Akuyati to dig a well. This was duly done and water was found at a depth of 12 cubits (6.3 m). The acquisition of water away from the Nile in Nubia, however, may not have always been as difficult as the texts indicate. Excavations along a key quarry road (see below), for example, uncovered shallow but large ground water wells along this route which indicate that there was previously a much wetter climate in this area. Nevertheless, the experience acquired in constructing such wells and securing isolated water sources proved to be vital when applied to military operations. The fortress-reservoir system in the Sinai and an equivalent system in Libya (see below) ensured that these regions could be traversed without great difficulty. In addition, unlike the unfortunate miners in the Quban stela, Egyptian soldiers probably carried water skins as part of their personal equipment. Other references to the importance of wells include a passage in Pap. Anastasi III which notes the following: “…arriving by the captains of the archers of the Well of Merenptah-Hotephtirma L.P.H., which is (on) the highland…” Later still, we find a rare mention of a fortified well during the reign of Ramesses III.

126 The text notes that even the possession of water skins for this journey would not have allowed for the distance to be safely traversed: KRI II, 355.3-7.

127 KRI II, 355.10-359.5.


129 BRE III, §§629-35. It is difficult to determine whether this particular well was captured as a result of Merenptah’s Asiatic campaign or if it was being fortified in preparation of it: I. Singer, “Egyptians, Canaanites, and Philistines in the Period of the Emergence of Israel”, in From Nomadism to Monarchy: Archaeological and Historical Aspects of Early Israel, I. Finkelstein, and N. Na’aman, (eds.), (Jerusalem, 1994), 288.

130 In a region with the Semitic name “Aiyn”, E. Morris, The Architecture of Imperialism, 711-2.
Logistics Supply Options

When an army embarks on a campaign, it needs to be supplied and there are generally three main ways that this can be done. First, an army could obtain the resources it requires en route to the battlefield. Second, an army could attempt to carry the bulk of their own supplies and, where necessary, fall back on the first option to supplement their requirements. The final option was to ship the required resources from a rear area and then distribute them to the forces on or near the expected place of battle. Each of these methods has their own unique advantages and disadvantages as we shall examine below with respect to the Egyptian evidence.

Living off the Land

Attempting to support a military force by living off the land did have certain advantages and was something the Egyptians at times relied upon to supply their armies. With respect to their military endeavours in Asia, campaigns would be timed to take advantage of the yearly harvest. This ensured there were always sufficient basic foodstuffs available to meet supply needs. Furthermore, in order to facilitate the requisition of supplies while traversing through Asia, the Egyptians made use of their vassals where and when required. Of interest, the supplies mentioned in the annals of Thutmose III and in the Amarna letters do show a certain degree of consistency. They especially provide us with some of our best testimony with

---


132 See also our comments in Chapter V: Time. This method is recommended in the Strategikon, 82. Following the battle of Megiddo, the Egyptians took into possession the harvest of that city which amounted to 207,300 sacks (h/îr) of wheat, Urk IV, 667.14. As each sack was equal to less than 80 litres (or 59.2 kg as per our calculations above of one hekat being equal to 3.7 kg), the total amount would have been some 16,000,000 litres or 12,272 tonnes. Spalinger, however, took the amount to be oipes or possibly even hekats thus providing the following totals: 3,984,306 litres assuming an oipe measure and 517,341 kg assuming a hekat measure. With respect to the last total, Spalinger's hekat measure is only around 2.5 kg (and not 3.7 kg), A. Spalinger, War, 95.


respect to this policy of reliance on vassals. Additional letters sent possibly during the reign of Amenhotep II by the Egyptian Amenhotep requested that the ruler of Tanaach, Talwisher, send men and supplies to Gaza and Megiddo. A large portion of the Amarna letters do in fact appear to refer to the preparations for a single Egyptian campaign most likely undertaken by Akhenaten (or an underling). If this was the case, it would serve to confirm that a considerable amount of planning was required even for the organisation of a single military campaign. Other notable letters (such as EA 365) serve to highlight the very systematic Egyptian organisation and exploitation of Asiatic arable land for military provisioning and also provide references to the existence of royal granaries (EA 294) within strategic Asiatic cities (in this case Joppa). Occasionally, however, we do come across references to Egyptians supplying the required provisions. This is noted in Pap. Hermitage 1116A where rations were distributed by an Egyptian official to maryannu-warriors serving

135 EA 55 lists, for example the provisions to be provided: “Food, strong drink, oxen, sheep, and goats, honey and oil”, W. Moran, The Amarna Letters (Baltimore, 1992), 127-8. Other letters dealing with logistic and military support provided to the Egyptians (or lack thereof) include: EA 65, ibid., 136; EA 99, ibid., 171-2; EA 161, ibid., 247-8; EA 193, ibid., 272; EA 216, ibid., 284; EA 218, ibid., 285; EA 226, ibid., 288. We can add to this list: EA 247, ibid., 301; EA 324, ibid., 352; EA 325, ibid., 352-3; EA 329, ibid., 354; EA 337, ibid., 358-9; and EA 367, ibid., 365. See also: N. Na’aman, “Praises to the Pharaoh”, 397. A similar policy appears to have been employed by Alexander in order to provision his army in Syria. In the only reference made by Arrian with respect to logistics, Alexander removed the governor of Syria (Arimmas) as he had failed to properly supply and equip his troops for the march into the interior: Arrian, The Campaigns of Alexander, trans. Aubrey de Sélincourt (London, 1971), III. 6, hereafter cited as Arrian.

136 For discussion see: P. Der Manuelian, Studies in the Reign of Amenophis II, 83-90. One of the letters demands that troops, chariots, horses and tribute be sent to Megiddo while the other addresses the fact that Talwisher has not sent any men to Gaza. See also: A. Spalinger, “The Historical Implications of the Year 9 Campaign of Amenophis II”, JSSEA 13 (1983), 97-8; and W. Albright, “Cuneiform Material for Egyptian Prosopography, 1500-1200 BC”, JNES 5 (1946), 9-11.

137 As noted in EA 144 and 155, for example, W. Moran, The Amarna Letters, 230-1 and 241-2 respectively. See especially: N. Na’aman, “Praises to the Pharaoh”, 397-406. Whether the campaign actually took place is another matter, although the evidence does seem to indicate that it did, ibid., 404-5. See also our comments in Chapter VI: Simultaneous Operations.

138 This point will be expanded on further in Chapter V: Time.

139 N. Na’aman, “Economic Aspects of the Egyptian Occupation of Canaan”, in Canaan in the Second Millenium B.C.E.: Collected Essays II, N. Na’aman (ed.), (Winona Lake, 2005), 221-3. Other such granaries and storehouses were located at decisive points within the Asiatic theatre, especially within the port cities. Lachish was another possible location of a granary during Dynasties XIX and XX, see: S. Ahituv, “Economic Factors”, 97. Other storage facilities, dating to Dynasty XIX may have been located at Tell el-Ajjul, Tell el-Farah (S), Deir el-Balah, Tell Mor, Aphek, J. Hoffmeier, “Aspects of Egyptian Foreign Policy in the 18th Dynasty in Western Asia and Nubia”, in Egypt, Israel, and the Ancient Mediterranean World: Studies in Honor of Donald B. Redford, G. Knoppers and A. Hirsch (eds.), (Leiden, 2004), 135.
as envoys for a number of towns in Palestine and Syria. Such acts of generosity were relatively uncommon and as the Amarna letters appear to indicate, the bulk of the logistic burden for military campaigning in Asia was placed squarely on the shoulders of the city states. Furthermore, and as we will note in the following chapter, garrisons within foreign cities would also have had to make themselves as self-sufficient as possible with respect to their supply needs so to keep logistical costs down to a minimum. This fits in well with the Egyptian philosophy of supporting an empire with the minimum of operating costs. The same was also the case with the Nubian fortresses whose garrisons, despite the harsh geographical environment, were still in a fairly good position to supply their own needs, acquiring resources from the surrounding environment not only for themselves but also their animals. It is possible that most of the fortresses possessed a certain number of cattle to be utilised how the garrison saw fit. As well as relying on domesticated animals, the garrisons could also engage in hunting and fishing (as noted above). The latter, in particular, would have probably provided the Egyptian garrisons with a substantial part of their diet. Efficient access to water during an attack was also an important consideration, and, as expected, the architecture of all the fortresses ensured that this would not have been a problem.

From a military perspective, this arrangement was advantageous to the Egyptians as it not only allowed for a cost effective way of provisioning their troops, but also bestowed upon the army a certain degree of operational freedom. Furthermore, this type of supply acquisition did, at least, have the sometimes reluctant

---

140 E. Morris, *The Architecture of Imperialism*, 141-2; and C. Epstein, “A New Appraisal of Some Lines from a Long-Known Papyrus”, *JEA* 49 (1963), 49-56. Of interest, the rations provided consisted of “beer and corn”, ibid., 50. Admittedly, it is possible that these envoys were in the service of the Egyptian king, E. Morris, *The Architecture of Imperialism*, 142.

141 N. Na’aman, “Economic Aspects”, 224. Garrison troops were clearly differentiated from the regular army and fell under a different command structure. They were, overall, to be considered as part of the (cost effective) “military and financial aid package” the Egyptian king supplied to his Asiatic clients, see: S. I. Groll, “The Egyptian Administrative System in Syria and Palestine in the 18th Dynasty”, in *Fontes Aigte Pontes. Eine Festgabe für Hellmut Brunner*, M. Görg (ed.), (Wiesbaden, 1983), 237. But even then, vassals were expected (at least by the reign of Amenhotep IV) to provide for their own security needs.


143 Logistically, the Nubian fortresses were well prepared. They were (almost) all located along the Nile and covered “river-stairs” ensured access to water if placed under siege. Another feature they shared were quays for the efficient unloading if supplies, ibid., 71.
consent of the suppliers. Less approving methods, however, could also be relied upon including foraging, pillaging, and general plundering. These were all adequate options in satisfying the immediate needs of a military force for a short amount of time, but a point would soon be reached where the army would be causing such a degree of destruction or exploitation as to incite the hostility of the local population. This was true of even friendly vassal states which could easily start resenting the demands made on them to constantly feed and water Egyptian soldiers. Another problem was that, while living off the land allowed for a greater degree of mobility, the army would be forced to remain constantly on the move as food sources in the immediate vicinity would quickly become depleted. Indeed, numerous interrelated factors would determine how successfully this option could be carried out. For example, one needs to consider whether the army is advancing through enemy, neutral, allied, or friendly territory, and then consider the length of stay, and finally, level of exploitation.

144 See Chapter IV: Counter Logistics for a more comprehensive discussion. For the distinctions between these various terms, see J. Roth, Logistics, 140-55 especially 148. With respect to the Egyptian evidence, the most infamous case of unsanctioned plundering by Egyptian soldiers took place following the battle of Megiddo (Urk IV, 658.87). However, in this case, it is likely that the acquisition of food was not high on the list of priorities. Additional mentions in the annals of more condoned instances of plundering by Egyptian soldiers include the following: during the siege of Megiddo, the amount of cereals registered excludes the amount that was harvested by the soldiers; and during the campaign of Year 29, the army came into possession of a considerable amount of plunder including enough wine to get drunk every day, see: S. Ahituv, “Economic Factors”, 97-8. A further example of the use of plundering as a sanctioned method to acquire supplies occurred following Kamose’s victory over the Hyksos held city of Nefrusy where booty taken included slaves, herds, fat, and honey, L. Habachi, The Second Stela of Kamose, 48-9.


146 This is in complete contrast with the situation experienced on the Western Front during World War I where rail transportation furnished all the logistic necessities allowing the opposing armies to remain immobile and in an almost perpetual state of siege, A. Jones, The Art of War, 459.
The above diagram (fig. 3.1) applies to all kinds of territory that an army may advance through, although an army would be able to rely on a relatively higher level of support from a friendly population for a longer duration than from an allied or neutral population. The latter would be less inclined to offer support for an extended period of time (the vassal states in Asia for example). Eventually, hostility will set in and once this occurs, acquiring necessary supplies becomes infinitely more difficult.\footnote{It appears the Egyptians, at least during the Old Kingdom Period, had some regulations in place forbidding their troops in engaging in criminal activity either against their fellow soldiers or the local population, see: H. Goedicke, “The Rules of Conduct”, 120-1. Hittite soldiers were also forbidden to raid or engage in foraging while marching through an allied state: R. Beal, \textit{The Organisation of the Hittite Military} (Heidelberg, 1992), 132. For further discussion, see Chapter IV.} But an entirely different set of problems and opportunities arise if the army is advancing through enemy territory. On the one hand, there is essentially no restriction to the amount of exploitation (and destruction) that the invading army may inflict. In this respect, engaging in such activities within enemy territory can be seen as an effective strategy especially if one is just passing through. Sun Tzu emphasised this by stating that it is far more beneficial (twenty times as much!) to consume one’s enemy’s supplies and fodder rather than your own.\footnote{Sun Tzu, \textit{The Art of War - The New Translation}, trans. J. H. Huang (New York, 1993), 46. Caesar, before setting out through the Ardennes to fight Ambiorix, gave specific orders that nothing was to be destroyed by fire so to ensure that sufficient supplies of grain and fodder remained available, W. Groenman-van Waateringe, “Classical Authors and the Diet of Roman Soldiers”, 261. Maurice likewise states that what cannot be consumed should be destroyed, but only on the return march, \textit{Strategikon}, 97.} During the Hundred Years War, the English effectively utilised this “logistic raiding strategy” in the form of a
expedition chevauchée to lay waste to large portions of the French countryside as an alternative to permanent occupation. From the Egyptian evidence we hear time and time again of lands, crops, orchids being devastated along with villages, towns and even entire cities, and we will be considering this in greater detail in Chapter IV. Such a “Scorched Earth Policy” was an effective strategic option where other more conventional military actions may not have been possible. For instance, this activity was just as useful for the English in France as it was for the Egyptians in Asia because both suffered from a significantly unfavourable low ratio of force to space. On the other hand, if one is hoping for a more permanent occupation, or even a prolonged campaign, a paradox presents itself. The more successful (or aggressive) the army is at acquiring supplies from the local population, the more difficult it will become for them over an extended period of time to maintain that level of exploitation. To provide yet another example, one need only consider Napoleon’s march on Moscow, French troops treated the local population with such disdain, that following the French retreat, they could no longer acquire adequate supplies. But if an army takes a more moderate approach in an attempt to not antagonise the local enemy population, it may find itself hindered by supply restrictions. As one can see there are a myriad of strategic problems associated with “Living of the land”. Napoleon, while moderately tactically successful against the Russians, failed at the operational level in respect to maintaining an effective supply network and this ultimately led to him suffering a crushing defeat at the strategic level.

Supply Trains

Attempting to transport one’s own supplies to and from the battlefield was an alternative option for a military force that was not able or willing to live entirely off the resources of the lands it passed through. This option represents a higher level of

---


151 With respect to a possible numerical inferiority in troop numbers with respect to the Asiatic theatre, see Chapter V for a more complete discussion. For the employment of a “scorched earth policy” in general, see: A. Jones, *The Art of War*, 168.

logistic organisation than the first. As with the Romans, it appears that the Egyptian soldier was expected to carry some of his own provisions in addition to his weapons.153 From the tomb of Senbi in Meir, we find a representation of a Dynasty XII hunter equipped with weapons and supplies. Of note, the supplies carried included a water skin and a quiver with arrows.154 It is possible that the water skin carried by soldiers was not too dissimilar to the one depicted here. Papyrus Lansing also, briefly, notes that Egyptian soldiers did possess their own packs and that care needed to be taken in order to ensure that they were not stolen (a passage from the Autobiography of Weni notes that soldiers were discouraged from engaging in such behaviour).155

According to Donald Redford, when Thutmose III marched out of Egypt on his Megiddo campaign, his soldiers had to carry enough supplies for the ten days it took to cross the Sinai Peninsula.156 Redford estimated that Thutmose’s army numbered some 10,000 men, and that each soldier would have had to carry 80 small loaves for the crossing (in their own packs), and 1,000 donkeys have been required to carry the beer (which would have been placed in 200,000 small jars).157 In addition to the personal supplies carried in their individual packs, the soldiers needed to carry their own weaponry. Again from Pap. Lansing, we are informed that the soldiers were

---

153 For the carrying capabilities of the average Egyptian soldier, see the useful comments of: A. Spalinger, “Some Notes on the Chariot Arm of Egypt”, 131-2. Following the observations of Delbrück, a soldier was likely able to handle a load of up to 27 kg without difficulties, but loads higher than this, say 31 kg, could cause difficulties, ibid., 132. A Roman legionnaire, on the other hand, according to the reconstruction of a soldier’s pack by Junkelmann, could carry 43-6 kg for 500 km (or 25 km per day) over difficult terrain, ibid., 131.

154 Also of interest is the “sporran” which this individual wears: A. Blackman, The Rock Tombs of Meir I (London, 1914), 30-2 and pl. VII. Is it possible that this “attached” bag may have collected urine to be later recycled into drinking water? Although there is some debate over the “merits” of drinking urine, it does, however, appear to be a viable source of water, with considerable healing properties according to some medical practitioners. Other explanations for such elaborate sheaths include the possibility that they served as some sort of protection from water based diseases, in particular, schistosomiasis: J. Nunn, Ancient Egyptian Medicine, 69. For penis sheaths in general, see: J. Baines, “‘Ankh-Sign, Belt and Penis Sheath”, SAK 3 (1975), 1-24.

155 R. Caminos, Late Egyptian Miscellanies, 402 and Urk I, 102.12-16 respectively. Papyrus Anastasi III (5,5-6,2) likewise notes that soldiers carried their own supplies (bread and water) and that the weight left a ridge in the soldier’s neck, the same as what happens to an ass, R. Caminos, Late Egyptian Miscellanies, 92.

156 D. Redford, The Wars in Syria, 201.

157 Ibid., 195-201. Spalinger, on the other hand, estimated a smaller Thutmoseid army, possibly numbering only 5,000 (or less) men, War, 35-7 and 149-50. He further calculated that 2,500 soldiers would have theoretically required 3,000 animals to transport the required food and water (for both man and beast) for 10 days without replenishment, ibid., 36-8.
issued their weapons, for campaigns into Asia, at the fortress of Tjaru,\textsuperscript{158} and from the reliefs of Ramesses III, we find an excellent representation of one of these weapons distribution centres.\textsuperscript{159} Recruits are depicted marching in from the left to pick up their weapons before they proceed into battle against the Sea People menace descending upon Egypt. The weapons issued include spears, bows and quivers, sickle-shaped swords, shields, and what appear to be helmets. Their distribution is overseen by scribes and other military officials.\textsuperscript{160} A similar policy was likely in effect for military campaigns into Nubia, with the fortress of Mirgissa possibly serving as an arming station during the Middle Kingdom (see Chapter IV).

The bulk of the army’s supplies, however, would have been carried by porters, animals and carts all of which made up the baggage train.\textsuperscript{161} Jonathon Roth identified four different kinds of trains of which two have possible relevance here.\textsuperscript{162} The first type was attached to an individual unit but it is difficult to ascertain whether the Egyptians followed this practice. The second type of train carried the provisions for the army or division as a whole. This would include everything from tents for the troops,\textsuperscript{163} foodstuffs, water, fodder and so forth (essentially the bulk of the supplies). In the Qadesh battle reliefs we see for the first time all the main components of a typical supply train: donkeys; oxen with wagons; and porters.

The use of the donkey (or ass) for military purposes dates back to the Old Kingdom period and probably even earlier. That the donkey was used for non military

\textsuperscript{158} A. H. Gardiner, \textit{LEM}, 109: 10,5 and 108: 9,9. This was where the soldiers of Ramesses II likely received their weapons prior to the Qadesh campaign of Year 5. The capital of Piramesses has, however, been suggested as a possible alternative: J. Wells, \textit{War in Ancient Egypt}, 20.

\textsuperscript{159} \textit{Medinet Habu II}, pl. 29.

\textsuperscript{160} G. A. Gaballa, \textit{Narrative}, 122. The army scribe, in fact, appeared to play a significant role in logistic affairs, at least according to Papyrus Anastasi I, see: A. Malamat, “Military Rationing in Papyrus Anastasi I”, 114. For weapons storage facilities, see also: Chapter IV: \textit{Strategic Level Logistics}.

\textsuperscript{161} For porters, see: R. Partridge, \textit{Transport}, 86.

\textsuperscript{162} J. Roth, \textit{Logistics}, 79-91.

\textsuperscript{163} Tents are, for example, seen in the camp of Ramesses II outside of Qadesh and possibly in Bologna fragment 1889 (see note 198 below for reference). For tents in general, see: J. Hoffmeier, “Tents in Egypt”, 13-28. Hoffmeier noted that living in a tent during a course of a campaign would have been acceptable for a short period of time, but not on a permanent basis, \textit{ibid.}, 22. Tents appeared to be the main source of shelter for the Libyans during the attempted invasion of Egypt that took place in Year 5 of Merenptah’s reign. These were burnt to the ground following the Egyptian counterattack, C. Manassa, \textit{The Great Karnak Inscription}, 13-4.
purposes even earlier than this is clear from the evidence.\textsuperscript{164} Donkeys were used equally for carrying loads over short or long distances and frequently accompanied expeditions carrying all vital supplies. Among the best known of the early expeditions to make use of this animal were those conducted by Harkhuf.\textsuperscript{165} The duration of these expeditions was especially long, seven months for the first and eight months the second, and assuming a rate of march of 15 km per day, they could have covered some 2-3,000 km (or more) in a round trip to Yam.\textsuperscript{166} As well as their ability to traverse such distances, it is also clear that a relatively efficient pack saddle had been developed at an early date ensuring that the donkey was able to carry moderately heavy loads. The Sinai inscriptions, for their part, provide us with an indication of the numbers of donkeys that could accompany these far flung expeditions. It has been estimated, for example, that the number of donkeys was only slightly lower than the number of individuals taking part.\textsuperscript{167} Of note, the inscriptions also highlight the fact that these expeditions were conducted by boat with the donkey caravans accompanying them on land.

\textsuperscript{164} A. Nibbi, “Some Remarks on Ass and Horse in Ancient Egypt and the Absence of the Mule”, ZÄS 106, (1979), 148-68 and fig. 6 in particular which shows domesticated donkeys towing a boat.


\textsuperscript{166} See the discussion in: D. O’Connor, “The Locations of Yam and Kush”, 27-30. Knowing the departure point and the route taken would of course aid us in ascertaining the location of Yam. However, there are other variables to consider. If one pushes the speed up to 20 km (which is very reasonable) then the estimations for distance travelled change significantly. For the first expedition which lasted 7 months (200 days (minus the 10 day stop at Yam)) x 20 km travel per day would equal 2000 km each way. That is an extra 500 km over Edel’s estimate. Pushing the rate up to 24-5 km is also feasible but this would likely be the maximum speed obtainable and may not have been sustainable: 7 months (200 days) x 25 km would equal 2,500 km! One would still need to know the starting point for the expeditions and take into account other factors including: difficult terrain; rest days (which Edel did not factor in); other stops en route; how long the expedition remained in Yam (10 days is an estimate); and how much weight the donkeys were carrying. Factoring in rest days alone (of one day per week) could easily knock 300 km (each way) off the distance travelled. Sadly, the duration of the third expedition is not given, although this too may have covered a substantial distance.

\textsuperscript{167} A. Nibbi, “Some Remarks on Ass and Horse”, 154. The number of donkeys taking part in expeditions to the Sinai, Toshka, and Wadi el-Hudi could number into the several hundreds, I. Shaw, “Master of the Roads”, 260. From the Sinai inscriptions, Middle Kingdom expeditions could be accompanied by as many as 500 donkeys: A. H. Gardiner and T. Eric Peet, The Inscriptions of Sinai, 112-3 (no. 110). Other inscriptions in which donkeys participated, include: no. 112 \textit{ibid.}, 113-6 (200 donkeys); and no. 114 \textit{ibid.}, 116-8 (284 donkeys).
Overall, the donkey was an excellent desert animal and was able to subsist on a very basic diet making it ideal for military use.\textsuperscript{168} According to later records, this animal was well regarded, and for civilian or trade purposes it was allowed to proceed at a leisurely rate.\textsuperscript{169} For earlier times this was likely true as well, but there is at least one recorded instance of mistreatment.\textsuperscript{170} However, such animals in military service have a long history of being driven beyond their endurance generally due to circumstances beyond the control of their handlers. The weight carrying capacity of the donkey has been widely discussed and estimates for military and civilian service do vary widely. On the lower end of the scale, 50 kg divided into two equal parts is the recommendation of the British Army whereas others place the combined manageable load between 70 to 90 kg.\textsuperscript{171} There are, however, references in the Egyptian papyri from the Hellenistic and Roman periods to donkeys carrying over 175 kg, while other estimates place their maximum carrying capacity between 200 and 300 kg for short distances.\textsuperscript{172} Roth considered 100 kg to be an ideal estimate for a typical load. It does not appear that the animal was used as a draught animal and was almost exclusively utilised for its pack carrying capabilities.

The average speed of a donkey has been estimated at 4.0 kph and it was able to cover 24 km (in six hours marching) in one day.\textsuperscript{173} In order not to do the animal any damage, however, it needed to be rested one full day at regular intervals. If, for example, the donkeys were rested once every week, they could travel with a moderate load for 24 or so km a day for six days thus giving the army an operating radius of almost 150 km per week. However, such rest days probably did not occur that

\textsuperscript{168} See our comments above, in addition to: A. Nibbi, “Some Remarks on Ass and Horse”, 153; and R. Partridge, \textit{Transport}, 95.

\textsuperscript{169} A. Nibbi, “Some Remarks on Ass and Horse”, 153.

\textsuperscript{170} D. Brewer, \textit{Domestic Plants}, 100. On the one hand, the donkeys in the Qadesh camp all appear to be well provided for with at least one of the animals being hand fed: W. Wreszinski, \textit{Atlas} II, pl. 82. On the other hand, the donkeys being slaughtered by Ramesses III in a scene from Medinet Habu show that Egyptian policy towards these animals could be quite harsh, \textit{Medinet Habu} II, pl. 116.


\textsuperscript{172} J. Roth, \textit{Logistics}, 205. Anthony Spalinger, for instance, estimated a carrying capacity of 220 kg, \textit{War}, 35.

\textsuperscript{173} A. Dent, \textit{Donkey}, 165 carrying a load of around 73 kg; and A. Nibbi, “Some Remarks on Ass and Horse”, 155.
frequently and according to the U.S. Army’s (conservative) estimates, the mule, for example, was theoretically capable of marching continuously up to 365 days depending on its speed and load.  

Pack animals in certain situations had a number of advantages over wagons for as well as being versatile, they required less physical space and were generally less expensive. The donkey, in particular, was quite cost effective in that if well maintained, it could survive into its fortieth year. It was also capable of reproducing, which was a further advantage.  

The best preserved examples of donkeys in active military service are to be found in the Qadesh reliefs. In one scene from Abu Simbel in particular, we see the train on the move. The four donkeys are depicted loaded with their packs, and each is under the care of a stick wielding attendant. If we are to believe Pap. Koller, however, each donkey in fact required two attendants. We also find a number of them within the battle camp’s perimeter in the process of consuming their meals. Each animal is associated with a double pack and each appears to have at least one individual as an attendant. From the layout of the camp, as represented in the Qadesh reliefs, the donkeys and their loads occupied the outer portions of the camp and were kept separate from the (human) living areas and also from the oxen and horses. Other representations of donkeys carrying loads are not particularly common. An exception is a scene depicting Asiatic Nomads at an Egyptian border post which shows off the carrying versatility of their pack animals. One is carrying some objects including a spear (pointed away from the donkey’s head!), while another is carrying two children.  

The question of how widely the mule was used from Dynasty XIX onwards is still open to question, if indeed it was used at all. Mules were generally more favoured

---


175 J. Roth, *Logistics*, 202; and D. Engels, *Alexander the Great*, 15. Philip of Macedon avoided using carts due to their many disadvantages. This policy was generally adhered to by Alexander as he too found that they were slow and reduced his mobility, although he did use carts for the transportation of siege equipment.


178 R. Caminos, *Late Egyptian Miscellanies*, 431.

179 They are seen in the Luxor, Ramesseum, and Abu Simbel reliefs, see respectively: W. Wreszinski, *Atlas II*, pls. 82, 92a, and 170. The Hittites also make use of this animal, *ibid.*., pl. 23.

for military use for a number of reasons. They were stronger than donkeys and thus were able to carry heavier loads and travel longer distances. Mules also tended to be faster than donkeys and were more surefooted.\textsuperscript{181} Yet as Nibbi pointed out, mule breeding was not only difficult and wasteful (mule-fouls were often sterile), but also required the “services” of a female horse which may not have been readily available.\textsuperscript{182} It is therefore highly unlikely the mule was employed by the Egyptian military to carry supplies.

Although occasionally used as a source of fresh meat, oxen were primarily utilised as a draught animal. Their ability to pull heavy wagon loads made them ideal for not only civilian but also for military purposes.\textsuperscript{183} Estimates as to how fast an ox drawn wagon could travel do vary considerably. At the lower end of the scale some consider they could only manage 15 km a day while others believe that 19-24 km each day may be a more realistic estimate, and this was probably closer to the truth.\textsuperscript{184} In addition, estimates for the load carrying capabilities of the wagons have also been open to interpretation. Roman sources place the recommended (not maximum) load for wagons at around 352-393 kg.\textsuperscript{185} Other, more modern estimates, consider the figure to be around 500-550 kg, that is, for a two wheeled wagon drawn by two

\textsuperscript{181} J. Roth, \textit{Logistics}, 206. They were able to maintain an average speed of 7.2-8 kph. This is a slightly higher estimate than is provided by other sources. A. Nibbi, “Some Remarks on Ass and Horse”, 155 places their speed at around 4.8-6.4 kph and A. Goldsworthy, \textit{The Roman Army at War}, 293 recommends 4.8-5.2 kph. For a more detailed study, however, see: H. Daly, \textit{Manual}, 145 (table 3) which gives the optimum weight, speed, distance, and number of days continuous travel that a mule can handle. For a more detailed comparison of the mule and ass, see: L. Calder, “The asses’ lot”, in \textit{Essays in Classical Archaeology for Eleni Hatzivassiliou 1977-2007}, D. Kurtz \textit{et al.} (eds.), (Oxford, 2008), 156.

\textsuperscript{182} A. Nibbi, “Some Remarks on Ass and Horse”, 167-8. Hinnies, the offspring of a female donkey and male horse, are likewise incapable of breeding, J. Clutton-Brock, \textit{Horse Power}, 86. See also: K. Hansen, “‘Mules’ of the 18th Dynasty”, in \textit{Ancient Egypt, the Aegean, and the Near East: Studies in Honour of Martha Rhoads Bell I}, J. Phillips (ed.), (San Antonio, 1997), 219-26. Hansen argues that the so called “mules” depicted in four New Kingdom scenes are in fact Persian onagers.

\textsuperscript{183} Although, these animals and their carts did require roads that were of reasonable quality.

\textsuperscript{184} Spalinger, for example, noted that this animal may have been capable of only five hours work per day and when combined with their slow speed of 3.2 kph meant they could only cover 16 km in a single day’s march thus making them slower than the rest of the army. Therefore, he believes, it was unlikely that they were employed by the Egyptians on longer campaigns, \textit{War}, 35 and 130. On the other hand, distances of 20 km and more were achieved by the oxen trains in the American West: J. Roth, \textit{Logistics}, 211. Roth adds that South African oxen had an endurance of 10 hours and as such could cover 32 km in a single day.

\textsuperscript{185} A figure that is followed by some Roman historians: A. Goldsworthy, \textit{The Roman Army at War}, 293.
animals. A four wheeled wagon could carry even more, up to 650 kg according to one estimate. Visual representations of ox drawn wagons from the Egyptian sources are unfortunately quite rare. However, returning to the Qadesh scenes we do find some interesting examples. From Abu Simbel we see depicted a two wheeled wagon, part of the baggage train, being pulled by a single ox. Like the donkeys, this ox is accompanied by an attendant. Within the Egyptian camp, a number of two wheeled wagons (each with six spokes) can also be seen along with their oxen. They are grouped together along with the chariots and horses and separate from the donkeys. The wagons appear to be of more than one type – possibly for the transportation of different supplies. The Hittite forces, on the hand, appear to use four wheeled wagons possibly drawn by two oxen. As noted above, the Egyptian wagons appear to be drawn by just one animal. Whether or not this was artistic license is difficult to say and it is possible more beasts could have been utilised. Representations of wagons with four oxen, for example, are seen in the reliefs of Ramesses III. The wagons here belong to the Sea People invaders, and it has been suggested that the extra pair (the outermost pair) were not actually needed to assist in the load pulling but were simply harnessed as an efficient way of keeping them under control. A rock carving dated to Year 22 of Ahmose is likewise of interest. The image shows six oxen pulling a large block on a sled. The oxen are accompanied by three non Egyptian attendants. Of further interest, is the inscription recording the Year 3 expedition of Ramesses IV into the Wadi Hammamat. This required that supplies be transported for approximately 9,000 men and in order for this to be accomplished, ten wagons were required each being pulled by six spans of oxen. Oxen did have additional uses

186 J. Roth, *Logistics*, 211-2. A. Goldsworthy argued that a single ox could pull only around 181 kg at 3.2-4.0 kph for 7-8 hours each day and had a weekly range of 96 km (with the remaining time resting and grazing), *ibid.*, 293.


188 See, respectively: *ibid.*, pls. 82 (Luxor), 92a (Ramesseum), and 170 (Abu Simbel).

189 As noted in the Abydos Qadesh images, *ibid.*, pl. 23.


192 *KRI VI*, 12-14; or six oxen each as noted in L. Bradbury, “Reflections”, 148.
beyond the transportation of food supplies. They were utilised on at least one occasion by Thutmose III to transport prefabricated boats on carts to the Euphrates.\textsuperscript{193}

Making up the baggage train were the non-combatants who can be divided simply into those who were essential to the army and those who were non-essential. The latter would include any individual who did not directly assist in maintaining the fighting ability of the soldiers and their equipment.\textsuperscript{194} Essential non-combatants, on the other hand, included animal attendants, doctors, scribes, and porters who were all vital in their own way. Arguably, it appears the Egyptian army likely campaigned with a small number of what we would consider non-essential personnel, but collectively these individuals likely formed only an insignificant part of the logistics tail of the army. The presence of what appears to be essential non-combatants or porters in combat scenes, on the other hand, was more substantial and is attested from a very early date. In the scene from the tomb of Khaemhesy, we see a single individual carrying an unidentified object, while in the city assault scenes from Beni Hasan we see certain \textit{unarmed} individuals bringing up supplies to the fighting forces.\textsuperscript{195} The supplies in question appear to be additional weaponry such as spears and possibly even arrows. Another scene of interest, from the tomb of Ken-Amun, depicts servants carrying weapons and other equipment including a quiver, sandals and other objects belonging to their master.\textsuperscript{196}

In the Qadesh battle scenes we see a number of individuals who, due to their diminutive size, may be military cadets. In the Abu Simbel supply train, a single young (?) figure is shown carrying supplies on a pole over his shoulder.\textsuperscript{197} This small scene raises a number of questions. Did the Egyptians utilise young adults as porters? Such cadets may have served in the army providing logistical support (carrying

\textsuperscript{193} Urk IV, 1232.11-12; and D. Redford, “Egypt & Asia in the New Kingdom: Some Historical Notes”, \textit{JSSEA} 10 (1979/80), 64-5.

\textsuperscript{194} Although some may argue that a fine line may exist here. For example, it may be morally beneficial for a soldier to take his wife (and children) along on campaign. If every soldier were to do so, however, the resulting demand on logistics could be too great, and even if this demand was somehow met, the army would become too unwieldy to effectively defend itself in combat.

\textsuperscript{195} P. Newberry, \textit{Beni Hasan} I, pls. XIV, XVI and XLVII; and P. Newberry, \textit{Beni Hasan} II, pls. V and XV. William Hayes believed these soldiers are carrying javelins (within a case) and actually used the term “ammunition parties” to describe them, \textit{The Sceptre of Egypt}, 278.

\textsuperscript{196} N. de Garis Davies, \textit{The Tomb of Ken-Amūn at Thebes} (New York, 1973), pl. XXXV.

\textsuperscript{197} W. Wreszinski, \textit{Atlas} II, pl. 170.
supplies, feeding and maintaining the animals) as well as receiving indirect combat experience from the fighting troops. If this was the case, the Egyptians, whether intentionally or not, installed upon these cadets at a very early age a sense of responsibility regarding the proper supply and maintenance of an army in the field. The second question concerns the animal attendants. They are obviously older than the porters but did they serve as soldiers as well? If they were non-combatants and the Egyptians needed a man for each animal (more or less) then this must have swelled the size of the army. What appears to be another supply column is seen in a fragment from Bologna.\textsuperscript{198} The fragment, which originally came from the tomb of Horemhab,\textsuperscript{199} depicts a porter carrying two amphorae suspended from a single pole across the back of his shoulders. As he heads towards the right, a group of soldiers advance from that direction carrying what may either a folded tent or a trimmed log.\textsuperscript{200} In between a scout rides his horse bareback. Within the Qadesh camp enclosure, young attendants are shown engaged in various camp chores including attending some of the soldiers as well as the donkeys. For example, in the Ramesseum camp scene, one cadet is bringing a seated soldier what looks like a bowl of fruit while above this pair, a young man is attending a donkey.\textsuperscript{201} Other young individuals are seen throughout this camp representation as well as the other two camp scenes either tending the donkeys or the soldiers.\textsuperscript{202} Porters were also among the participants of the Wadi Hammamat expeditions of Ramesses IV (see note 77).

While evidence for medical personnel or “medics” accompanying the army on campaign is not considerable, we may, however, infer the presence of physicians on the battlefield from the accurate recording of battle injuries and trauma seen not only in certain medical papyri, but also in a number of battle reliefs.\textsuperscript{203} In his analysis of Sety’s Karnak reliefs, for example, Gonzalo Sanchez, suggested that the artists

\textsuperscript{198} G. T. Martin, \textit{The Memphite Tomb of Horemheb}, pls. 32 and 34 (Bologna 1889).

\textsuperscript{199} For discussion, see: J. Capart, “The Memphite Tomb of King Haremhab”, \textit{JEA} 7 (1921), 31-5.

\textsuperscript{200} The latter was suggested by: A. Schulman “Representations of Horsemen”, 265.

\textsuperscript{201} W. Wreszinski, \textit{Atlas} II, pl. 92a.

\textsuperscript{202} \textit{Ibid.}, pls. 82 and 170.

\textsuperscript{203} It has been suggested, for example, that the author of the Edwin Smith Surgical Papyrus may have participated in an actual military campaign attending to the wounded, J. Filer, “Ancient Egypt and Nubia as a Source of Information for Cranial Injuries”, 50.
possibly consulted military experienced physicians in order to recreate in pictorial form, the very realistic battlefield injuries that are depicted.\textsuperscript{204} Further evidence may also be found in the battle of Qadesh camp scenes. In the scene from Abu Simbel, we see a soldier (top left corner) having his foot attended to, possibly by a medic.\textsuperscript{205} A similar image is found in the Luxor camp (top left), as well as the Ramesseum camp (bottom left corner). Sickness, and in particular contagious diseases, would have been a serious issue, and it was probably to combat epidemic typhus that soldiers were expected to shave their heads.\textsuperscript{206} Other diseases, such as the water-borne diseases cholera and typhoid, could also have been a problem.\textsuperscript{207} The question remains, however, as to what happened to the wounded following a battle. The \textit{Strategikon} notes that prompt medical treatment should be given not only for religious reasons but for maintaining morale.\textsuperscript{208} Methods of transport among the Greeks included the following: soldiers limping to safety on their own accord; use of a litter; being slung over an animal; or placed in a cart or ship.\textsuperscript{209} On the other hand, wounded could be left on site as was Alexander’s practice at Issus.\textsuperscript{210} Overall, considering that a number of other early armies possessed some form of medical care and ability to evacuate

\textsuperscript{204} G. Sanchez, “A Neurosurgeon’s View”, 158.

\textsuperscript{205} W. Wreszinski., \textit{Atlas II}, pl. 170.

\textsuperscript{206} N. Ebeid, \textit{Egyptian Medicine in the Days of the Pharaohs}, (Cairo, 1999), 348.

\textsuperscript{207} The existence of these two diseases in Pharaonic Egypt, however, has yet to be proven. For the deprivations of a soldier, see Pap. Lansing: “he drinks water every three days, and it is smelly and tastes like salt”, R. Caminos, \textit{Late Egyptian Miscellanies}, 401. Mongol armies were especially aware of the dangers of contaminated water and had procedures in place to limit outbreaks of water related diseases, T. May, \textit{The Mongol Art of War}, 68.

\textsuperscript{208} \textit{Strategikon}, 70.

\textsuperscript{209} R. H. Sternberg, “The Transport of Sick and Wounded Soldiers in Classical Greece”, \textit{Phoenix} 53 (1999), 191-205. There was an apparent improvement in casualty evacuation from the 5\textsuperscript{th} to the 4\textsuperscript{th} Centuries BC which had a positive effect on morale, \textit{ibid.}, 198-9 and 202. The “moral effect” was also noted by the Byzantines in that if the wounded were neglected, “the rest of the troops will deliberately not fight well”, see Maurice’s \textit{Strategikon}, 86.

\textsuperscript{210} Arrian, II.7. The number of wounded resulting from a particular battle could vary considerably. In their analysis of six ancient battles, Richard Gabriel and Karen Metz noted the percentage of wounded varied from 13.3% (Pharsalus) to 68.0% (Mactaris) for the defeated side, \textit{From Sumer to Rome}, 87. For four modern wars involving Union and US soldiers, the percentage of wounded was less extreme ranging from 37.3% (WW II) to 46.6% (Civil War), \textit{ibid.}, 89.
wounded, it would seem reasonable to believe that this was the case for the Egyptians as well. 211

While not an official part of the baggage train as such, prisoners captured during the course of a campaign had both a positive and negative logistic impact. As well as the need to provide sufficient provisions for the soldiers and non-combatants on campaign, it was also necessary to provide for any prisoners taken during the course of a campaign. Their rations would undoubtedly have been significantly lower than what the Egyptian troops received, but would have still needed to have been adequate enough to ensure they did not become emaciated. Since captives were generally awarded to outstanding soldiers, or were used as slaves for state run enterprises, it was in their captive’s best interest to keep them reasonably healthy. Prisoners were often shackled together and were placed under the responsibility of their guards. Papyrus Lansing makes an interesting and possibly truthful point that the guards may actually have provided physical support to weakened prisoners thus increasing that soldier’s burden. 212 Various scenes depict prisoners and other captives, men, women, and children being led away from the battlefield. Some are less lucky than others and are subjected to punishment by their minders. 213 In the case of the Horemhab scenes, the rather youthful appearance of the guards has been commented on, and it is quite likely the young “cadets”, also seen depicted engaging in various camp chores at Qadesh, were expected to help take care of the prisoners. Prisoners, however, likely could have assisted in carrying supplies and plunder so their negative logistic impact may have been cancelled out or even reversed.

In summary, the utilisation of supply or baggage trains had a not too insignificant impact on strategic planning. The army that relied on a baggage train could move only at certain predetermined speed. In the case of the Egyptians, who

211 From the Strategikon, for example, we also learn that medical corpsmen followed behind the infantry to take care of the wounded, ibid., 15. Muslim commanders ensured their armies had sufficient medical supplies available and mules, accompanied by doctors, were used to transport barley broth and biscuit, as well as litters for the wounded, H. Kennedy, The Armies of the Caliphs, 132. Even within the Mongul army, some form of medical care (and evacuation) was available but a great deal of reliance was still placed on shamans, T. May, The Mongol Art of War, 65-8. On a lighter note, the Prince of Aleppo received a form of medical assistance after being dragged from the Orontes River, W. Wreszinski, Atlas II, pl. 101. On the other Hittite fallen at this battle, see our comments in Chapter I note 122.

212 R. Caminos, Late Egyptian Miscellanies, 402.

employed donkeys and later oxen with carts, the top attainable speed of their train was a brisk 4 kph dropping to 3.2 kph if accompanied by oxen. Assuming that the army marched between five and six hours each day, averaging between 3-4 kph, a speed that would have enabled both donkeys and oxen to keep pace with the foot soldiers and the chariotry, then the army would have been able to cover around 22 km in a single day’s march. In addition, the marching time and speed would also have ensured that the animals did not become too worn out, even if they were loaded to maximum capacity and had to march continuously. The rate of march agrees quite nicely with the estimation that an itr is equal to around 11 km. It was likely that the Egyptian army was expected to march at least 2 itr.w each day. Scouting parties, on the other hand, would likely have needed to cover even greater distances. For example, a luckless unnamed Medjoy patrolman complained of the fact that he had to march four itr.w each day (approximately 42 km).

The train also dictated which routes the army could take. Ideally, good roads were needed, in particular, for the oxen and their unwieldy carts. Donkeys would have been more versatile in this respect, yet travelling over terrain that was less than suitable would have significantly reduced their range and speed. Being tied to roads results, however, in another paradox of war, that is, from a military point of view the

214 Horses, for their part, had an average pace of around 6.4 kph: A. Spalinger, War, 34.

215 RITANC II, 35.

216 See discussion in A. Schwab-Schott, Die Ausmasse Ägyptens nach Altägyptischen Texte (Wiesbaden, 1981), passim. Compare these figures with those taken from another place and time. American soldiers during the Yorktown campaign of 1781 marched 322 km in 15 days – an average speed of just over 21 km per day. Another force, however, led by Rochambeau marched 354 km in just eleven days (over 32 km per day) yet this appears to have been an exception rather than the norm: J. Huston, The Sinews of War, 79 and 81. Assyrian armies appear to have been capable of marching two “double hours” per day which generally averages out to 21 km or less, H. Verreth, “The Egyptian Eastern Border Region in Assyrian Sources”, JAOS 119 (1999), 236 and note 21. The Ottoman army likewise was theoretically capable of maintaining a similar rate of march, of 22 km per day, although actual march rates were likely considerably slower, R. Murphey, Ottoman Warfare (London, 1999), 65-70. Roman forts within the frontier area were situated normally one day’s march apart (22 km), although on the frontier itself, they were spaced at intervals of around 10 km (or half a day’s march), D. Breeze, “Regiments and Frontiers: Patterns of Distribution on Rivers and Artificial Frontiers”, in Roman Frontier Studies 1995: Proceedings of the XVth International Congress of Roman Frontier Studies, W. Groenman-van Waateringe (et al.), (Oxford, 1997), 73.

217 This would have been possible only for small, lightly armed, groups. For this text in question, see the article of J. C. Darnell, “A Stela of the Reign of Tutankhamun from the Region of Kurkur Oasis”, SAK 31 (2003), 82-3; and more recently, J. C. Darnell and C. Manassa, Tutankhamun’s Armies, 115. It is uncertain as to whether or not our patrolman was mounted, ibid., 83-4. Darnell correctly noted, however, that larger groups “encumbered by animals” and units not engaged in forced marches would likely only achieve a daily rate of 20-24 km.
“best” road is often the worst road to take. Every time the Egyptian army advanced into Asia, its likely routes would have been well known to any potential enemy thus making ambushes and intelligence gathering a relatively simple task. The best roads in Asia also tended to be those that were controlled at key points by cities with formidable defences which needed to be in friendly hands as bypassing them was not really an option. A second factor to consider was the vulnerability of the baggage train as it needed to be well protected from possible enemy attack. While the Egyptian battle reliefs do not generally depict attacks on enemy baggage trains (although they are occasionally represented) we are provided with a possible exception. In one of the scenes depicting the Sea Peoples attack during the reign of Ramesses III, Egyptian soldiers and their allies are seen attacking a line of enemy carts which appear to hold civilians. This was likely their main, if not only, baggage train. Nonetheless, carrying supplies with the army did have certain advantages. Baggage trains were an absolute necessity especially when crossing inhospitable regions or travelling through lightly populated area. It gave an army a higher level of strategic freedom and a certain degree of independence from having to rely on the local population. It also enabled an army to dwell longer in one location than would otherwise have been possible.

Transportation of Resources

The transportation of resources from a single rear storage facility, or a number of such facilities, to military assets located within a strategic theatre represents the highest level of logistic organisation that is currently possible, and as such is the one that most modern armies today rely upon. Transportation of supplies was most commonly accomplished either on water or land (or a combination of both). The advantages of moving supplies by water is that it is generally quicker, large volumes of material can be moved with each shipment, and overall, it was far less expensive.

218 See: E. Luttwak, *Strategy, passim*, for this as well as other paradoxes of war. Even non military expeditions may still require the services of the army in order to ensure roads remained free of unruly elements, as noted with the large expedition of Henu where the “army […] cleared the way before, overthrowing those hostile toward the king”, see: L. Bradbury, “Reflections”, 131.

219 As cautioned in the *Strategikon*, 58-9.

220 *Medinet Habu* I, pls. 32 and 34.
than transporting supplies by land. The Romans in particular made great use of barges to ship supplies from depots to inland frontline positions and as such rivers played an important part in their military strategy. The Egyptians also were quite capable, from a technological point of view, of shipping significant quantities of supplies abroad as noted with Merenptah who sent grain by sea to the ailing Hittite Empire. Whether or not the Egyptians actually shipped supplies by water to their army while it was on campaign is another question entirely. There is, in fact, no evidence that this actually ever happened. From the annals of Thutmose III we learn that certain harbours were captured and they were provisioned, but apparently not from supplies sent from Egypt. Rather the supplies were collected from the surrounding area and stored at these port cities. The cities were important, not so much as they provided access to the sea, but because they effectively controlled portions of the strategically important Via Maris. By the Ramesside period, roads were more important than sea lanes. This was true not only for the Egyptians, but also for the Hittite empire. Both were essentially land powers and both relied extensively

\[\text{221} \quad \text{J. Roth, } \text{Logistics, } 189-97. \text{ It has been estimated that land transport was 40 to 50 times more expensive than sea transport, } \text{ibid., } 199.\]

\[\text{222} \quad \text{Ibid., } 196-7 \text{ and } 281-2.\]

\[\text{223} \quad \text{KRI IV, } 5.2-3. \text{ The carrying capacity of grain transports could be considerable. For example, among the “fleet” (rather } \text{wdyt} \text{) of } 21 \text{ grain transports working in Upper Egypt during Dynasty XX, one vessel alone carried just over } 1,000 \text{ sacks ( } h3r \text{) of grain (almost } 60 \text{ tonnes?)}, \text{ J. Janssen, } \text{Grain Transport in the Ramesside Period: Papyrus Baldwin (BM EA 10061) and Papyrus Amiens (London, 2004), } 4-5 \text{ and } 20-1. \text{ Of particular interest, the grain ration for the crews of some of these vessels is also preserved and while the totals vary, each crew received on average } 46.3 \text{ sacks (972.3 sacks in total). Unfortunately, there is no correlation between the rations received and the cargoes carried which would tend to indicate differences in journey duration and crew composition, } \text{ibid., } 27-30. \text{ Only in one instance are details provided regarding the breakdown of rations per crew member with respect to journey duration. In Pap. Baldwin IV line 12, the crew receive } 11 \text{ } 3/4 \text{ sacks per month for } 5 \text{ months (the } 8 \text{ men each received one sack, the } \text{‘apprentice’ } 3/4 \text{ sack, and the } 6 \text{ ‘boys’ } 3/4 \text{ sack each), } \text{ibid., } 24. \text{ If one sack (59.2 kg) of grain was equal to } 16 \text{ hekats then the total caloric value (as determined by our earlier calculations) can be estimated as follows: } 137,648 \text{ calories (8603 x16) which when divided over thirty days would provide around } 4,588 \text{ calories per day (this would be sufficient for a family unit). In addition to grain transports, obelisk barges likewise were capable of carry substantial loads with displacements of around } 7,300 \text{ tonnes, B. Landström, } \text{Ships of the Pharaoh: 4000 Years of Egyptian Shipbuilding, (London, 1970), } 129. \text{ While admittedly these vessels were for domestic use, when one considers that the average carrying capacity of a donkey was } 100 \text{ kg the advantages of water transportation are clearly evident.} \]

\[\text{224} \quad \text{Urk IV, } 692.14; \text{ and A. Spalinger, } \text{War, } 112.\]

\[\text{225} \quad \text{Although it has been noted that the term } \text{Via Maris} \text{ refers, in fact, only to the section of road connecting Dan and Tyre, see: L. E. Stager, J. D. Schloen and D. M. Master (eds.), } \text{Ashkelon I: Introduction and Overview (1985-2006) (Winona Lake, 2008), } 3 \text{ and note } 2.\]
on land routes to support their military forces in Asia. In addition, constantly having to supply a military force (especially one that was stationary) can become an expensive affair. Egyptian mentality was always one of supporting an empire with the minimum of operating costs. Taking all of this into consideration, therefore, it was highly unlikely they ever shipped supplies from Egypt to their military forces in Asia. Nonetheless, this option still warrants consideration as one of the key characteristics of this aspect of logistics is the existence of some rudimentary supply network within the strategic theatre. It is beyond question that the Egyptians were capable of shipping supplies in a similar fashion to the Romans, yet for a number of reasons they did not have to rely on this. Instead their primary concern was the need to “ship” their entire army to its destination then back again to Egypt. This, however, could only be accomplished by having a series of self supporting bases throughout the region from where the army could resupply. These bases, whether they be vassal cities, depots or Egyptian manned fortresses, became even more important as the Egyptians expanded their Asiatic empire pushing their frontier further and further north. Thus while the Egyptians relied on a combination of all three of the above mentioned options in order to provision their armies in Asia, it was only with the establishment of a logistics network (the third option), which we will look at in the following chapter, that they were able to successfully campaign in this region.

**Egypt’s Strategic Theatres: A Logistics Perspective**

Any study of logistics must take into the account the actual terrain or geography where the military forces traversed and fought their battles. In the case of the Egyptians, we can conveniently place their military operations into three distinct regions each possessing their own unique geographical advantages and disadvantages. These regions were Asia (Palestine, Transjordan and Syria), Nubia (Upper and Lower), and Eastern Libya. Within each of these regions there were of course further variable logistical considerations such as the impact of political factors, yet it is the

---


227 While the Roman army was proficient with respect to the transportation of supplies, they did, however, share much in common with the Egyptians in that they attempted to make their occupation of foreign lands as cost efficient as possible. With respect to food supplies especially, a major expense of the Roman army, much was done to produce food locally, W. Groenman-van Waateringe, “Classical Authors and the Diet of Roman Soldiers”, 263.
impact of geography alone that must not be overlooked. Ian Shaw, for example, commenting on geography’s more positive aspects noted that routes taken by Egyptian military expeditions often corresponded to “naturally occurring topographical phenomena”. Hilaire Belloc, on the other hand, listed five main geographical obstacles that an army had to overcome which were, in ascending order of difficulty (according to Belloc): rivers; forests; hill country; deserts; and marshes. Although Belloc was concerned more for the defensive values of the above obstacles, each was an obstacle that needed to be overcome from a logistics point of view. In this respect, rivers posed little trouble, whereas forests and mountains would have been more difficult to manoeuvre through especially as the Egyptians occasionally relied on wheeled carts to transport supplies. Deserts regions were difficult to cross and therefore demanded great organisation and preparation. Marshes are not too relevant here but one could substitute this feature for sand dunes which were virtually impassable. Naturally, roads would have facilitated travel but even within Egypt, the road network appears not to have been particularly extensive or durable. What roads that remained, nonetheless, was impressively designed and some pharaonic segments were even utilised by the Romans.

---

228 I. Shaw, “‘Master of the Roads’”, 253.


230 Sand dunes in the Sinai, for example, were capable of reaching heights of up to 100 m. Overall, Belloc does not consider the impact of climate in his discussion, but due to the seasonal nature of the Egyptian campaigns, climate variation was not a major factor for our discussion either.

231 See the useful article of Ian Shaw, “‘Master of the Roads’”. Roads within the Nile Valley include the well preserved 17 km long route which served to link the travertine quarries of Hatnub and the Nile at el-Amarna, ibid., 254. Minor roads have also been found in the vicinity, ibid., 255. Other significant roads that have been uncovered include the following: a 10 km road (2.4 m wide) linking the Gebel Qatran basalt quarries and a “workmen’s settlement” at Qasr el-Sagha, ibid., 255-6; and a 20 km road (23 m wide) linking Dahshur to the Fayyum which likely was meant to service the gypsum quarries of Umm es-Sawwan and possibly even the Gebel Qatran basalt quarries in addition to serving as a military road during the late period, ibid., 256-7. Other roads in Egypt were tied to the irrigation system. That is, with the digging of irrigation canals, the excavated soil was placed on both sides of the ditch forming embankments upon which pathways and roads were formed. The passage of men and animals would have eventually made the surfaces very firm, and as they were well clear of the water levels, flooding would have been for the most part avoided, see: R. Partridge, Transport, 79; and C. Adams, “‘There and back again’: Getting around in Roman Egypt”, in Travel and Geography in the Roman Empire, C. Adams and R. Laurence (eds.), (London, 2001), 139-40. Other important roads, such as what would have serviced the Sinai Peninsula, were of course in existence, but due to their non durable nature, they have not survived in the archaeological record (I am most appreciative to Eliezer Oren for his comments on this point, 2009).

232 R. Partridge, Transport, 81. For comments on the road network and general land travel in Egypt during the Roman period, see: C. Adams, “‘There and back again’”, 140-6.
The impact of geography on logistics did not just affect Egyptian operations at the tactical level but also influenced their policies at the operational and strategic levels, especially with respect to the concepts of command and control. It has been widely noted, for example, that the Egyptians operated two very different systems of “empire” with respect to Nubia and Asia. Part of this difference may be explained on logistical grounds as both regions demanded different solutions to overcome the unique geographical hurdles within each theatre. One could further extend this observation to include Libya as the logistical difficulties associated with this theatre differed significantly from those experienced in Asia and Nubia. As such, Egypt’s system of control in this region was significantly different to what we find in either Nubia or Asia. Finally, one must also take into account the fact that the logistic infrastructures themselves were continually evolving and changing in the areas where the Egyptians were operating. For example, the Egyptian armies of early Dynasty XIX faced a very different political situation in Asia than their predecessors in Dynasty XVIII. As such, the logistics support apparatus had to change accordingly. The one constant that remained, however, was geography. On that note, it would be worthwhile to briefly examine the key geographical features of Egypt’s three strategic theatres. This will provide an important basis for our examination of Egyptian operational capabilities, a subject that will be considered in greater detail in Chapter V.

Asia

Of our three strategic theatres, the geography of Asia was the most varied as it included desert and coastal regions, forested areas, hill country, mountainous regions, and a variable seasonal climate. For any campaigning in this region, one first needed to traverse the rather inhospitable Sinai Peninsula, if one was relying on land forces, the alternative was by sea, bypassing this region altogether. Spanning over 200

---

233 See, for example: S. T. Smith, *Askut in Nubia*, passim.

234 The establishment of Egypt’s various logistic networks will be considered in greater detail in Chapter IV: Logistics Networks.

km from the Eastern Delta to Gaza, the Sinai was devoid of the adequate resources that an army required, and as such it saw extensive investment on the part of the Egyptians noted most prominently with the establishment of a fortress based infrastructure in order to ensure the safe passage of military forces. As this infrastructure was constructed for a predominantly logistic purpose, rather than just for defence (although this also was an important consideration), we will consider these structures in some detail as they serve to highlight the level of investment that can be required to overcome a major geographical hurdle.

This barren coastal strip assumed great importance as the Egyptians extended their control into Asia during the New Kingdom. The region especially needed to be safeguarded as to ensure that the lines of communications and supply remained open and free from troublemakers. In order to achieve this, a network of fortresses and supply points were constructed or rebuilt extending from the eastern Delta into southern Canaan. Although it is Sety I who is credited with the remilitarization of the area, it is clear that there some kind of system was functioning during Dynasty XVIII. It is from Sety’s Karnak reliefs, nonetheless, we find representations of the fortresses and wells which made up this network. Of these stations, the most important and largest was the htm fortress of Tjaru located at Tell Heboua I, which was also the starting point for Egyptian land expeditions into Asia. The fortress, as

---


237 Ibid., 70; and E. Morris, The Architecture of Imperialism, 295.

238 Another important source for this fortress network is Pap. Anastasi I as this lists the stations in North Sinai in addition to major fortified centres in southern Canaan. There is, however, some difficulty attempting to correlate the fortresses represented in Sety’s reliefs with those mentioned in the papyrus, J. Hoffmeier and M. Abd el-Maksoud, “A New Military Site on ‘The Ways of Horus’ - Tell el-Borg 1999-2001: A Preliminary Report”, JEA 89 (2003), 195-6. For a recent and comprehensive discussion of these difficulties, see: E. Morris, The Architecture of Imperialism, 404-43.

239 As noted, for example, in Thutmose III’s Megiddo campaign: Urk IV, 647; and seen in Sety I’s Karnak battle reliefs, RIK IV, pl. 6. For this fortress, see: E. Morris, The Architecture of Imperialism, 45-50, 56-60, 404-10, and 509-11. M. Abd el-Maksoud, “Tjarou, porte de l’Orient”, in Le Sinai duvant l’Antiquité et le Moyen-Age: 4,000 ans d’histoire pour un désert, C. Bonnet and D. Valbelle (eds.), (Paris, 1998), 61-5; M. Abd el-Maksoud, Tell Heboua (1981-1991). Enquête archéologique sur la Deuxième Période Intermédiaire et le Nouvel Empire à l’extrémité orientale du Delta (Paris, 1998); G. Cavillier, “Some Notes about Thel”, GM 166 (1998), 9-18; C. Vandersleyen, “Tjarou”, GM 136 (1993), 85-7. It was originally assumed that this station was located at Tell Abu Sefeh (located 3 km east from El-Qantara), however, and as was shown conclusively by M. Abd el-Maksoud, Tell Heboua is undoubtedly the site of this fortress. This is further vindicated by the fact that no New Kingdom remains have been uncovered at the former site: J. Hoffmeier and M. Abd el-Maksoud, “A New Military Site”, 195-7; and G. Cavillier, “The Ancient Military Road between Egypt and Palestine Reconsidered: A Reassessment”, GM 183 (2001), 23-5.
it is represented in Sety’s battle reliefs, is divided into two parts by a canal (t3 dnit) which is spanned by a bridge.\textsuperscript{240} Although it may appear to be such a simple device, bridges were invaluable for quick and effective transportation over waterways, although it must be stressed that they were not a particularly common feature in this region. That this fortress is depicted as being situated by a canal is of note. This waterway could have been used to bring supplies, via ship, to the army as it prepared itself for the march out of Egypt.\textsuperscript{241} Tjaru itself consists of buildings on both sides of the canal in addition to some sort of parade ground or troop marshalling area (on the east bank). Actual archaeological excavations confirm the site’s importance. The walls, which were 14 m thick, enclosed some 120,000 m\(^2\).\textsuperscript{242} Its logistic importance is especially emphasised by the capacity of its granary which could hold approximately 178.35 metric tonnes of grain.\textsuperscript{243} In short, the construction of this fortress, as well as the others along the “Ways of Horus” each with accompanying water and grain storage facilities, would have considerably eased the logistical difficulties that were faced by armies traversing this region.\textsuperscript{244} Unfortunately, and as we shall see, only a small number of these remaining sites have so far been uncovered.

One of these sites, located a mere 5 km from Tjaru (or more specifically Tell Heboua II), is Tell el-Borg which may be identified as the “Dwelling of the Lion” as noted in the Sety I war relief at Karnak.\textsuperscript{245} Two Egyptian fortresses have been uncovered at this site, one of which appears to have been constructed during the

\begin{itemize}
\item \textsuperscript{240}RIK IV, pls. 6-7. On the nature of this waterway, see the comments of: E. Morris, \textit{The Architecture of Imperialism}, 407-9.
\item \textsuperscript{241}It appears, however, a canal that could have serviced this fort fell some 6 km short, E. Morris, \textit{The Architecture of Imperialism}, 408.
\item \textsuperscript{242}Ibid., 509. The thickness of the walls had been doubled, by the reign of Sety I, from 7 m, M. Abd el-Maksoud, \textit{Tell Heboua (1981-1991)}, 35.
\item \textsuperscript{243}E. Morris, \textit{The Architecture of Imperialism}, 59; and M. Abd el-Maksoud, \textit{Tell Heboua (1981-1991)}, 114.
\item \textsuperscript{244}The situation was just as bleak for invading armies, as was the case, for example, with Esarhaddon in 675 BC, Cambyses in 525, as well as Artaxerxes, see: D. Engels, “Alexander’s Intelligence System”, \textit{CQ} 30 (1980), 329-30 in particular note 16. The major difficulty faced by the invaders was lack of adequate water sources.
\end{itemize}
reigns of Thutmose III or Amenhotep II. This was, however, replaced by the second, later, fortresses constructed either in late Dynasty XVIII or early Dynasty XIX. Of interest, the gate area of this fortress shows a level of destruction consistent with a military attack and it is likely that it was in fact assaulted by the Sea Peoples as part of their invasion of Egypt during the reign of Ramesses III. This would seem to indicate the Sea Peoples had deeply penetrated Egypt’s defensive network. Furthermore, it also appears this fortress, or at least the gate, was not rebuilt and this may serve as an indication of a general wider collapse of Egyptian authority in Asia. The site itself was of particular military importance due its geographical location. East of Heboua I was a coastal ridge which likely marked the ancient coastline during the Middle and possibly New Kingdoms. This route appears, however, to have been impassable to land traffic (this is supported by the fact that no New Kingdom sites have yet been uncovered in this area) as it is punctuated with wide openings to allow water to pass back and forth between the Mediterranean Sea and the lagoon. Rather, one needed to follow a more inland route passing through a narrow strip of land between the lagoon south of the coastal route and the northern end of the Ballah lakes. In order to safeguard this prime piece of strategic real estate, the fortress of Tell el-Borg was constructed for without such an installation, an invading force would have been able to bypass Tjaru altogether gaining unhindered


247 J. Hoffmeier and R. Bull, “New Inscriptions”, 80. The later fortress featured a moat and was square in layout with sides measuring 70 m. See also the preliminary remarks in: J. Hoffmeier and M. Abd el-Maksoud, “A New Military Site”, 189-95. The moat measured 6.4 m across at the top, and was at least 2.5 m deep, J. Hoffmeier and K. A. Kitchen, “Reshep and Astarte”, 127. The reason for the new construction may have been due to flooding to the original fortress, J. Hoffmeier and R. Bull, “New Inscriptions”, 83; and J. Hoffmeier, “Tell el-Borg on Egypt’s Eastern Frontier”, 98.


250 An inscription uncovered from the site even provides us with the name of (one of!) the military units stationed there: sÎ³ ‘Imn, ‘Imn h ’mt n Wsr-m3t-r’ stp-n-r’ ‘inh R’ ‘nh “The Great Company (of) Amun, ‘Amun appears gloriously and victorious for Usimare Setepenre, given life like Re forever”: J. Hoffmeier and M. Abd el-Maksoud, “A New Military Site”, 189.

251 Ibid., 173.
access to the Delta. 252 Further adding to its value, was that the desert regions to the south of the Paleolagoon would have served as an effective natural boundary making any attempts to outflank Tell el-Borg difficult if not impossible.

After leaving Tell el-Borg one likely proceeded to the next station by circling south around the eastern lagoon then turning north towards the Mediterranean coast before finally resuming an easterly march. 253 The next (known) site one would reach is that of Bir el-‘Abd (BEA-10) where the remains of a fort have been found in addition to its logistics specific infrastructure. 254 The site possessed a reservoir designed to collect rain water and possibly also water obtained from nearby wells. 255 The reservoir had considerable storage capacity measuring approximately 10 m x 15 m. 256 In addition, its “embankment” was composed of layers of dark silt while the sides and the bottom of the depression had been lined with thick layers of muddy silt or clay thus effectively making the entire construction quite waterproof. 257 A similar reservoir, also of considerable size, was found in close proximity to the fortress located at Deir el-Balah (see below). Also uncovered from the Bir el-‘Abd site was a large granary consisting of four silos as well as a complex of magazines. 258 The silos were 4 m in circumference with 50 cm thick walls and the walls and floors of these

252 J. Hoffmeier and M. Abd el-Maksoud, “A New Military Site”, 173.

253 Ibid., 197.

254 E. Morris, The Architecture of Imperialism, 295-99 and 511; E. Oren, “Northern Sinai”, in The New Encyclopedia of Archaeological Excavations in the Holy Land IV, E. Stern (ed.), (Jerusalem, 1993), 1389-92. and E. Oren, “The ‘Ways of Horus’”, 78. This fort, over 1600 m² in size, possessed thick mud-brick walls and a large courtyard. The latter contained “brick installations for cooking, baking and storage, hearths, and refuse pits”. This main site appears to have been surrounded by an additional 30 or so smaller sites extending out in a radius of some 3-4 km. The remains found at this site point to a date of occupation of around Dynasty XVII, ibid., 78.

255 The reservoir was located about 200 m away from the fort: E. Oren, “The ‘Ways of Horus’”, 82-3. The term used to describe these constructions is .Handle (t) which is used also for wells both natural and man-made, H. Franzmeier, “Wells and Cisterns”, 47. The choice of constructing reservoirs or cisterns over wells was dictated by the geography. Being located so close to the Mediterranean Sea, they would have collected a great deal of precipitation during the winter months probably enough to fill them for summer use. Attempting to dig wells near this coastal region, on the other hand, may have produced only brackish groundwater, ibid., 47.

256 E. Oren, “The ‘Ways of Horus’”, 82. Larger reservoirs measured up to 20 m x 20 m, H. Franzmeier, “Wells and Cisterns”, 47. The construction of this particular reservoir was dated to late Dynasty XVIII. By late Dynasty XIX it had been filled in.


258 Ibid., 80-1.
silos were lavishly covered with plaster. The granary had an estimated storage capacity for 40 tonnes of grain (legumes) and this would have been more than sufficient to provision an Egyptian army marching through into Asia.\textsuperscript{259} If we assume that each soldier’s daily grain needs weighed approximately 910 grams then 20,000 soldiers would have consumed in one day over 18 tonnes of grain. One would also need to add additional rations for officers and non-combatants as well as some hard fodder for the animals. Sufficient provisions were also needed for the return of the army and for any prisoners being transported back to Egypt. The combined grain storage capacity would still have been sufficient to cope with this demand.

Continuing our easterly march, the army would then come to the site of Haruba (approximately 12 km east of el-‘Arish) which included a fortress (A-289) and an administration centre (A-345).\textsuperscript{260} This latter part of this site featured facilities for baking and cooking as well as large quantities of pottery vessels.\textsuperscript{261} The fort, on the other hand, possessed a massive enclosure wall strengthened with either buttresses or watchtowers.\textsuperscript{262} The only entrance was located on the east side and was protected by a formidable gatehouse which consisted of two large buttresses.\textsuperscript{263} The entrance itself was big enough to admit chariots, and given the fact that a third of the fort’s interior was open ground, it appears the fort could theoretically accommodate a reasonable number of chariots or carts.\textsuperscript{264}

\textsuperscript{259} Or about 44,600 litres: E. Oren, “The ‘Ways of Horus’”, 80; and E. Oren, “Northern Sinai”, 1389.


\textsuperscript{261} E. Oren, “The ‘Ways of Horus’”, 84.

\textsuperscript{262} The walls were around 4 m thick and 6 m high and enclosed over 2500 m\textsuperscript{2}. The buttresses or watchtowers (again 4 m wide) were uncovered on the north wall and at the north-eastern corner. This description of the fortress is as it appeared during its main phase (III): \textit{ibid.}, 87.

\textsuperscript{263} The gatehouse measured 13 m x 12 m and the buttresses 8 m x 13 m. These buttresses had hollow shafts which could be entered into from above via scaffolding of ladders. Oren states further that this space was used for storage and was a common feature in Egyptian Architecture; “The ‘Ways of Horus’”, 87 and 89. The ‘fortress of Migdol’ (from site T. 21), dated to the Saite period, also possessed similar shafts, or to be precise compartments, not just in the buttresses, but also in the walls themselves (better known as casemate walls). These compartments, in some cases, would also have counteracted dampness and aided with drainage, and from an engineering point of view, they would have helped relieve the pressure from the mass of brickwork: E. Oren, “Migdol: A New Fortress on the Edge of the Eastern Nile Delta”, \textit{BASOR} 256 (1984), 10-3.

\textsuperscript{264} The entrance was 16 m long and 3.70 m wide. At a later date (Phase II) it was narrowed significantly, although another entrance was possibly added elsewhere: E. Oren, “The ‘Ways of Horus’”, 89.
<table>
<thead>
<tr>
<th>Site</th>
<th>Sety Relief</th>
<th>Days/km lapsed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tell Qedwa</td>
<td>Wadjet (wð3t) of Sety Merenptah</td>
<td>0 Days/0 km</td>
</tr>
<tr>
<td>Balluza?</td>
<td>Migdol of Menmaatre Husayin (mktr)</td>
<td>0 Days/0 km</td>
</tr>
<tr>
<td>Bir el-‘Abd</td>
<td>Fortress (bhn) of Menmaatre called the 1a...-is-his-protection.</td>
<td>0 Days/0 km</td>
</tr>
<tr>
<td>Unknown</td>
<td>Stronghold (nh3tw) of Sety Menenptah</td>
<td>0 Days/0 km</td>
</tr>
<tr>
<td>Unknown</td>
<td>“the ḫnmt water source of Menmaatre, great of victories”</td>
<td>0 Days/0 km</td>
</tr>
<tr>
<td>Unknown</td>
<td>“the ḫnmt water source sweet water”</td>
<td>0 Days/0 km</td>
</tr>
<tr>
<td>Unknown</td>
<td>“Town which his majesty built anew”</td>
<td>0 Days/0 km</td>
</tr>
<tr>
<td>Unknown</td>
<td>Nekhes of the Ruler</td>
<td>0 Days/0 km</td>
</tr>
<tr>
<td>Unknown</td>
<td>Raphia</td>
<td>0 Days/0 km</td>
</tr>
<tr>
<td>Deir el-Balah</td>
<td>N/A</td>
<td>0 Days/0 km</td>
</tr>
<tr>
<td>Raphia</td>
<td>N/A</td>
<td>0 Days/0 km</td>
</tr>
<tr>
<td>Gaza</td>
<td>N/A</td>
<td>0 Days/0 km</td>
</tr>
</tbody>
</table>

**STRATEGIC LEVEL**

**OPERATIONAL LEVEL**

Fig 3.2: The Sinai Fortresses (after: E. Morris, *The Architecture of Imperialism*, 404-43)
Tents could also have been set up in this courtyard to temporarily house Egyptian soldiers en route to Canaan.\textsuperscript{265} On that note, the skeletal remains from this site provide us with an interesting fact. It appears that this fort, as well as some of the others, was not garrisoned with Egyptian regular troops. Instead, the garrisons were predominantly recruited from the local population.\textsuperscript{266} This fortress underwent major changes (from Phase III to II) which appear to correspond nicely with the contemporary falling fortunes of the Egyptian state. Phases III and II appear to be roughly equivalent to Dynasties XIX and XX, and it is from Phase II where we have our first indication the fortress is no longer operating at full efficiency, and we can further trace its abandonment or destruction during this phase. By the end of Phase II, the site was being occupied by squatters.

The next site of particular importance, moving east, is located near Deir el-Balah. Founded by the Egyptians during the Amarna period, initially as an administrative settlement, this site subsequently became a fortified outpost during Dynasty XIX.\textsuperscript{267} As with the site of Bir el-‘Abd, which also showed building activity during the Amarna period, it is clear that Akhenaten had an interest, at least on an administrative level, in the affairs of this region. However, by Dynasty XIX during the reign of Sety I, this site underwent massive change. A large fortified structure was built with watchtowers at each of its four corners.\textsuperscript{268} Located close to this fortress (and thus protected by it) was a water reservoir which dated back to Dynasty XVIII.\textsuperscript{269} It

\textsuperscript{265} The interior space also housed magazines, storage areas, a kitchen area, as well as public dwelling spaces. The rooms used for dwellings measured 12 m\textsuperscript{2} and the larger public rooms were 25 m\textsuperscript{2}; E. Oren, “The ‘Ways of Horus’”, 92-3.

\textsuperscript{266} In addition, the families of the local troops were permitted to live within the forts or in nearby settlements: ibid., 95.


\textsuperscript{268} E. Morris, The Architecture of Imperialism, 514-27; and T. Dothan, “The Impact of Egypt”, 128-9. The structure was small, measuring 20 m x 20 m and contained at least fourteen rooms within its enclosure. The walls, made from mud brick, were only 2.4 m wide and possibly about ‘two storeys’ high, see also the comments of: A. Kempinski, “Middle and Late Bronze Age Fortifications”, 141. Of note, the construction technique used was a common feature found in other Egyptian buildings and is identified by “a layer of sand along the base of the foundation trench”, T. Dothan, “The Impact of Egypt”, 129. Another common technique seen in the bricklaying of certain New Kingdom sites in the Sinai (notably at Haruba) involved laying the bricks in the foundation level on their narrow end while alternating headers and stretchers made up the second course: E. Oren, “The ‘Ways of Horus’”, 87.

\textsuperscript{269} E. Morris, The Architecture of Imperialism, 516.
would seem, therefore, that this was another of the fortified wells pictured in Sety’s Karnak inscriptions.\textsuperscript{270} As occupation of this site continued through Dynasty XIX, it underwent further change moving away from a military to a more commercial function.\textsuperscript{271} Other forts, while not actually part of the Sinai network, were also constructed so to ensure control over key geographical points. For example, a fortress was established west of the Bitter Lakes and south of the “Ways of Horus” at Gebel Abu Hassa. Although off the beaten track (so to speak), it probably served as part of the inner eastern border defences for this region. \textsuperscript{272} All in all, these fortresses reflected a huge investment on the part of the Egyptians which serves to highlight the importance they placed on logistics.

After the army had cleared the Sinai Peninsula it would reach the first true Asiatic (operational) base – Gaza. From a geographical perspective, there are few more important sites, and as the primary conduit for land travel between Africa and Asia, Gaza occupied a significant decisive point.\textsuperscript{273} Having reached this city, the Egyptians now had now more room to manoeuvre yet the choices as to which route to continue the advance were still limited by geography. The formidable mountain chains and valleys effectively channelled north-south travel to a few key routes one being the strategically important \textit{Via Maris}, while the other main route was inland following the courses of the Jordan, Litani and Orontes rivers.\textsuperscript{274} These rivers, while

\textsuperscript{270} Although, there is the fact that this particular fort (and its reservoir) was neither depicted in these reliefs nor mentioned in Pap. Anastasi I, \textit{ibid.}, 387 and 516-7.

\textsuperscript{271} For example, the reservoir was filled in and part of the area was turned into a coffin construction site, while nearby an artisans’ quarter appears to have been responsible for the construction of burial gifts, T. Dothan, “The Impact of Egypt”, 131-3.

\textsuperscript{272} This fortress was constructed in the style very similar to other Egyptian fortresses found in Palestine. It featured a square layout with walls measuring 14.8 m long but only 0.6 m wide. Entrance was gained via a centrally placed doorway flanked by two buttresses. Admittedly, the rather narrow walls of this structure begs the question whether or not this was a true fortress: F. James and P. McGovern, \textit{The Late Bronze Egyptian Garrison at Beth Shan: A Study of Levels VII and VIII I} (Philadelphia, 1993), 57.

\textsuperscript{273} For Gaza, see: E. Morris, \textit{The Architecture of Imperialism}, 39, 54-6, 391-3 and 442-3.

\textsuperscript{274} See, for example, the detailed studies of: Y. Aharoni, \textit{The Land of the Bible}; D. A. Dorsey, \textit{The Roads and Highways}; as well as M. W. Several, “Reconsidering the Egyptian Empire in Palestine during the Amarna Period”, \textit{PEQ} 104 (1972), 126. The main route passed through a number of important centres including Gezer, Gath, Akko, Ashkelon, and Megiddo. The inland route initially passed through Shuwardata’s Hebron area, Abdu-Heba’s Jerusalem, Lab’ayu’s Shechem, and Megiddo, \textit{ibid.}, 126. The coastal road may not have been favoured as its narrowness in places would have slowed the movements of larger armies, A. Santosuosso, “Kadesh Revisited: Reconstructing the Battle Between the Egyptians and the Hittites”, \textit{Journal of Military History} 60 (1996), 429-30. In addition to
fairly important, could not provide the level of logistic support as did the Nile, in fact, the only river in this theatre that came close was the larger Euphrates. From a transportation point of view, many of these rivers were not navigable at all except for in small boats and for localised travel. The road network, on the other hand, was significantly more extensive and tended to remain at a reasonably high level of development. As such, it provided far better opportunities for manoeuvre than relying on riverborne transportation. Lateral movement by road, for example, across the north-south running mountains and valleys was possible and a number of ancient routes are known to us. Even so, it would not have been too difficult for an enemy to anticipate avenues of advance thus making intelligence gathering on an approaching army a relatively simple affair. Indeed, the most logical, if not expected, step for an army travelling north was to proceed up the Via Maris coastal “highway” passing by the coastal cities of Ashkelon and Joppa. Once the army has reached Joppa the highway moves further inland passing through Aphek before eventually reaching the rich Jezreel Valley – a significant geographical and strategic location. This valley was important as it bisects the central mountain range allowing easy access from the coastal area to the Jordan Valley. An army could therefore avoid the less hospitable hill regions. The valley was also the location of a major junction in the main highway, and its importance is further reflected in the fact that the Egyptians established garrisons and fortresses at certain key cities in the region – one of which

the main “inland” route, there were variations of this option including following the coastal route to the Litani River and then moving inland, or even travelling further north passing Beirut before turning inland towards the Beqa Valley, A. Santosuosso, “Kadesh Revisited”, 430-31. These geographical restrictions continued into Syria.

L. Casson, Travel, 23; and A. Spalinger, “The Army”, 123.

This was especially so in Palestine where the only river of any real consequence is the Jordan, see: Naval Intelligence Division, Palestine and Transjordan, (Oxford, 1943), 25-30. In Syria, the situation was similar with many of the smaller rivers not suitable at all for navigation, Naval Intelligence Division, Syria, (Oxford, 1943), 44-5. The more significant Litani and the Orontes rivers (the latter being the longest river in western Syria) likewise posed difficulties, ibid., 45-8. Only on the Euphrates was real river travel possible but even then certain restrictions applied, ibid., 53-5.

Such as the Hebron to Lachish route, and Jerusalem to the Plain of Aijalon, M. W. Several, “Reconsidering the Egyptian Empire”, 126. See especially: D. A. Dorsay The Roads and Highways of Ancient Israel, for a comprehensive treatment of such routes in Palestine.

This route, however, was not suitable for larger armies (see above). For a detailed discussion of the geography of Palestine, see: Y. Aharoni, The Land of the Bible, in addition to Naval Intelligence Division: Palestine & Transjordan; and Naval Intelligence Division, Syria.
was Beth Shan. A silo uncovered at this city was very similar in construction to the ones found at Bir el-'Abd measuring 4.6 m (outer diameter) x 3.5 m high. This gave it a minimum capacity of 40 m³. The grain contained in this silo would have been sufficient to provide for an Egyptian army passing through as long as they remained for only a single night and returned to Egypt via a different route. The remaining quantity would have been needed by the residents of the adjacent fortress and “governor’s house”. Beth Shan and other cities in the valley would have been responsible for ensuring the army was adequately supplied before it continued its advance. Thutmose III, prior to advancing into this valley to crush the Megiddo revolt, halted at the town of Yehem – some 125 km north of Gaza. It took the king around 11 or 12 days to cover this distance. The difficult terrain between Ashdod and Yehem may have slowed the army. Upon reaching Megiddo an army could continue its advance along the coast passing through the more substantial coastal cities of Akko, Tyre, Sidon, Byblos, Ullaza and Simyra. There should not have been any supply difficulties travelling along the coast and the port of Byblos would have served as another key (forward) operational and supply base. The city of Simyra was possibly the most northern operational base or at least tactical base that the Egyptians possessed.

Alternatively, the army could advance inland along the River Jordan towards Hazor either to Damascus or to Kumidi (a number of other smaller routes were also available leading into Transjordan). Either journey would have been fairly straightforward. Kumidi was another important Egyptian operational base and armies advancing to (or retreating from) Qadesh would have had to pass through this city. After leaving Kumidi, the next town of any note travelling north was Qadesh itself. Control of this centre was critically important for both strategic and logistic

---


280 F. James and P. McGovern, *The Late Bronze Egyptian Garrison at Beth Shan*, 60; and E. Morris, *The Architecture of Imperialism*, 608. Morris noted that the 40 m³ (or approximately 40,000 litres) equated to 526 khar of emmer which would have been sufficient to feed either 11 families or 44 unmarried men for a year, ibid., 608.

281 J. Hoffmeier, “Reconsidering Egypt’s Part”, 187. The decrease in progress after his Sinai crossing is quite significant. In addition to the unfavourable impact of geography, the king may have been delayed due to the possibly of unexpected resistance although this is not indicated.

282 Pap. Anastasi I mentions a number of the cities along the *Via Maris*, see: A. H. Gardiner, *Egyptian Hieratic Texts*, passim.
reasons. Its use as an operational base would have allowed for a well supported advance towards the cities of Tunip and Dapur, and from there to Aleppo and ultimately the Euphrates. It was also vital that Qadesh be held in order to ensure that lines of communications running along the coast were secure from possible interdiction attacks launched from or through that centre from the north and towards the coast. This was a very real danger if hostile elements were in control of the city. As with Palestine to the South, the two major mountain ranges, the Ansariyeh and the Lebanon which both run parallel to the coast, served to channel north south movement.

The geography of the Asiatic theatre dictated that the other major ingress route was by sea. A journey from the Delta region to the Asiatic ports such as Byblos could possibly have been accomplished in a matter of days, assuming favourable conditions. To reach the coast of Lebanon and Syria for instance (a distance of 377 nm from the Eastern Delta following the shoreline) could take only between 2.5-5 days. Interestingly, it appears that the Egyptians did not rely too heavily on their fleet to support their operations in this region during the New Kingdom – although the navy does appear to have contributed at least with transporting infantry to certain locations along the coast or to the port city of Byblos. There are a number of explanations for this, and we will return to this point in Chapter V. The geography of the coastline meant that there were only limited the number of ports in Palestine

---

283 On the “strategic” importance of Qadesh, see Chapter VI: Decisive Points.

284 A. Spalinger, War, 125.

285 Byblos, located 42 km north of Beirut, was around 649 km, travelling along the coast, from the easternmost Nile branch of the Delta, A. Spalinger, War, 52. A floating severed head, for example, could supposedly make this journey in seven days. Wenaumun took considerably longer (possibly around a month) to make the same journey but he did stop en route. A messenger sent by the king of Byblos to presumably the Egyptian court took no longer than two and one half months to make the return journey, see: O. Tammuz, “Mare clausum?”, 150.

286 Assuming a speed of 3-6 knots per hour was constantly maintained (this would drop to 12-15 days at one knot), see: E. Marcus, “Amenemhet II and the Sea”, 146. This does not factor in time for stops due to port calls or bad weather, see the note above. Based on data from Nile travel (i.e. Herodotus’ journey from Thebes to Elephantine which covered 220.6 km in four days), Spalinger noted that 55 km per day may also have been a reasonable (if not leisurely) speed for Mediterranean travel, A. Spalinger, War, 33 and 52-3. This would have meant the 649 km could have been covered in 12 days. If the pace was that of Red Sea vessels (5.6 to 6.4 kph, 45 km per day) then this would have meant a slightly longer travelling time.

287 A process initiated by Thutmose III: D. Redford, The Wars in Syria, 204-5.
whereas the major ports in Syria north of Byblos tended to be difficult to control. Control or subjugation of the coastal cities was nonetheless considered essential but less from a naval point of view. As noted above, these cities controlled the *Via Maris*. Instead of seaborne supply, the Egyptians would have relied on their vassals and garrisoned cities to provide the necessary supplies for the army travelling by land. In addition the city states would also have been responsible for ensuring the upkeep of the “highway” and smaller roads within their territory. Egyptian ships thus would be freed from the necessity of transporting supplies and could instead concentrate on the more profitable business of trade.

*Nubia*

In Nubia, logistical concerns were aided considerably due to the convenience of the Nile and the southerly wind which facilitated riverine travel upstream. The Egyptians still, however, had to overcome the natural barriers of the region with the formidable river cataracts being the most significant hindrance. Another impediment was the desolate areas of land flanking the Nile on both sides where adequate water supply was always a potential problem. Indeed, while the Egyptians had little trouble by the New Kingdom in extending their control further and further south, they did face the difficulty of ensuring that their potentially vulnerable lines of communications remained open. Not only did they have to contend with possible

---

288 For the political difficulties, see our comments in Chapter V. The area between Ugarit and Ullaza featured no major rivers and only a few springs. From Ullaza to Beirut, there was little cultivation in the hinterland areas. All of this would have limited the supplies of foods that could be brought into these centres, J.C. Darnell and C. Manassa, *Tutankhamun’s Armies*, 164-5.

289 W. Mayer (*et al*.), “Die Schlacht bei Qadeš”, 336-7; and J. Weinstein, “The Egyptian Empire in Palestine: A Reassessment”, *BASOR* 241 (1981), 15. See also our comments in Chapter IV.

290 The northern current of the river is strong enough to carry vessels downstream at a moderate pace. The river flows at an average speed of 1 knot (1.85 kph) and this increases to 4 knots (7.4 km) when the river is in flood. Partridge further noted that travelling upstream required great exertion on the oars to propel the vessels, but travel was aided by the prevailing wind: R. Partridge, *Transport*, 5. Despite these advantages, one important point to remember was that riverine travel would have been greatly restricted at night, C. Adams, “‘There and back again’”, 146. There was also the possibility of having to deal with pirates, *ibid*, 146. Nonetheless, the importance of the Nile for transportation cannot be underestimated and will be reiterated during the course of this study.

291 The First Cataract, for example, could be navigated at high water, but not low. Efforts were, however, undertaken by the Egyptians to remedy this, namely by deepening the river, but larger ships would still have needed to have been pulled through, R. Partridge, *Transport*, 3.
rebellions among the subdued Nubian tribes, there was also the double danger of interdiction attacks from both the Western and Eastern Desert regions. The danger of the former was from Libyan raiders attempting to infiltrate the Nile Valley via the southern oases routes. On the other side (and a lesser of a threat) were raiders originating out of the Eastern Desert. The Nubian fortresses constructed in this region thus served a dual function (in addition to their economic role). First, they helped secure Egyptian lines of communications, and second, they served as operational bases for launching military campaigns and in this respect they were also well positioned to provide the necessary logistical support needed for any such operation (we will consider these facets in greater detail in the following chapter).

The general starting point for any military venture into Nubia was the Aswan area. In addition to its position on the Nile, Aswan appears also to have been well serviced with a network of roads which were predominantly utilised less for military purposes but more for the transportation of stone from the Eastern Desert. Further to the south and east, for example, at the site of Wadi el-Hudi and near a Dynasty XII amethyst-miners’ fortress, is what appears to be a major road which may have linked this mining region to Aswan (a distance of 35 km). Aswan was also linked by road to Toshka from as early as the Old Kingdom. Yet even in this area, geography still posed a problem. One key inscription dated to Year 8 of Sety I describes the construction of a canal “Perfect are the Ways of Khakaoura eternally” in order to facilitate river travel through the First Cataract. Across the Nile, the Kurkur Oasis and the Wadi Schatt er-Rigal were likely both used for Middle and New Kingdom military expeditions heading into and returning from Nubia.

---

292 On the dangers posed by irregular elements, see: Chapter V: Force.

293 I. Shaw, “Master of the Roads”, 259.

294 Ibid., 259.


296 A. Gasse and V. Rondot, “The Egyptian Conquest and Administration of Nubia during the New Kingdom: the testimony of the Sehel rock-inscriptions”, Sudan and Nubia 7 (2003), 41. The canal’s dimensions are given as follows: 150 cubits long; 20 wide; and 15 deep (c. 78 m x 10.4 m x 7.8 m).

Sailing directly south from Aswan one would reach the Second Cataract. The formidable granite outcrops as well as the rapids along the Batn el-Hajar (some 70 km long) forced ships to disembark their cargo which had to then be transported on land before finally being reloaded onto their ships once they had passed this troubleshoot. The fortresses, in addition to their other functions, were especially responsible for assisting such vessels, both naval and merchant, in passing through these geographical hurdles. Further assistance was also provided by a slipway (approximately 3 m wide and 2 km long) constructed at Mirgissa in order for ships to be manoeuvred overland to avoid a particularly dangerous spot at this cataract. Successful navigation of these obstacles, however, was only really possible during the flood season. An important consideration to note is that the Egyptians attempted wherever possible to facilitate river transportation. Unhindered access through the cataracts was not only advantageous for economic reasons, it would have also been crucial on military and logistical grounds. Supplying the fortresses with the least possible effort and delay would have been critical in order to maintain their effectiveness, and to keep costs down, an important overriding Egyptian concern.

Travelling upstream and around mid way between the Second Cataract fortress group and the Semna group further south, the fleet would likely have stopped at the fortress of Askut which lay on an island on the Batn el-Hajar in the Saras region. At this juncture, it may be beneficial to examine the logistical aspect of the Nubian fortresses in greater detail, in particular, their grain storage capacity. A storage capacity that exceeds the needs of the garrison and its associated personnel should be an indication that the surplus grain was destined for other uses. Whether this use was for economic or military purposes is something that will need to be explored. Kemp was particularly interested in the Second Cataract fortresses of the Middle Kingdom.

300 B. Trigger, Nubia under the Pharaohs, 71.
302 For a detailed study, see: S. T. Smith, Askut in Nubia, passim.
303 The analysis conducted by Kemp is of particular interest here, “Large Middle Kingdom Granary Buildings”, 120-36.
where granaries of various sizes have been uncovered. In terms of ground area the
granary sizes of the fortresses are as follows: Shalfak 9%; Uronarti 7.3% (blocks IV
and VI); Kumma 8%; Mirgissa 2%; Semna (unknown); and Askut 22%. 304 This last
fortress is especially notable and given its advantageous location, linking the fortress
of Mirgissa with the tightly knit group of fortresses further south, made it extremely
important from a logistical point of view. Its large grain storage capacity (1632.18 m³)
was, according to Kemp’s estimate, enough to feed between 3264 to 5628 people per
year depending on the ration size. This far exceeded the needs of the garrison and was
substantially larger that the grain storage capacities of the fortresses further south. To
compare, the granaries of Uronarti, which were located in the north-eastern end of the
fortress, had a combined capacity of only 770.37 m³. As such, the role of this
“isolated stronghold” becomes all too clear. Askut’s primary function was a fortified
grain store or more specifically a rear supply depot for the fortresses immediately
south of its position. 305 This likely meant it was the main campaign grain store as well
as reserve for the entire system. 306 The solid fortifications and the fact that it was
situated on an island would have ensured that it remained safe from attack. On the
other hand, its small size and limited living quarters probably meant that it was never
used as a rest stop for military forces moving south. As well as ensuring the security
of the grain supply, the garrison was probably tasked with keeping a watch over the
local population of the Saras plain in order to ensure that the latter did not interfere
with the river traffic. This likely involved observation but little or no interaction,
something that is confirmed from the archaeological evidence. 307 The role of Askut
changes markedly after the collapse of the Middle Kingdom. As its military garrisons
were slowly replaced with permanent settlers, large portions of the interior were
abandoned and this process continued into the New Kingdom with the emphasis
shifting to the construction of non military buildings outside the old defensive walls.

304 For Askut, see also S. T. Smith, “Askut and the Role of the Second Cataract Forts”, JARCE 28
(1991), 117.

305 B. Kemp, “Large Middle Kingdom Granary Buildings”, 133 and table 2; S. T. Smith, Askut in
Nubia, 44; and S. T. Smith, “Askut”, 117.


307 S. T. Smith, Askut in Nubia, 49. Such “cultural separation” in this case may be inspired less by
resistance to cultural exchange but rather due to the role of Askut itself. As a supply depot, its primary
role was neither trade nor anything else economic but to ensure that adequate supplies were available to
the fortresses further south. This was something that did require interaction with the locals.
That the settlement, after its reoccupation by the Egyptians, continued to flourish throughout Dynasty XVIII is evident from the presence of luxury goods and pottery from as far afield as the Aegean.\(^{308}\) The “southern front”, however, had now been pushed further south thus making Askut, as a supply depot, obsolete. Indeed, it is possible this role was by then partly filled by Sesebi which possessed a magazine containing 2,675 m\(^2\) of storage space.\(^{309}\)

The next major geographical feature, the Semna Cataract was protected during the Middle Kingdom by five fortresses in total: Semna; Kumma; Uronarti; Shaflak; and Semna South. The topography of this region is very rugged and the fortresses constructed there were built to take this into account.\(^{310}\) This cataract marked in more than one way the frontier or border of Middle Kingdom Egyptian control. Not only did Sesostris III establish boundary stelae at Uronarti and Semna (Year 16), which, according to Trigger, marked (at least for the time being) the permanent southern frontier of Egypt,\(^{311}\) geographical considerations also made the Semna Cataract an important decisive point (as did the Second Cataract). At Semna, the Nile River was forced through a narrow felsite barrier and therefore this made it an ideal natural control point along the river.\(^{312}\) Nubians coming from the south for trade purposes were forced disembark at Semna South and travel overland under Egyptian supervision to the trading and administrative centre at Iken (Mirgissa).\(^{313}\) This would have added an extra element of protection to the southern frontier by making this stretch of the Nile off limits to foreign shipping.\(^{314}\) As noted, this cataract marks the limit of Middle Kingdom Egyptian expansion, but with the New Kingdom, imperial expansion continued past this point.

Continuing south one would reach the strategically located Sai. This was one of the biggest islands in the Nile and, furthermore, it was located at the southern end

\(^{308}\) S. T. Smith, *Askut in Nubia*, 156.


\(^{313}\) *Ibid.*, 2.

\(^{314}\) S. T. Smith, “Askut”, 118.
of the Dal Cataract, where the rocky barrier of Attab begins (a little north of Amara). This made it an excellent military site for commanding the river and approaches to the Second Cataract area.\(^{315}\) From Sai, one was also able to access a well travelled caravan route that led to the Selima Oasis and from there to Egypt with little difficulty.\(^{316}\) As a further bonus, the site featured a notable limestone quarry.\(^{317}\) In addition to their obvious defensive value, island localities also provided some relief from sandstorms with the river acting as an effective barrier.\(^{318}\) Nevertheless, while the region was fertile, it was not as productive as the areas south of the Third Cataract which was also a gold producing region.\(^{319}\)

At the Third Cataract region, one would encounter Tombos another important geographical site from both a defensive and logistic point of view. As an island locality, it would have made an ideal base for a fortress so to assist river traffic through the cataract. Furthermore, it was also only one day’s walk away (10 km) from the site of Kerma and was thus a perfect location for keeping tabs on the population at the latter site as well as the more immediate Kerman settlement located at Hannek across the river.\(^{320}\) Travelling even further upstream, one would next reach the Fourth Cataract region where the site of most significance was Napata which was located at the head of a primary trade route connecting Upper Nubia to the Butana region. The site was also located in a fertile stretch of the Dongola Reach and would have been the most likely site from which to support settlements located further up river.\(^{321}\) Another key location was Hagr el-Merwa located midway between the Fourth and Fifth Cataracts and not too far from there we also find the inhospitable site of Kurgus. The arid conditions of this site and the Abu Hamed Reach in general would likely


\(^{316}\) E. Morris, *The Architecture of Imperialism*, 71-2, 101 and 107-8. This was possibly the route used by Harkhuf for his three expeditions, A. Roccati, “Arpenter le desert”, fig. 1. From Selima, one was able to reach both the Dakhla Oasis and Aswan.


\(^{318}\) *Ibid.*, 678.

\(^{319}\) R. Morkot, “Egypt and Nubia: The Egyptian Empire in Nubia in the Late Bronze Age (c. 1550-1070 BCE)”, in *Empires: Perspectives from Archaeology and History*, S. E. Alcock (et al.) (eds.), (Cambridge 2001), 235.


\(^{321}\) *Ibid.*, 76, 83 and 90-1.
have been a major discouragement to indigenous settlement and may also have meant a fortress garrison, if one had indeed been established there, could have had great difficulties growing crops to support themselves, which as we have seen was an important logistic requirement. An Egyptian military presence in the Abu Hamed Reach would have allowed for effective control “of the Wadis Allaqi and Gabgaba, and the Korosko Road”, and the Hagr el-Merwa would have been ideal site for a base. Yet as Davies noted, their military presence “may have been centred further north possibly nearer to modern-day Abu Hamed, a point on the great bend of the Nile of obvious strategic importance”. One would expect, nonetheless, that the site of Kurgus, despite its drawbacks, should have been considered important enough to warrant the construction of a New Kingdom base, although definitive archaeological evidence has yet to be found. It was located close to a gold mine as well as an important land communications route (see below). Furthermore, it was in a position to control (with the mutual support of Napata) all land and water trade routes in this region. Kurgus was also the location of a rough patch of water that could have posed a danger to shipping thus a base located there, to assist passing traffic, would have been especially beneficial. Finally, Kurgus has the distinction of being the furthest geographical point upstream where we find evidence of a definite Egyptian presence, and for there not to have been a more permanent military occupation is therefore surprising.

While the Nile was undeniably the dominate form of communications for the Nubian theatre, land communication was, however, of importance especially where it was needed to reach resource rich areas. As early as the Old and Middle Kingdoms, we find evidence for a road network in Nubia, with the most significant being the 80 km route linking the gneiss quarries to the Nile at modern Toshka. By the New Kingdom period, there appears to be an even greater reliance on land communication. With the Egyptian expansion to Kurgus, first under Thutmose I and subsequently

322 E. Morris, *The Architecture of Imperialism*, 83 and 110; and L. Török, *The Kingdom of Kush: Handbook of the Napatan-Meroitic Civilization* (Leiden, 1997), 94. Due to its inhospitable nature, the riverine zone between the Fourth and Fifth Cataracts would have served as natural frontier zone.


Thutmose III (both kings left boundary stelae and other inscriptions on the Hagr el-Merwa), the Egyptians were in a position to utilise a potentially quicker overland route. This desert route extending from Kurgus back to Korosko was c. 500 km in length. The journey by Nile between these same two points, on the other hand, was c. 1200 km. The main difficulty with the latter route, in addition to the increased distance, was the need to traverse three cataracts (the Second, Third, and Fourth). Not surprisingly, the presence of numerous inscriptions along the shorter land route testifies to its high usage from Dynasty XVIII onwards. Intersecting the northern end of this route (at Khashm El Bab) was another desert road which extended from the fortress city of Buhen to Berenice Panchrysos and the Wadi Allaqi. Another important route was the 100 km long Sikkat el-Miheila desert path which connected Kawa with Napata. This route was considerably shorter than attempting to follow the river between these two points, and as noted by Morris may have been well used during the New Kingdom due to the absence of any Egyptian settlements along the stretch of Nile that it bypassed. Other notable routes included a road through the desert which linked the fortress of Aniba to Elephantine, as well as the Wadi Mia which runs east from the town of Edfu. It was this road which was taken to reach the all important gold mines in the Eastern Desert especially at Barramiyah, and, further southeast, Samut and finally Sukari. Wadi Mia, and the connecting road at Bir Beiza being routes to the mines and mountains where precious stones were worked were therefore locations that were sensitive to Egyptian interests. It was in this region, for example, that Thutmose IV likely conducted his police action against Nubian

---

326 See also: W. V. Davies, “Kurgus 2002: the inscriptions and rock-drawings”, Sudan and Nubia 7 (2003), 55-7; and W. V. Davies, “Kurgus 2000”, 46-58. See further our comments in Chapter V.

327 W. V. Davies, “Kurgus 2000”, 47-51: Inscriptions have been found along this route belonging to Chief of The-khet, Pa-itsy (Djehutyhotep) an official during the co-regency of Hatshepsut and Thutmose, as well as Hornakht, Deputy commander of troops of Miam (Aniba) who served under Ramesses II, Ang. and Alf. Castiglioni, “Pharaonic Inscriptions”, 48-9.


330 S. Lupo, “The Inscription of Amenemhet II”, 46.

331 The importance of wadis as roads in Pharaonic Egypt cannot be underestimated, see for example the comments with respect to travel in the Eastern Desert in: R. Rothe (et al.), Pharaonic Inscriptions, 5, 16 and 96. Wadis generally possessed fairly solid and level surfaces that were free of major obstacles. In addition, water could often be found along their courses by sinking wells in their valley floors, R. Partridge, Transport in Ancient Egypt, 79.
raiders interfering with the gold transports. This expedition probably terminated at Konosso, thus it is possible that the king, during the march home, made use of the above mentioned Wadi el Hudi.332

Libya

Although the western theatre did not see any significant military expansion in the period from the Middle to the New Kingdom, the Egyptians did nonetheless take an interest in the strategically important oases located west of the Nile Valley from a very early period.333 Furthermore, the economic incentives for involvement in this region, while not as extensive as in Egypt’s other strategic spheres was also a factor that cannot be readily discounted.334 This interest was later extended to cover the coastal region, and by Dynasty XIX we find evidence of extensive investment for both military and trade purposes. It is the main oases, in particular Siwa, Bahariya, Dakhla, Farafra, and Kharga, that were without doubt the key important centres of this region as they provided not only a continuous and therefore reliable source of water but also adequate fertile land allowing for semi-permanent or permanent occupation in their immediate areas.335 Simply put, the presence of fresh water in addition to the availability of certain foodstuffs made the oases the most vital pieces of real estate in this region from a logistical point of view.336

Access to the western oases can be achieved via a number of paths or routes. For example, in order to reach the Kharga oasis from the Nile Valley, a distance of approximately 150(+) km, travellers had a choice of a number of routes (originating


333 This is noted, for example, with the late Old Kingdom fortress city uncovered at ‘Ayn Asīl.

334 For example, the extensive differences in terms of geography with respect to both the Eastern and Western Deserts alone meant that exploitation of resources within the latter region was considerably more difficult than the former. It has been noted, however, that despite these difficulties there was considerable pharaonic interest in this region, D. Darnell and J. Darnell, “Exploring the ‘Narrow Doors’ of the Theban Desert”, *EA* 10 (1997), 24.


336 L. Giddy, *Egyptian Oases*, 5: “virtually anything that can be grown in the Nile Valley can be cultivated in the Oases”.

231
between the Asyut region and Edfu) which ultimately terminated into seven different passes admitting access into the depression.\textsuperscript{337} The Ramia Pass route (210 km in length) was considerably difficult with only the final portion being provisioned with wells (between Kharga town and ‘Ayn el-Arba‘in).\textsuperscript{338} The Yabsa Pass and Refūf Pass routes were both of equal distance: 180 km, while the Abu Sighawai Pass route was the shortest with the total distance from Kharga town to Wadi Hallaf being about 160 km.\textsuperscript{339} The Bulaq pass route was 198 km long travelling from El Rizerqat or 203 km from Farshut. The Jaja pass (224 km in length) and the Dush pass routes made up the two main southern routes with the latter terminating at Edfu.\textsuperscript{340} As one can see the distances covered are comparable to crossing the Sinai Peninsula but with significantly more difficulties. Invading sand and constant wind make any journey or occupation of the oases difficult.

Included in the same great depression as Kharga, the Dakhla oasis was located further west but separated by a broad ridge.\textsuperscript{341} It was reached from the Nile either via the Kharga Oasis or from the Nile directly.\textsuperscript{342} The first route involved a journey of approximately 140 km from Kharga town to Tenīda skirting the dividing ridge along

\textsuperscript{337} L. Giddy, \textit{Egyptian Oases}, 6-10. For a useful map of the Kharga oasis and the main routes, see J. Willeitner, \textit{Die ägyptischen Oasen: Städte, Tempel und Gräber in der libyschen Wüste} (Mainz am Rhein, 2003), 22. It has been suggested that the third expedition of Harkhuf may have followed this route, for a full discussion see: A. Roccati, “Arpenter le désert autrefois et aujourd’hui”, \textit{BSFE} 169-70 (2007), 51-8 and fig. 1. For this oasis during the Roman Period, see: R. Morkot, “The Darb el-Arbain”, 82-94.

\textsuperscript{338} L. Giddy, \textit{Egyptian Oases}, 7. Giddy adds that this route was the final leg of the “Forty Days Road” linking Egypt with the Sudan. The Darb el-Arabain “Forty Days Road” was a major communications route connecting Egypt with sub-Saharan Africa. It began in Dafur at Kubayh and continued in a northeasterly direction to the Selima Oasis then through Shabb eventually reaching Kharga, covering a total of 1767 km, R. Morkot, “The Darb el-Arbain”, 90-2. Of interest, Morkot noted that a large heavily laden caravan with around 1,000 slaves would have taken up to 90 days to cover this distance which works out to just under 20 km per day, \textit{ibid.}, 92. Use of this entire route was, however, a later (mediaeval) development, yet it is likely parts of it were utilised as early as the Pharaonic period, \textit{ibid.}, 92.

\textsuperscript{339} There was also a water source located 27 km north-east of Kharga town, L. Giddy, \textit{Egyptian Oases}, 7-8.

\textsuperscript{340} The location of Dush understandably took on significant strategic importance as it commanded access to the route(s) leading further south. The Romans constructed a fortress here while the pass itself possessed ‘natural defences’: \textit{ibid.}, 8-9.

\textsuperscript{341} J. Willeitner, \textit{Die ägyptischen Oasen}, 52.

\textsuperscript{342} Again, the Dakhla – Kargha route was a possible section of Harkhuf’s third expedition, A. Roccati, “Arpenter le desert”, fig. 1.
its southern side, although it was possible to take a more direct alternative route over this ridge. A water source located at ‘Ayn Amur ensured that this route was not too difficult a proposition. The route was approximately 130 km long and Winlock believed this could be covered in just two days, however with donkeys, which could not be expected to march more than six hours each day, it would likely take around six days. The second main way to access the Dakhla Oasis involved travelling from the Nile directly (from the vicinity of Beni Adî) eventually reaching a pass near El-Qasr. The latter was important as it gave access to Farafra Oasis. This route was around 250 km long and took caravans equipped with camels six and a half days to cover this distance. Using donkeys, however, it would take approximately twelve days. Apart from the remains of an ancient well, this route did not appear to possess any natural water sources. It was within the environs of this oasis that the Old Kingdom fortress city of ‘Ayn Asîl was located.

‘Ayn Asîl (Balat), marked the beginning of the Abu Ballas trail which appears to have extended (for the initial leg) some 400 km to the cliffs of Gilf Kebir. Excavations conducted along the trail have uncovered a chain of some thirty staging points.

---


344 Assuming that a reasonable pace could maintained for 15-16 hours for each day, ibid., 11.

345 J. Willeitner, *Die ägyptischen Oasen*, 54. Alternatively, the oases could be reached from the Nile via the Darb el-Tawîl entering at El’Aqaba.


347 Ibid., 12.

348 C. Vogel, *Ägyptische Festungen*, 199-203.

posts arranged almost in a straight line.\textsuperscript{350} The posts differ in size as does the number of pottery uncovered at each site, but what has been uncovered is clearly a donkey caravan route. Of further interest is the fact that the stations of this trail are connected by an elaborate system of road signs (‘alamat) made from loose stones, gathered from the immediate surroundings, and spaced according to visibility and topographic considerations.\textsuperscript{351}

Among the more notable stations on the trail is a small site some 30 km from the main oasis. There, an inscription of the high official Meri notes how he met on one expedition some oases dwellers. Evidently the trail was well plied.\textsuperscript{352} Moving further southwest, some 60 km from the oasis, but several kilometres off the main trail is the so-called ‘Radjedef’s Water-Mountain’ (Khufu 01/01) a substantial site featuring numerous inscriptions.\textsuperscript{353} Another site of importance, some 120 km into the trail (and 80 km northeast of Abu Ballas), is “Muhattah Jaqub” where 70 vessels were uncovered.\textsuperscript{354} The site of Abu Ballas itself, for which the trail is named, is located approximately 200 km southwest from the Dakhla oasis and 500 km west of the Nile.\textsuperscript{355} At this site alone, more than 100 storage jars have been uncovered.

Overall, this trail is of importance to us in that it illustrates the logistic measures required to support land expeditions in this region beyond the oases. These measures differ greatly to what is found in both the Sinai and Nubia. In fact, considering that the nearest natural water sources following the trail as one left Dakhla are the Kufra Oasis (600 km) and the wells of Gebel Uweinat (500 km), logistical considerations would have been paramount, more so than in any of Egypt’s

\textsuperscript{350} F. Förster, “With donkeys, jars and water bags”, 1. Evidence for its use spans as early as the Old Kingdom and continues, intermittently, into Dynasty XX, F. Förster, “The Abu Ballas Trail”, 130.

\textsuperscript{351} The signs, which vary in size, are found predominantly on level ground and rarely on hills more than 20-30 m high. They could be seen in open plains up to 5-15 km, whereas in more rocky and mountainous parts of the trail, they could be spaced as little as 100 m apart: H. Riemer, “The Archaeology of a Desert Road”, 134-5.


\textsuperscript{353} F. Förster, “With donkeys, jars and water bags”, 2. For further references see note 37 above.

\textsuperscript{354} Ibid., 4.

other strategic theatres. At the very least, any attempt to utilise this trail would involve the transportation of all the required water and supplies by donkey. In order to ease this logistic situation, however, supply depots were installed along the trail in the Old Kingdom or First Intermediate Period at regular intervals of three days’ travel. Clearly, both “Muhattah Jaqub” and Abu Ballas fall into this category. This freed up the donkeys from having to transport all the water required as well as other consumables for each expedition. In order to store the water at these sites, large earthen storage jars, weighing 15 kg, were utilised each capable of holding around 30 litres. These were clearly employed as artificial water reservoirs. As the daily marching rate of these expeditions, accompanied by donkeys, was likely about 25-30 km per day, it was expected the donkeys would travel for three days without water. At this pace, caravans of say 50-100 donkeys would have taken around two weeks to reach the Gilf Kebir. For the initial set up of the system, and to gauge an idea of the logistics involved, to position and then fill the 300 or so (so far) uncovered vessels in one go, Frank Förster estimated that some 225 donkeys would have been required. Assuming a (modest) carrying capacity of 60 kg, 75 of these donkeys would have been needed to carry the (empty) jars (four vessels per donkey), with the remaining donkeys utilised to transport the water in two 30 litre bags per animal. “The entire load would have weighed some 13.5 tons. This estimate of course does not take into consideration the supplies the men and donkeys engaged in this operation would have required. In addition to water, these storage jars may have contained grain and other foodstuffs, but regardless of

358 The vessels uncovered from Abu Ballas, for example, would have held a combined amount of some 3,000 litres of water, F. Förster, “With donkeys, jars and water bags”, 6.
359 Ibid., 3.
361 Ibid., 130; and F. Förster, “With donkeys, jars and water bags”, 5.
362 F. Förster, “The Abu Ballas Trail”, 132 and fig. 5; and F. Förster, “With donkeys, jars and water bags”, 5-6.
their contents, it is clear that they were repeatedly used.\textsuperscript{365} It appears that the pottery, according to uncovered clay inscriptions, was prepared at the site of Ayn As pérdi\textsuperscript{366} After the supply points had been established, refilling the vessels would have been a more straight forward affair, and unlike the Sinai depots, maintenance of the supplies was likely undertaken by just a small number of individuals who were tasked with protecting the site and preparing and supplying the passing expeditions with bread (apparently on a large scale).\textsuperscript{367} As for the actual function of the trail, that is, what was transported by the donkeys plying this route, and its ultimate destination, this remains unclear. The next major geographical feature after leaving Abu Ballas was the Gilf Kebir plateau to the southwest (some 200 km distant). From there, it was only another 350 km to reach the Kufra Oasis (from the eastern fringe of the southern part of this feature).\textsuperscript{368} Yet, it is unlikely that this location served as a final destination point as it was effectively surrounded by seas of sand.\textsuperscript{369} Rather, expeditions may have travelled on to Gebel Uweinat a further 200 km to the southwest.\textsuperscript{370} After reaching this point, it has been suggested the trail may have then linked up with the Nile at some point in Upper Nubia, rather than proceeding into the modern Sudan or Chad.\textsuperscript{371} Regardless of the final destination, this trail with its depots and well organised series of ‘alamat road markings clearly points to an efficiently run logistics network.

From Dakhla, one was also able travel south eventually reaching Selima, or alternatively, access the strategically important oases to the north. Travelling from El-Qasr (in Dakhla) one is able to reach the Farafra Oasis which, although lying in the largest depression in the region, was, however, the smallest of the five main oases. Farafra was of some strategic importance as it was situated almost half-way between

\textsuperscript{365} F. Förster, “With donkeys, jars and water bags”, 3-4.

\textsuperscript{366} R. Kuper, “The Abu Ballas Trail”, 373.


\textsuperscript{368} F. Förster, “With donkeys, jars and water bags”, 7; and R. Kuper, “By donkey train to Kufra? - How Mr Meri went west”, \textit{Antiquity} 75 (2001), 801-2.

\textsuperscript{369} F. Förster, “With donkeys, jars and water bags”, 7.

\textsuperscript{370} F. Förster, “The Abu Ballas Trail”, 132.

\textsuperscript{371} F. Förster, “With donkeys, jars and water bags”, 9.
Dakhla and Bahariya.\textsuperscript{372} It was best reached via ether of these oases as a direct route from the Nile would involve crossing some 300 km of barren desert.\textsuperscript{373} From El-Qasr to Qasr el-Farafra the journey was only just over 200 km with the prospect of utilising water stations in the vicinity of Farafra. While travelling from Qasr el-Farafra to Bahariya (El Qasr-Bawiti) one was able to rely on water sources at ‘Ayn el-Wadi and ‘Ayn el-Hayz making the 185 km fairly straight forward.\textsuperscript{374}

To reach Bahariya from the Nile one had a choice of four principle routes.\textsuperscript{375} Travelling from Bahnasā (the ideal choice) the distance was only 190 km, while from Giza one could look forward to a 300 km journey. From the Fayyum the distance was 240 km with water and grazing available, while travelling from Dalgeh was also a possibility (although there does not appear to be any natural water sources along this route).\textsuperscript{376}

The western most oasis of Siwa, located approximately 560 km west of the Nile, could be reached via a number of ways.\textsuperscript{377} From Farafra, one could utilise a water source located 75 km away at ‘Ayn el-Dāllah and then travel onward to another spring at Bahrein before reaching the Siwa Oasis via El-A‘reg. Travelling from the Bahariya Oasis (Bawiti) one would reach Siwa via the springs of Sitra and El-A‘reg.\textsuperscript{378} From the coastal region there were three possible routes that could be utilised. The Marsa Matrūh option involved travelling some 300 km, although the

\textsuperscript{372} J. Willeitner, \textit{Die ägyptischen Oasen}, 86.

\textsuperscript{373} Although there does appear to be such a route (280 km) terminating near Beni Adi which supposedly took only 7-8 days to cross with donkeys: L. Giddy, \textit{Egyptian Oases}, 15.

\textsuperscript{374} \textit{Ibid.}, 13-4.

\textsuperscript{375} For map, see: J. Willeitner, \textit{Die ägyptischen Oasen}, 90.

\textsuperscript{376} L. Giddy, \textit{Egyptian Oases}, 15-6.

\textsuperscript{377} \textit{Ibid.}, 16-7. The Nile to Siwa route was the first stage in the trans-Saharan caravan trade routes which extended to the great bend in the Niger river, M. Liverani, “The Libyan Caravan Road in Herodotus IV.181-185”, \textit{JESHO} 43 (2000), 499-500. The complete itinerary covers 4,100 km and could theoretically be traversed either in 82 days (at a pace of 50 km per day) or 91 days (45 km per day), \textit{ibid.}, 504-5 and map 519. For a useful map of the Siwa Oasis alone, see: J. Willeitner, \textit{Die ägyptischen Oasen}, 114.

\textsuperscript{378} A desert caravan travelling at 45-50 km per day could realistically cover the distance from Bahariya to Siwa in approximately 10 days with a further 4 days required to cover the 190 km from the Nile Valley to Bahariya, M. Liverani, “The Libyan Caravan Road”, 499-500 and note 16 (for additional estimates, refer also to the table, \textit{ibid.}, 504).
route did possess two water sources as well as an abundance of pasturage. Travelling from El-Sollum one needed to cover 310 km, while from El-Dahaba the distance was 350 km. The final route, and supposedly the one used by Alexander, was via the Wadi Natrun. Petrie also uncovered what may possibly be a military road which was of similar dimensions and appearance to the Dahshur-Fayyum road but ran due west for 200 km to the Siwa Oasis.

The Wadi Natrun, home of the main protagonist from the Tale of the Eloquent Peasant, was another strategic piece of real estate essentially providing a key transit corridor to and from the Nile Delta. It is therefore no surprise that the above mentioned text also makes reference to a fortress situated in this area. The need for such a fortress is understandable. The Wadi is located a mere 65 km from the edge of the Western Delta region and roughly parallels it for a distance of around 30 km. Although it consists of 10 salt lakes the largest being Lake Umm Risha, the Wadi is, however, only 8 km wide and thus likely only supported a small population during Antiquity.

Overall, the strategic importance of the oases routes cannot be underestimated. The Egyptians, at times, did attempt to ensure there was some control over them especially during periods of internal conflict as noted during the Second Intermediate Period. The well known attempt by the Hyksos to launch a double assault against the Egyptians with Nubian support was thwarted by Egyptian patrols operating in the Western Desert. Furthermore, temple remains dating to Antef V Nubkheperre of Dynasty XVII uncovered along the Luxor-Farshût road as well as other discoveries

379 L. Giddy, Egyptian Oases, 16-7.
380 I. Shaw, “‘Master of the Roads’”, 257.
381 As noted by Ahmed Fakhry, the Wadi “is the nearest oasis to the Nile Valley and any raiders from the north-western desert who did not follow the coast will find the water of this Wadi, a great help to their advance. As a defence, it is strategically an important site for checking those who attack the western desert”, A. Fakhry, “Wâdi-el-Natrûn”, ASAE 40 (1940), 837. The fortress was located on the ridge of Qaret el Dahr near the small village of Beni-Salameh. It measured 59.20 m x 47.40 m and was built from mud brick. Defensive features included a moat or ditch 1.20 m from the walls, ibid., 845-6.
382 J. Willeitner, Die ägyptischen Oasen, 104. The present population is 12,000. The economic value of this Wadi came from the deposits of natron (HmAt) used, of course, for embalming as well as for incense and even mouth wash, K. P. Kuhlmann, “The ‘Oasis Bypath’”, 128.
383 For example, Kamose was especially concerned with securing the Bahariya oasis: F. Colin, “Kamose et les Hyksos dans l’oasis de Djesdjes”, BIFAO 105 (2005), 35-45.
clearly indicate an Egyptian presence in the region.\textsuperscript{384} The Alamat Tal road was another important route as indicated by an inscription uncovered along its path which testifies to the military importance of the roads in this region. The inscription, which belongs to the Coptite nomarch Tjauti, records the (re)building of this road in response to military actions undertaken by the ruler of another nome (Antef of Thebes).\textsuperscript{385} Both Tjauti and Antef each claimed control over the desert routes west of Thebes, yet it was likely the latter that had the upper hand. As Darnell insightfully pointed out, control over these routes was equally important both in the First as well as Second Intermediate Period.\textsuperscript{386}

\textbf{Conclusions: The Geography of Logistics}

In this chapter we have examined some of the fundamental aspects of logistics with particular attention to the basic rations of the Egyptian soldier. We have noted especially that the Egyptian soldier, from the Middle Kingdom to the Ramesside period at least, appears to have been well provisioned with a diet that provided all his caloric and protein needs. There was, potentially, a wide range of foodstuffs available although, as is to be expected, bread made up the bulk of the daily ration with beer probably an important addition. Soldiers, nonetheless, also had access to a range of different meats, vegetables, and possibly on occasion even fruits. Our soldier’s ration-wage also meant he likely ended a campaign with a surplus that could be reclaimed for whatever purpose. Some of these foodstuffs, however, would have been difficult to come by on a regular basis especially for an army on the move. Garrisons, on the other hand were in the enviable position of being able to grow their food supplies, in particular vegetables, locally. From the evidence we have looked at, it appears that meat may have been more commonly distributed than originally believed, and this probably reflects the fact that it was a far simpler task to transport meat (on the hoof) than say vegetables. The high ratio of meat to vegetables as posited above would tend

\textsuperscript{384} D. Darnell and J. Darnell, “Exploring the ‘Narrow Doors’”, 24. An inscription uncovered at the Wadi el-Höl in the middle of this road records the military actions of a Theban king who repelled “foreign hordes” and went “sleepless and hungry training the desert watchmen”, \textit{ibid.}, 24.

\textsuperscript{385} \textit{Ibid.}, “Exploring the ‘Narrow Doors’”, 26. Tjauti was possibly the last Herakleopolitan ruler of the nome north of Thebes, and in spite of his claims, this route was clearly in use as early as the Old Kingdom.

\textsuperscript{386} \textit{Ibid.}, 26.
to support this hypothesis. Generally, the more perishable the food item, the less likely it constituted a regular part of the military diet.

The evidence we have looked at, while not substantial, does not counter the idea of well a provisioned Egyptian soldier. In fact, it appears that it is only the more satirical sources that provide our only real hint to logistic difficulties, but because of their biased nature, these cannot be trusted as reflecting the true state of affairs. If the Egyptian soldiers had an availability of choice with respect to their diet, the same was also true of their supply options. We have noted that there were three key options available for the acquisition and transport of supplies each having their own unique advantages and disadvantage. In this respect, the Egyptians appear to have possessed an awareness of the importance of selecting the most optimal supply methods when conducting a military campaign. They especially tailored their supply needs to the strategic theatre through which they were to advance through, and this is something that we will pursue in greater detail in the following chapter. One of the more important things to note was that by the New Kingdom, there was a reliance on the use of baggage trains and because of this, the army was now capped to the speed of the slowest mammal. But even with this restriction, the Egyptians, as we will see in Chapter V, were still capable of conducting campaigns of considerable depth.

Finally, one of the key elements that impacts logistics (if not the key element) was the geography of the theatre where a campaign was to be conducted. Geography is the one of the enduring constants in war that any army must take into account when conducting military operations. This point cannot be stressed enough, especially with respect to the Egyptians who had to adapt their military apparatus to fight in three quite distinct geographical environments. From our brief geographical survey of Egypt’s three theatres, we are able to note that each was an unique environment with respect to logistically supporting war. We have seen, for example, the huge investment of resources required to overcome certain logistically unfavourable regions, such as the Sinai Peninsula. This was a span of territory only a mere 200 km long, yet required the construction of a number of military posts which subsequently had to be safeguarded from attack. The Asiatic theatre proper, however, with its high level of infrastructure would have been the “easiest” of the three theatres to wage war from a geographical-logistics perspective. The geography, while restrictive in places, did favour the movement and support of large armies. Waging war in the Nubian theatre, on the other hand, would have been more difficult especially when moving
away from the Nile, but again, with a suitable and sustained level of investment, the key geographical obstacles in this region could be negated somewhat. This we note especially with the establishment of fortified supply depots in desolate regions (Askut) to ease supply difficulties and further construction efforts undertaken to overcome the formidable cataracts. Libya, for its part, would have been the least desirable, logistically, of the three theatres to wage war for any army of any time period. This region’s limited natural resources and infrastructure made the movement of military forces difficult. There is in fact, little to commend about this theatre, and even with a high level of investment, conducting military activity deep into the theatre would still have been highly restrictive. In the following chapter we will expand on Egypt’s logistic interaction with its three primary strategic theatres as we examine in detail the logistics networks present in each.
CHAPTER IV

The Logistics of Egyptian Warfare

In the previous chapter, we examined many of the utilitarian, albeit essential, elements associated with logistics. While this serves to provide us with a useful foundation point for looking into what has been a previously neglected aspect of the Egyptian military machine, it is, however, only part of the story. With this chapter, our focus will widen so to examine the effects of logistics (both positive and negative) on Egyptian warfare in general. In doing so, we will look at the impact of logistics at each of the three levels of war: strategic; operational; and tactical, and examine how the Egyptians organised their logistics networks at these levels with respect to the three major areas where they campaigned.\footnote{Primarily, Asia, Libya, and Nubia. For a brief overview of the geographical and spatial features of each of these theatres, see (respectively): Chapters III and V. Aspects of the following discussion can be found in: B. Heagren, “Logistics of the Egyptian Army in Asia”, in Moving Across Borders: Foreign Relations, Religion and Cultural Interactions in the Ancient Mediterranean, P. M. Kousoulis, (ed.), (Leuven, 2007), 139-56.} This will allow us not only to examine key similarities and differences in the logistics networks that were established in each of these theatres, but also to place the Egyptian evidence into an overall framework, we will be better able to highlight the interdependence as well as the key interrelationships of logistics with military actions at each of the above mentioned levels. Our primary intention here is to illustrate quite conclusively the vital role that logistics played in the formulation of Egyptian military strategy.\footnote{Was Egyptian strategy dictated by logistics or vice versa? Studies which deal with the direct impact of logistics on military strategy are few, but see especially: T. Kane, Military Logistics and Strategic Performance (London, 2001). See also the additional references in Chapter III note 2.} The second part of this chapter will expand on this point by focusing exclusively on what can best be described as “counter logistics”.\footnote{For this apt term, see: M. Kress, Operational Logistics, 66.} As logistics networks were relied upon by not only the Egyptians but also their enemies (in particular other superpowers), they could be considered viable military targets in their own right. Indeed, disrupting an enemy’s logistics network could have significant ramifications on their ability to wage war.\footnote{Maurice, in his Strategikon, commented that a general who can destroy the army of his enemy by hunger than by fighting achieves the most, ibid., 85.} Therefore, particular attention will be paid to instances of logistic destruction.
undertaken by the Egyptians as noted in both the textual and pictorial records. It is our goal here to ascertain whether the employment of counter logistic strategies by the Egyptians was a conscious military tool employed to achieve strategic success or rather simply a by-product of Egyptian military campaigning in general.

Logistics Pertaining to the Three Levels of War

Moshe Kress noted that logistics, like war, functions on three distinct levels: strategic; operational; and tactical. While Kress was concerned more with modern logistics, this tripartite division does, however, allow us to better appreciate the complexities associated with logistics and is quite applicable to our analysis here. Strategic level logistics, according to Kress, is closely tied to the economic and industrial capabilities of the nation, or to be more specific, with “building up and maintaining the national military or military-related infrastructure” that is essential for logistics. This is the highest level of logistics and as it is closely linked with the economy of the nation as a whole, it could easily be the subject of a comprehensive study in its own right. Indeed, from the Egyptian perspective, the link between logistics, the temple economy (and the economy of Egypt as a whole), and military success on the battlefield is one that definitely deserves more attention. The factor of economy is an important one because as Kress noted, it is the economic constraints of a nation which affects its logistics capabilities and this in turn ultimately determines the operational capabilities of the military forces. Simply put, a strong economy allows for a strong military industrial complex. Operational level logistics, on the other hand, is a cognitive medium between the economic and industrial base of the nation and the combat units. This medium translates the somewhat abstract quality of the strategic level into the more tangible features found at the tactical level. The Egyptian soldier as he appears on the battlefield (the tactical level) is, in essence, the physical outcome of a number of processes extending back through the operational

6 Ibid., 21.
7 Ibid., 20-1.
8 Ibid., 39.
level and back again to the strategic level. He has been armed, fed, and clothed by the state yet it is the primary goal of operational logistics to ensure that the soldier arrives at the battlefield in good order. It is also the responsibility of operational logistics to guarantee that the soldier, after the fighting has been concluded, is able to return safely to Egypt. Tactical logistics, our third and lowest level, is where we see the outcome or end product of all previous logistic planning and actions which took place at the above two levels. Logistics here is restricted both in time and space. It exists purely for the moment of battle usually at a specific geographical point. In many respects, tactical logistics is one of the most vital elements for the achievement of (immediate) military success but it is also remains the most ephemeral part of the whole network.

Strategic Level Logistics

Kress in his book identified a number of “strategic issues” at this level of logistics. As these issues have full applicability here, they will be considered in detail. The first of these is technology and this is concerned with the development and improvement of weapons systems.\(^9\) While major advances in the weaponry of the Egyptian army generally tended to be slow in occurring, especially during the earlier periods of pharaonic history, there were nonetheless distinct phases where we witness dramatic developments. This was, for example, the situation during the late Second Intermediate Period to early New Kingdom where a number of major and minor revolutions in weapons technology and military doctrine occurred.\(^10\) Of the major

---

\(^9\) M. Kress, *Operational Logistics*, 21. With respect to the Egyptians, Shaw noted five key prerequisites for the adoption of any new piece of technology: access to necessary resources or materials; knowledge of methods of manufacture; availability of suitably skilled craftsmen both to make and use the artefact; a social need or political requirement for the technology in question; and a suitable social or economic context within which the technology can be deployed, “Egyptians, Hyksos and Military Technology”, ibid., 62.

\(^10\) The minor revolutions in technology included: body armour; smaller types of shields; a new form of dagger which was to develop into a weapon resembling a short sword; and the Khepesh sword, I. Shaw, “Egyptians, Hyksos and Military Technology”, 59. Shaw notes that while these changes took place at the time of the Hyksos period, he argues that the Hyksos occupation would in fact have inhibited Egyptian weapons development. He adds that it was only with after their departure the Egyptians would have had unrestricted access to the tools and materials required to manufacture this more advanced weaponry, ibid., 68-9. In other words, many of the “innovations in Egyptian military equipment and strategies resulted directly from population movements, exchange of ideas between different ethnic and cultural groups, and processes of social change brought on both by large-scale environmental and political influences”, ibid., 68. This is entirely in keeping with the idea of “natural”
“revolutions”, the first was the move away from the basic self bow to the more lethal and expensive compound bow. While this bow required a higher level of skill in its creation as well as access to certain materials, these shortcomings were greatly offset by the tactical advantages of this weapon over its predecessor. The same was also true for the development and implementation of the chariot, our second major revolution in Egyptian military technology for this period. The chariot required considerable long term logistic investment (see below) which should in itself serve as a key indication of its value (symbolic as well as military). As any new weapons system is introduced, its effectiveness and efficiency needed to be calculated in order to determine its viability from both a pure military and logistics point of view. Both the chariot and the compound bow, for example, required specialised materials, training in both their assembly and their use and a support apparatus (i.e. strategic base) for their development, construction, and maintenance. These expenses were offset by the fact that the chariot and compound bow were effective weapons systems installing considerable and measurable tactical advantages on the battlefield. In short, this made them cost efficient weapons. The adoption of a new piece of military hardware could even have significant ramifications at the higher levels of war. As Ian Shaw noted, the relationship between military technology and strategy was “symbiotic and mutually influential” in that each was capable of impacting upon the other. This is also applicable to the operational level, and in the following chapter, we will examine further the role the chariot played with respect to the possible development of an Egyptian operational art.

diffusion as an instigator of military change as noted with other historical parallels, see in particular: E. O. Goldman and L. C. Eliason (eds.), The diffusion of military technology and ideas (Stanford, 2003).

11 See Chapter I: Missile Combat on Foot.

12 Both weapons, or more specifically the combination of the two, resulted in major changes in Egyptian warfare at the operational and tactical levels. For the importance of the chariot, see especially: I. Shaw, “Egyptians, Hyksos and Military Technology”, 59-60. With respect to Shaw’s five points in the note 9 above, the required prerequisites for the development of the chariot were as follows: raw materials including wood, leather, horses; different aspects of wood, leather, bone and metal-working technology; access to craftsmen specialised in the manufacture of the various components of chariots, and to craftsmen with the necessary skills and knowledge to convert all these parts into the finished product; military plans and strategies that would significantly benefit from the inclusion of chariot corps (see also Chapter V); and plans for empire-building campaigns in Syria-Palestine and Nubia, ibid., 62-3. Interestingly, Shaw believes that the Egyptians possessed many of the prerequisite material and technology for chariot construction by the Middle Kingdom although horse acquisition may have been a recurring problem, ibid., 65.

13 Ibid., 60.
The second major issue, industry, is concerned with the production and maintenance of military equipment and supplies.\(^\text{14}\) The existence of “factories”, where specific types of weaponry were manufactured, has been proven beyond any doubt and we have evidence spanning a considerable period of Egyptian pharaonic history.\(^\text{15}\) From the Middle Kingdom, for example, a scene from Beni Hasan depicts the manufacturing process for bows and arrows,\(^\text{16}\) while in a later scene from the tomb of Rekhmirē’ (dated to Dynasty XVIII), shields are shown being made.\(^\text{17}\) The manufacturing of the potent Khepesh sword is also noted in certain tomb scenes,\(^\text{18}\) whereas from early Dynasty XIX we have a particularly interesting, albeit fragmentary, scene from the tomb of Kii-iri. In this last example a wide assortment of weaponry is being manufactured and stored.\(^\text{19}\) Scenes depicting the manufacturing of chariots are likewise found in several tombs.\(^\text{20}\) Six of these which date to the period from Hatshepsut to Thutmose IV depict the workshops of the Temple of Amun at

\(^{14}\) M. Kress, Operational Logistics, 21.

\(^{15}\) One may even note the use of the term \(\text{šn₂} \) which referred to storehouses and workshops in which raw materials were transformed into finished goods or foodstuffs, E. Morris, The Architecture of Imperialism, 123.

\(^{16}\) P. Newberry, Beni Hasan I, pl. XI. To give one an idea of the numbers of arrows that would be needed for a particular campaign, let us assume that Pap. Koller is correct when it states that a quiver for a chariot holds 80 arrows (R. Caminos, Late Egyptian Miscellanies, 431). If the Egyptians were indeed capable of fielding 2,000 chariots in a single campaign (say at the battle of Qadesh, for example), that would give us a grand total of 160,000 arrows. Of course, chariots could carry two quivers (this would double the figure), and arrows were also required for the foot archers. Furthermore, additional (spare) arrows would have been required to replenish one’s stocks during and following a battle. The combined total of arrows would have been considerable.

\(^{17}\) N. Davies, The Tomb of Rekh-mi-rē’, pl. LIV. The tomb of Qenamun (TT 93) dated to the reign of Amenhotep II is also of note as it actually specifies the quantities manufactured, R. Morkot, “War and the Economy: the International ‘arms trade’ in the Late Bronze Age and after”, in Egyptian Stories: A British Egyptological Tribute to Alan B. Lloyd on the Occasion of His Retirement, T. Schneider and K. Szpakowska (eds), (Münster, 2007), 172.

\(^{18}\) Again, the main scenes are found in the tombs of Rekhmire and Qenamun, R. Morkot, “War and the Economy”, 182.


\(^{20}\) The earliest known chariot manufacturing scene was found in the tomb of Hapuseneb (TT 67) dated to the reign of Hatshepsut. Additional scenes have been found in the following tombs: Intef (TT 155) dated to Hatshepsut/Thutmose III; Menkheperreseneb (TT 86) – Thutmose III; Puiemre (TT 39) – Thutmose III; Meri (TT 95) – Amenhotep II; Hepu (TT 66) – Thutmose IV; and Amenhotepsiese (TT 75) – Thutmose IV, see A. Herold, Streitwagen Technologie: Knäufe, 51-78 for the key images from these tombs. Additional “manufacturing” scenes of note include the Qadesh images of Ramesses II, ibid., 74-5. Yet these are concerned more with the repairing of chariots “in the field” rather than constructing them anew.
Karnak. That the temple workshops became the primary centres of chariot manufacture during this period should not come as too much of a surprise. The Temple of Amun especially was the primary recipient of both exotic foreign materials (i.e. wood) and skilled labour which were both vital prerequisites for building a chariot. Having a virtual monopoly on the construction of the most powerful weapon of the time likewise must have held certain advantages. Other later dated scenes, however, have been found in private tombs at Saqqara whereas from the site of Piramesses, workshops for chariot construction have also uncovered. The manufacturing of a particular weapon was only part of the picture, as its adoption could also bring into existence new industries to support it. The chariot, for example, not only required the establishment of workshops (as noted above) but also the establishment of a new industry centred on the acquisition, training, and maintenance of horses. Overall, it was this industry as a whole which provided the


22 Ibid., 132.

23 For the scene from the tomb of Kii-iri, dated to Dynasty XIX, see: W. Grajetzki, “Das Grab des Kii-iri in Saqqara”, 115; and A. Herold, Streitwagentechnologie : Knäufe, 72-3. For the tomb of Ipuja (late Dynasty XVIII), see: ibid., 72-3. Scenes of chariot manufacturing at Saqqara are also present in two reliefs, each from unknown tombs (one is dated to the Amarna period and the other to Dynasty XIX or XX), and on the stela of Sahu (Amarna period), ibid., 68-71. While not necessarily a manufacturing scene, we may add to this discussion the two Memphite fragments of late Dynasty XVIII date which depict a procession of chariots and personnel with a possible Asiatic connection, see: C. Manassa, “Two Unpublished Memphite Relief Fragments in the Yale Art Gallery”, SAK 30 (2002), 255-67 especially 267. For the workshops at Piramesses which have been described as almost forming a “modern assembly line”, see: E. Pusch, “‘Pi-Ramesses-Beloved-of-Amun’”, 137-8 and 140. The apparent shift in production to the north is of particular interest. It not only reflects a strategically logical step following the establishment of military related centres and the national capital in the north as seen with Memphis, Tjaru and later Piramesses, but it was a move that, from a logistics perspective, made perfect sense. On another level, however, it also signified a very real break from reliance on the temple workshops for the manufacturing of weaponry, but see also: R. Drenkhahn, Die Handwerker, 132-3. Drenkhahn commented that the main recipients of chariots from the temple workshops were the king and his immediate entourage rather than the army as a whole.

24 Drenkhan noted especially the need for cooperation between workers of the two very different types of industry essential for the manufacturing of chariots: wood and leather, Die Handwerker, 130-1.

25 As is noted, for example, in certain tomb scenes such as from the tomb of Tutu at Amarna where we see horses being feed and chariots maintained, N. de Garis Davies, The Rock Tombs of el-Amarna: The Tombs of Penthu, Mahu and Others VI, (London, 1906), pl XX. At Piramesses, the stables were equipped with tethering stones and a drainage system and there was also an exercise court, E. Pusch, “‘Pi-Ramesses-Beloved-of-Amun’”, 138 and 140. The training that horses underwent was an important concern, K. Hansen, “Collection in Ancient Egyptian Chariot Horses”, 173-4 and 179 and this tended to be started at a very early age (the horse’s first year according to tablets from Nuzi), A. Hyland, The Horse in the Ancient World, 73. Mitannian horses underwent a seven month programme of training following which, they were capable of covering great distances (trotting) and were able to pull a chariot at top speed for over one kilometre, A. Cotterell, Chariot, 50. Following their wintering,
Egyptian military with its tools of war. Certain types of industry were not limited to
the home base of a particular empire or polity but could be established anywhere
within their borders and even within the territory of former enemies. Following the
thawing of Hittite-Egyptian relations, the Hittites established a small shield
manufacturing centre in Piramesses.²⁶ The Egyptians likewise had workshops outside
of the Nile such as the chariot repair facility at Joppa.²⁷

The next two issues are inventory and storage facilities. These are concerned
with the all important tasks of stockpiling and storing ammunition and weapons.²⁸ For
instance, among the many functions of the fortress of Mirgissa was that it apparently
served as a weapons storage facility.²⁹ As noted in Chapter III, we know that weapons
were issued to soldiers at the fortress of Tjaru, and such weapons storage facilities are
represented in both the battle reliefs of Ramesses III as well as the Kii-iri fragments
(which may also depict a chariot park).³⁰ Facilities were also created for specific tasks
including, for instance, the storage of foodstuffs. This was, most evidently, the

²⁶ E. Pusch, “‘Pi-Ramesses-Beloved-of-Amun’”, 142-4. In addition to Hittite shields, European-style
long swords, for the use of Egypt’s Sherden auxiliaries, were also manufactured in Egypt, M. Bietak
and R. Jung, “Pharaohs, Swords and Sea Peoples”, 213.

²⁷ A. H. Gardiner, Egyptian Hieratic Texts, 24-8 (22.1-26.15). See also our comments below in note 73.

²⁸ M. Kress, Operational Logistics, 21-2. As with šnt (see above, note 15), the term st was often used to
designate storehouses for food and weapons, see, for example: E. Morris, The Architecture of
Imperialism, 148; and Urk IV, 547.4.

²⁹ S. T. Smith, Askut in Nubia, 41. This fortress also served as a weapons manufacturing centre.
Sharpened stones for stretching leather to be used to make shields as well as wooden handles were
uncovered at this site, P. L. Shinnie, Ancient Nubia, 77; and B. Trigger, Nubia under the Pharaohs, 71.
It is possible that some of this weaponry was exported back to Egypt, ibid., 71.

³⁰ R. Caminos, Late Egyptian Miscellanies, 401; Medinet Habu I, pl. 29; and W. Grajetzki, “Das Grab
des Kii-iri in Saqqara”, 115.
function of the Middle Kingdom Nubian fortress of Askut, and we have mentioned already how Thutmose III ensured that supplies were stockpiled and stored in the warehouses of certain harbour cities. Not surprisingly, we find mention of officials who appear to be connected in some way with running of the logistics organisation for the army such as the “agents” (\textit{rw\textdhw}) who were active in both Nubia and Syria. With respect to the former region, during the Middle Kingdom, Sesostris III commissioned the \textit{wr m\textdhw smf\textw} (the great of the Tens of Upper Egypt) Ameny to oversee various undertakings in support of a military campaign, which included the following: establishing the fortress of Elephantine as a base to launch the campaign; construction of additional storage facilities in Upper Egypt; and the massing of troops on the island of Elephantine. As for the Asiatic theatre, during the New Kingdom, an official named Djehuty-hay-tep was appointed (possibly by Thutmose I) as overseer of the storehouse at the “Ways of Horus”, whereas during the reign of Thutmose III, responsibility for the preparation of campaign palaces fell to a first herald (\textit{whmnw tpy}) named Antef who would travel ahead of the army in order to ensure that the ‘\textit{h}-palace was ready to receive the king. Another official, Si-Amun, appears to have been in charge of the coastal supply depots that had been established by Thutmose for his army. Vassal and allied states ideally would have needed to have received such notifications well in advance in order to have sufficient time to prepare the necessary supplies.

31 S. T. Smith, \textit{Askut in Nubia}, 46-7; and Chapter III: \textit{Nubia}.

32 See Chapter III: \textit{Transportation of Resources}.

33 These “agents” appear to have been agricultural supervisors and from the annals of Thutmose III their duties are noted. With the establishment of supply bases in Syria, fields were made into districts each under the control of one of these agents who would be responsible for collecting the wheat. Groll noted that there was also a Syrian equivalent known as ‘\textit{hup\textsu} “field owners” whose duties were to supply the army with food either from their own fields or, in times of famine, from other sources. (\textit{EA} 114, 54-7), S. I. Groll, “The Egyptian Administrative System”, 238-9.

34 A prince Nubkhaure was also involved in the preparations, at least as far as activities for the fortress of Elephantine were concerned, see: J. Wells, “Sesostris III’s First Nubian Campaign”, in \textit{Essays in Egyptology in honor of Hans Goedicke}, B. Bryan and D. Lorton (eds.), (San Antonio, 1994), 339-47.

35 The text itself is dated to the reign of Thutmose I: \textit{Urk} IV, 547.3-4; and E. Morris, \textit{The Architecture of Imperialism}, 48-50.

36 \textit{Urk} IV, 975.2-11; E. Morris, \textit{The Architecture of Imperialism}, 139-40; and D. Redford, \textit{The Wars in Syria}, 180-1.

The final issue is *transportation* which has both static and dynamic components. The static components refer to lines of communications such as roads, rivers, sea-routes as well as their associated infrastructure which can include bridges, harbours, slip ways and so forth.\(^{38}\) Such lines of communications are characterised by three main factors.\(^{39}\) The first is capacity, that is, certain communications routes can have limitations with respect to the amount of traffic they can handle. The “Ways of Horus” and its associated logistics infrastructure, for instance, could only support so many men crossing the Sinai at any one time. The same was likely true for the network of routes connecting the Libyan Oases (as noted especially with the Abu Ballas trail). Other geographical features, such as the Aruna pass, could also impact heavily on the movement of troops and supplies. Sea routes, on the other hand, while theoretically having unrestricted carrying capacity, are in fact limited to the size and accessibility of the harbours at the origin and destination points and of course the availability of shipping.\(^{40}\) The second factor associated with lines of communications is duration which refers to the amount of time it takes for a military unit to travel from one point to another. In the case of the Egyptian army travelling on land with baggage animals, this was approximately 22 km per day.\(^{41}\) Sea travel could be even quicker potentially taking just 7 days for a force to travel from Memphis to Byblos.\(^{42}\) The third and final factor is survivability. Vulnerable communications routes may be subjected to enemy interdiction as seen, for example, with the Shasu attacking the Egyptian supply fortresses in the Sinai.\(^{43}\) The dynamic components related to

\(^{38}\) The Egyptians appeared to have rarely relied on bridges to cross stretches of water. The main reason was likely due to the fact that flooding was a problem in both Egypt and Mesopotamia which contemporary engineering ability may not have been able to overcome, see L. Casson, *Travel*, 26; and R. Partridge, *Transport*, 81-8. The only known image of a bridge we possess is found in the Karnak war reliefs of Sety I: *RIK* IV, pls. 6-7. Slipways were employed in Nubia to facilitate the movement of shipping through the cataracts, see: W. Emery, *Egypt in Nubia* (London, 1965), 156 (and also our comments in the previous chapter). Harbours were especially sought after during the New Kingdom for their strategic location as noted in the annals of Thutmose III, *Urk* IV, 692.14.


\(^{40}\) For this last point, see Chapter V: *Land versus Naval Operations*.

\(^{41}\) See previous chapter for discussion, and also: D. Redford, *The Wars in Syria*, 201-2.

\(^{42}\) But likely longer, see: *ibid.*, 204. Sea travel was, however, inherently more difficult due to weather considerations and hostile interference. See Chapter V for further discussion.

\(^{43}\) For the danger posed by these irregular elements, see Chapter V.
transportation the other hand refer to the various devices designed or utilised for the movement of men and supplies.  

Logistics at the strategic level needs to take into account two additional factors. The first of these is manpower considerations, which includes everything from initial recruitment to the arming, clothing, feeding, and training of soldiers. With recruitment especially, the calling up of soldiers from the national population, from allied states, or vassals could take considerable time. The second factor, however, is of greater importance, as it is at this level that the proposed structure of the operational logistics network is first formulated. Indeed, logistics at the strategic level is characterised by the fact that it is mainly carried out during peacetime with considerable long term planning. These plans are designed to be robust, and long lasting, but are concerned more with attaining efficiency rather than effectiveness. In other words, cost is an important consideration. For instance, while it may possibly be ideal in terms of military effectiveness to arm an entire army with chariots, the cost (or efficiency) of doing so, however, would have been prohibitive. The same also holds true for the establishment of numerous bases on foreign soil. The costs associated with maintaining such a sophisticated logistics infrastructure may become too much of a burden for the state to maintain, as was likely the case for the Egyptians during Dynasty XIX.

\[44\] With respect to land transportation, this has been already covered to a certain extent in Chapter III. As for naval transportation, while this falls out of the scope of this study, see nonetheless, our brief comments in Chapter V. To that, we may also add those vessels capable of transporting horses and chariots: D. Redford, *The Wars in Syria*, 205.

\[45\] For aspects of these processes in Egyptian art, see Chapter V note 197.

\[46\] See, for example: R. Beal, *The Organisation of the Hittite Military* (Heidelberg, 1992), 37-56. While troops could be recruited throughout the empire, it was likely only the standing army received formal training, *ibid.*, 127. Foreign auxiliaries, as we have noted in Chapter I, were another source of manpower.

\[47\] M. Kress, *Operational Logistics*, 80.


\[49\] The financial burdens of empire are well known. As has been argued, it can be difficult to turn-a-profit in conquered territories, B. Kemp, “Imperialism and Empire in New Kingdom Egypt (c. 1575-1087 B.C.)”, in *Imperialism in the Ancient World*, P. D. A. Garnsey and C. R. Whittaker (eds.), (Cambridge, 1978), 56.
Jonathon Roth, in his study on Roman Logistics, likewise identified a strategic level of logistics but utilised instead the term “Strategic Base”.\(^{50}\) This was in effect the region or regions which initially supplied the army with all of its consumable and non consumable goods. This is a somewhat more holistic interpretation of logistics at the highest levels of war but nevertheless remains a valid interpretation. For the Romans therefore, regions within the Italian Peninsula would have initially served as their primary strategic base whereas for the Egyptians, their “Strategic Base” would have been the productive regions of the Nile Valley. Indeed, it does appear that the majority of weaponry was manufactured within Egypt, or at the very least at certain bases around the frontier. We can, however, elaborate further on this by taking into account Kress’ observations as well. While the core/primal “Strategic Base” provided the Egyptians with most of the raw material needed for logistics at this level, the issues as described by Kress, and covered above, ensured that these raw materials were processed into useable components in order to wage war. The final and most important step was for these resources to be easily accessible to the lower levels of the logistics network. Ideally, what was needed was a strategic level facility or series of such facilities which could serve as either storage areas or conduits for supplies of men and material leaving the Nile and entering into the theatre of operations where they were needed, and this is, in fact, what we find. It must be stressed at this juncture that there is no clear distinction between this level of logistics and the next. Thus to use the Sinai fortresses along the “Ways of Horus” as an example, while their (long term) planning and construction were clearly strategic level concerns, their military function nonetheless belonged predominantly at the operational level.

**Operational Level Logistics**

Moshe Kress determined that logistics actions and processes at the operational level can be divided into three main phases.\(^{51}\) The first phase involves creating the infrastructure or logistics network (this is the physical embodiment of logistics at this level) in order to support operations within the strategic theatre. We have already

\(^{50}\) J. Roth, *Logistics*, 156-69 and 223. Roth, in turn, was following the terminology (i.e. *strategische Basis*) as employed by Anton Labisch in his: *Frumentum Commeatusque: Die Nahrungsmittelversorgung der Heere Caesars* (Meisenheim am Glan, 1975).

noted the Egyptians were military active in Western Asia, Nubia, and Libya. These three strategic theatres each represented, as we have seen in Chapter III, and will comment on further in Chapter V, very distinct geographical and political environments.\textsuperscript{52} As such, a particular logistics network that works well in one of these theatres may not be suitable if applied to the other two. Geography, in particular, has a profound impact on the selection and placement of operational bases, and also on the lines of communications connecting all these bases. Regardless of the geographical and political differences, logistic bases, or operational bases as classified by both Roth and Kress, still needed to be selected, and linked closely with this, a full awareness of the lines of communications (in particular their potential vulnerabilities), which will serve to connect the bases with each other and with Egypt, was also required. The end objective was the establishment of a workable logistics network. The bases selected could be either existing cities, ideally walled or at least possessing a citadel, or where no existing infrastructure was present, a permanent military fortification built completely from scratch. These bases served the important function of providing the army with a series of rendezvous points in order to replenish and rest in a secure environment before marching off into hostile territory. For the permanent garrisons of these bases, in addition to their primary task of gathering supplies within their areas of control in order to provision the army, it may even have been necessary for them to be self sufficient with respect to their own needs without having to rely on supplies being sent from Egypt.\textsuperscript{53} It was essential that these bases remained absolutely secure from enemy attack, hence the emphasis on fortifications (as well as the need for a competent garrison). They were especially chosen (or constructed) if they

\textsuperscript{52} Of particular interest, the Middle Kingdom Execration Texts tend to mirror these differences in their toponym coverage of Asia and Nubia. With respect to the former, changes in the order of the Asiatic toponyms are noted whereas with the latter they are presented in a fixed order. This may have been due partly to Egypt’s differing foreign policies in each of these regions but more so to each region’s very different geographies, S. Cohen, \emph{Canaanites, Chronologies, and Connections}, 48 and note 64. As we have noted, Nubian geography placed far more restrictions on movement and this would have led to a more fixed toponym list, whereas with the much broader geographical region of Asia, there was greater flexibility when moving between cities, something that is reflected in the texts.

\textsuperscript{53} J. Roth, \emph{Logistics}, 156; and F. James and P. McGovern, \emph{The Late Bronze Egyptian Garrison}, 235. There was an abundance of various types of foodstuffs, in addition to grain, around Beth Shan which could be exploited by the garrison. Some of this could have been stored in preparation for the arrival of the Egyptian army. At Tell el-Ajjul herd ownership and access to local agricultural products would have allowed for a high degree of self sufficiency although it appears that supplies occasionally did make their way from Egypt as evidenced by a sherd of an Egyptian storage jar uncovered at this site, E. Morris, \emph{The Architecture of Imperialism}, 65-6. On this point, however, see our comments in note 62 below.
commanded a “strategic location”, that is, if they controlled an important (generally a geographic) decisive point. Port locations along the Asiatic coastline, islands, or key fording points along major rivers were all desirable in this respect. Additional characteristics of these bases would be that they likely possessed secure water sources and some capacity to safely store significant quantities of foodstuffs such as grain or even meat.\textsuperscript{54} Workshop facilities (for the repair and maintenance of chariots and weapons), as well as storage for ammunition (arrows in particular), would also have been advantageous. A larger operational base may also have housed civilian officials, in addition to military personnel. Overall, these bases served as anchors for the lines of communications extending back to Egypt, and as with the Romans, they would have given the Egyptians greater strategic, operational, and tactical flexibility.\textsuperscript{55} Kress further noted that operational bases shared three important characteristics.\textsuperscript{56} The first being capacity (larger bases had greater capacity in terms of storage, housing (for troops) and so forth). The second factor is survivability. Bases can be damaged or destroyed thus removing them from the logistic network. This could also be an aspect of counter logistics, as will be covered in the second half of this chapter, and the emphasis on fortifications and competent garrisons was something that Roth stressed the necessity of to avoid this potentiality. The third factor is dynamics. Due to the changing military or political situation, bases may have to be moved, in most cases closer to where the action is. As a result the network may evolve to include rear and forward operational bases.\textsuperscript{57} For example, and as we shall cover in greater detail below, as Egyptian influence in Asia extended northwards, Gaza would have become a rear operational base linking Egyptian lines of communications running from Egypt to other bases closer to the action (Byblos, Ullaza for Dynasty XVIII or Beth Shan, Kumidi for Dynasty XIX).\textsuperscript{58} A similar situation occurred in Nubia as the Egyptians extended their control further and further south. As more operational bases were

\textsuperscript{54} Such as the use of meat storage jars, see our comments in: Chapter III note 39.

\textsuperscript{55} J. Roth, \textit{Logistics}, 170.

\textsuperscript{56} M. Kress, \textit{Operational Logistics}, 154-5.

\textsuperscript{57} \textit{Ibid.}, 30.

\textsuperscript{58} Gaza’s importance cannot be understated. Capturing this city was an essential prerequisite for any attack against Egypt proper. It was also the last stopping point where water could easily be obtained, and the key station for entering or leaving the Sinai Peninsula. See also the comments of A. Spalinger, \textit{War}, 135.
accumulated, this allowed the Egyptians to extend their military operations further afield. On the flip side, the loss of an operational base was considerably more damaging than say losing a minor supply depot (see below). The fallout from such an occurrence would have necessitated a major revision in strategic planning and an inevitable reduction in size of the area of operations. The same was also the case with vassals and alliances. Vassals played a vital (and more importantly, cost effective) part in supplying the Egyptian army while on campaign. If a vassal state or alliance was lost for whatever reason, this would have placed the burden of supply back onto the Egyptians.

The second phase is the deployment, which is when military resources are accumulated and positioned at certain (secure) locations (either in operational bases or dedicated supply depots, or even in vassal or allied cities) within the strategic theatre. To highlight the effectiveness of such bases, one can refer to the Roman practice of setting up a fortified camp at the end of each day’s march. Roth has argued that these camps, after they have housed the army, are then turned into fortified supply depots, and that a string of such depots served to connect the last tactical base with the operational base, and the latter with the strategic base. Such a sophisticated network was also a feature of the Egyptian system. Dedicated fortified supply depots are found in Egypt’s strategic theatres at various periods. For the most part they shared certain features with the operational bases such as possessing a secure water source, as well as considerable grain storage capabilities. In Nubia (during Egypt’s Middle Kingdom expansion), the supply depot exemplar was undoubtedly the fortress of Askut with 22% of its interior set aside for the granaries. The Sinai fortresses likewise fulfilled Egypt’s supply needs, as did the isolated outpost of Abu Ballas in Libya. In these cases, the depots were constructed specifically for the purpose of overcoming logistically barren territory. Otherwise, existing infrastructure, notably the use of allied or vassal facilities could be relied upon, as Thutmose III did with certain harbour cities in Asia during his campaigning. Some of these bases were even modified over time in order to accommodate advances in weaponry. The introduction of the chariot, for example, necessitated the widening of the main gate of at least one of the Sinai fortresses. The use of supply depots to supplement a network of

59 For discussion, see: J. Roth, Logistics, 156-89.

operational bases enabled an army to further lessen its dependence on an unwieldy baggage train.\textsuperscript{61} Due to their importance, the depots, as did the operational bases, needed adequate defences and a competent garrison as any enemy attempt at interdiction of supplies could prove fatal to an army out in the field. An important difference between an operational base and a depot, however, was that the former could obtain a high degree of self sufficiency with respect to its day to day needs, and in addition, had the potential to source supplies locally in order to provision military forces passing through without having to rely on shipments from Egypt.\textsuperscript{62} This was an important consideration as such bases, in foreign lands, may find themselves suddenly quite isolated if the political situation changed for the worst. Supply depots, on the other hand, were generally more reliant on supplies shipped from other locations as they tended to be situated in areas lacking sufficient logistic infrastructure. But even then, they too were expected to be self sufficient in certain areas with respect to their day to day needs.

The final phase is \textit{employment}, and this is concerned with the actual implementation of the operational logistical system in order to sustain the military operation or operations in question.\textsuperscript{63} The feasibility of the system should be evident in its ability to adequately support the army within the strategic theatre. If the army were to suffer any logistical hardship, then the system was obviously insufficient. Ideally, the network should be able to sufficiently support the army from the moment it leaves its primary strategic base (Tjaru, for example) and until it arrives on the battlefield. The same also applies to the animals which accompany the army. One could easily overlook the importance of fodder, pasturage and the like and its effect

\textsuperscript{61}This was, in part, an important feature of the Muslim supply system where there was little use made of wheeled vehicles for the transportation of supplies, H. Kennedy, \textit{The Armies of the Caliphs}, 85-7. However, unlike with the Egyptians, Muslim armies instead relied more on markets and merchants from which soldiers had to purchase their requirements, \textit{ibid.}, 87-8.

\textsuperscript{62}See, for example, the pertinent comments of: A. E. Killebrew, “New Kingdom Egyptian-Style and Egyptian Pottery in Canaan: Implications for Egyptian Rule in Canaan during the 19th and Early 20th Dynasties”, in \textit{Egypt, Israel, and the Ancient Mediterranean World: Studies in Honor of Donald B. Redford}, G. Knoppers and A. Hirsch (eds.), (Leiden, 2004), 309-43. Killebrew noted especially that in a number of key sites (Beth Shan, Tell es-Saʿidiyeh, Aphik, Tell el-Farʿah (S), and Deir el-Balah) most of the Egyptian-style pottery uncovered was found to have been produced locally in Canaan with only a small amount actually imported from Egypt, \textit{ibid.}, 310-41. This differed markedly from the situation faced by the Fatimids who, once they had lost access to the Palestinian agricultural land, had to transport everything from Egypt, W. J. Hamblin, \textit{The Fatimid Army during the Early Crusades}, 231.

\textsuperscript{63}M. Kress, \textit{Operational Logistics}, 47.
on military strategy. But one need look no further back in history than the beginning of World War I where German units during their initial 1914 offensive quickly ran out of supplies for their horses.\footnote{M. Van Creveld, \textit{Supplying War}, 111 and 124-5.} Deficiencies in the system could be the result of insufficient planning, although any number of unforeseen or unpredictable factors could easily disrupt the workings of a logistics network. One must especially not discount the impact of hostile military activity, and this is something that will be considered in greater detail below.

\textit{Tactical Level Logistics}

The third and final level of logistics is found at the tactical level. Again, as with operational level logistics, the physical embodiment of this level was the tactical base which was set up in close proximity to the enemy and was effectively the last base or camp the army left before going into battle. This was true for both the Romans, as well as the Egyptians. The Egyptian tactical camp was mobile in nature, that is, it was set up and dismantled when and where required. Its most important feature was that it provided some protection (physical and psychological) for the soldiers, chariots and the baggage train in the form of a shield wall.\footnote{It is worth noting that Maurice, when describing the ideal camp layout, thought the four-sided, oblong form the best for order. He also recommended that the camp should ideally possess four large public gates (in addition to a number of smaller openings) with the General’s tent positioned near the centre, \textit{Strategikon}, 158-60.} A visual example of such a camp is seen in the Qadesh reliefs allowing us the opportunity to glimpse its simple but effective layout.\footnote{W. Wreszinski, \textit{Atlas II}, pls. 81-2, 92-5 and 169-78.} As has already been noted in Chapter III, the living quarters occupy the central part of the camp’s enclosure with areas for the pack animals and storing supplies around the outskirts. One area appears to have been set aside for wheeled vehicles (chariots and baggage wagons) and their associated horses and oxen. The textual accounts likewise make reference to the setting up of a camp prior to battle, however, they do not provide us with any details as to its layout.\footnote{\textit{Urk IV}, 655.15-656.13.} If a city or town was in close vicinity to the intended battle area, on the other hand, this could also serve as a tactical base.
According to Kress, a number of key actions are associated with tactical level logistics. The first involves replenishing ammunition as seen, for example, in the Beni Hasan siege scenes where soldiers are depicted bringing up additional arrows or spears. A similar situation may also be taking place in the assault scene from the tomb of Khaemhesy. The next important action involved refueling. While a modern army now relies on large quantities of petroleum, pre-industrial armies were just as dependent on fodder for their animals. For the Egyptians, their donkeys, oxen, and horses all needed food and water, as is quite clearly illustrated in the Qadesh camp scenes where we see these beasts busily consuming food. A third action at this level involves fixing equipment. We see an aspect of this in the Qadesh reliefs where it appears that a chariot is in the process of being repaired. A more informative account is found in Pap. Anastasi I where a badly damaged chariot receives extensive repairs in the city of Joppa. The next action involves supplying rations and other personal needs. Even within the relatively small time frame of a tactical battle, the soldiers still required food and water prior to, and following their engagement with the enemy. Again from the Qadesh scenes, we find images of rations being prepared and administered to the fighting troops. Another important action at the tactical level, and one that resonates on a moral level, is providing immediate medical aid and evacuation to wounded combatants. We have noted in Chapter III that soldiers wounded in combat probably received some form of medical treatment. Indeed, even before or following the battle there will always be accidents, non combat deaths, and sickness to deal with often requiring the services of a physician. The final action at the tactical level involves treating POWs and civilian population. As will be covered in greater detail below, there are numerous battle reliefs which depict captives being led

68 M. Kress, Operational Logistics, 27.
69 P. Newberry, Beni Hasan II, pl. 5.
70 C. Vogel, Ägyptische Festungen, 42.
71 W. Wreszinski, , Atlas II, pls. 81-2, 92-5, and 169-78.
72 Ibid., pl. 92a.
73 H. Fischer-Elfert, Die satirische Streitschrift, 227-9; and A. Gardiner, Egyptian Hieratic Texts, 24-8 (22.1-26.15). The presence of chariot workshops in key operational bases is of particular interest. Such facilities would have been capable of conducting a wider range of repairs than would have been possible “in the field”.

259
away after a successful military action, and the textual accounts are likewise quite explicit in their mention of captured prisoners and other “spoils of war”.

Planning logistics at the tactical level is nonetheless simple as the focus is on specific needs for short time spans within small geographical areas. Indeed, at this level of logistics, priorities are reversed from what we have seen at the strategic level. For instance, while strategic logistics aims for efficiency over effectiveness, the opposite is true here. Soldiers tend to want the best weaponry available and in the case of the archers, enough ammunition to last the battle. Cost effectiveness (how much time and effort is needed to produce an arrow) at this level is not a consideration. At this point, one must make a clear distinction between the supply and provision of the army (and its animals) at the operational level and at the tactical level. The main task of the former is to provide a network in which the army can receive supplies within a secure environment before marching off to engage the enemy in combat. For the latter, where the enemy is in close proximity, there may be few options for acquiring additional supplies (other than what the army brought with them), and the potential exists for either side to employ “counter-logistic” strategies in an attempt to starve their opponent into acting against their best interests. With tactical logistics we are as far removed from the strategic level as possible. The Egyptian camp as seen in the Qadesh reliefs, with its soldiers, chariots, and baggage animals, located far from Egypt and in hostile territory represents in many respects the final end product of a very complicated and sophisticated logistics system.

Logistics Networks

Having examined how logistics functions at the three levels of war we will now take a closer look at the networks the Egyptians established in each of their strategic theatres. In doing so, we will be utilising Kress’s Visual Network Model as this is a useful tool for analysing a logistics network especially for determining its various strengths and weaknesses. As mentioned above, a logistics network should be evident through the establishment or occupation of certain bases or cities in key locations within a specific strategic theatre. Again, following the terminology

---

74 M. Kress, Operational Logistics, 83.
employed by Kress as well as others, we should be able to reconstruct from the evidence (if only schematically at least) an idea of the layout of Egypt’s logistics networks and their evolution over time and geography. As we have noted above, logistics at the strategic level furnished the Egyptians with the bulk of their weaponry and foodstuffs. These needed to be transported and stored in certain locations or “strategic bases” that were situated conveniently in or near the Nile Valley but also close to Egypt’s three main strategic theatres. From these key bases, the army and its matériel will then move into and within the strategic theatre via the operational level bases which essentially formed the backbone (so to speak) for the network itself. At the end of the network, we should find our tactical bases.

The Logistics Network in Asia

The strategic level bases which mark the beginning of the logistics network are no better designated than by the major htm fortress complexes that effectively controlled the major entry points to the Nile. With respect to Asia, the htm-fortress and marshalling point of Tjaru served this function marking one of the beginnings of the Asiatic (land based) logistic network. Prior to the (re)establishment of Tjaru, however, other bases were likely utilised as strategic bases such as the palatial district that was possibly built during the reign of Ahmose in the former Hyksos capital of Tell el-Dab’a. This base appears to have been utilised by Ahmose and his immediate


76 As noted above, Roth argues that a “strategic base” may in fact encompass all regions in which a distant army draws its supplies and not just one particular city or location, or as he notes a “single point”, *Logistics*, 223.


78 J. Hoffmeier, “Aspects of Egyptian Foreign Policy”, 132; M. Bietak, “The Center of Hyksos Rule: Avaris (Tell el-Dab’a)”, in *The Hyksos: New Historical and Archaeological Perspectives*, E. Oren (ed.), (Pennsylvania, 1997), 115-25; M. Bietak, “Avaris: Tell el-Dab’a”, *Dossiers d’Archéologie*, 213 (1996), 16-23; and M. Bietak, Avaris: The Capital of the Hyksos (London, 1996), 67-83. The palatial district was a significant site which featured an enormous platform for a palatial fortress measuring 70.5 m long and 47 m wide with an attached ramp 6.4 m wide, *ibid.*, 68-70. Of particular interest, both this platform and a palace structure uncovered nearby (complete with magazine tract) share certain characteristics with the Egyptian military base at Deir el-Ballas, *ibid.*, 68-70.
successors for (predominantly sea-based) military excursions into Asia – at least up to the time of Thutmose III.\textsuperscript{79} It is therefore possible that Tell el-Dab’a was the location of Peru-nefer, the base that was used when troops were to be transported by sea to Byblos.\textsuperscript{80} We do know of the existence of a “\textit{htm}-fortress of the sea” which would nicely suit the idea of a strategic base and departure point for naval expeditions to Asia.\textsuperscript{81} During Ahmose’s reign, nonetheless, Tjaru starts to come into prominence possibly reflecting the beginnings of a general shift away from naval to land based military operations (see Chapter V). Other known (land based) \textit{htm}-fortresses include Tjeku (Tell er-Retabah), and another which guarded access to the Nile via the Wadi Hammamat.\textsuperscript{82} It is by no means certain whether or not we can equate all \textit{htm}-fortresses solely with the strategic level, but the idea is rather attractive.\textsuperscript{83}

Once the Egyptian army had departed its strategic base and entered into the strategic theatre, it was now reliant on the operational bases and supply depots.\textsuperscript{84} The number of such bases (i.e. the extent of the network) did vary considerably. The initial and somewhat tentative network in place by early Dynasty XVIII consisted of only a small number of operational bases. The few that we know of included Sharuhen,

\textsuperscript{79} J. Hoffmeier, “Aspects of Egyptian Foreign Policy”, 132 but see also the comments in his note 63 concerning the possibility of a slightly later date. The second major phase of construction in the palatial district took place likely during the reigns of Hatshepsut and Thutmose III, M. Bietak, “‘Rich beyond the Dreams of Avaris: Tell el-Dab’a and the Aegean World: A Guide for the Perplexed’: A Response to Eric H. Cline”, \textit{The Annual of the British School at Athens} 95 (2000), 190-2; and M. Bietak, “The Tuthmoside stronghold of Perunefer”, \textit{EA} 26 (2005), 14.

\textsuperscript{80} The traditional view that the naval dockyards of Peru-nefer were located at Memphis may no longer be tenable, see especially the arguments put forward by: M. Bietak: \textit{Avaris}, 81-2; M. Bietak, “The Center of Hyksos Rule, 115-25; and M. Bietak, “The Tuthmoside stronghold of Perunefer”, 13-7. Others, however, believes the evidence is at present too inconclusive: D. Jeffreys, “Perunefer: at Memphis or Avaris?”, \textit{EA} 28 (2006), 36-7. See also the comments of: D. Redford, \textit{The Wars in Syria}, 203-5.

\textsuperscript{81} E. Morris, \textit{The Architecture of Imperialism}, 160-2.

\textsuperscript{82} Ibid., 175-7, 420-4 and 496-7.

\textsuperscript{83} A couple of exceptions to this include two mentions of the word \textit{htm} in the account of Thutmose III’s siege of Megiddo. The \textit{htm} fortress in which the Egyptians occupy clearly does not fit into the category of a “strategic base,” unless of course we consider the idea that it qualifies as such because of the fact that it was occupied by the king – thus making it a “command post” of sorts. For a more detailed discussion of this passage, see: ibid., 151-3. Also to be considered, however, is the fact that the scribe Sat-Amun held the position of ‘overseer of the \textit{htm}-fortresses of all northern foreign lands,’ which tends to indicate bases located outside of Egypt, ibid., 138-9 and 160-2.

\textsuperscript{84} A. Spalinger, “The Army”, 123.
Gaza, and at least one garrisoned city.\textsuperscript{85} Surprisingly, this did not pose any great restrictions on the operational abilities of the army as witnessed by Thutmose I’s Euphrates campaign which took place during what can best be termed Egypt’s “honeymoon” period of involvement in Asia. As the Egyptians were not yet in a position to permanently annex large portions of Asia, they instead relied on the expedition chevauchée as their primary offensive weapon. Supplies could be obtained on the march by any (aggressive) means possible without the need to worry about the consequences.\textsuperscript{86} Because of the political situation in this region at this time, there was no real active military opposition to these forays.\textsuperscript{87} This region was still suffering from the repercussions of the collapse of certain power blocs.\textsuperscript{88} The resulting political vacuum, and the inability of the surviving but now politically fragmented city states to put up any unified resistance, allowed the Egyptian army to operate in areas that would otherwise have been inaccessible – including the frontier of Mitanni.\textsuperscript{89} One can imagine these city states were only too happy to supply the Egyptians with whatever they required, at least initially, so in order to hasten their departure. It was with their “support” that Thutmose was able to operate far from any established operational and supply bases (just as Sherman had done in 1864).\textsuperscript{90} It was only when Thutmose reached the Euphrates region that resistance would have begun to stiffen. City states allied or subject to Mitanni would not have been as accommodating as those further to

\textsuperscript{85} Which may have been either Gezer or Lachish, see: E. Morris, \textit{The Architecture of Imperialism}, 38-41. There remains some uncertainty as to which site should be equated with Sharuhen, see Chapter II note 91.

\textsuperscript{86} See Chapter III: \textit{Living off the Land}.

\textsuperscript{87} J. Hoffmeier, “An Aspect of Egyptian Foreign Policy”, 133; A. Spalinger, \textit{War}, 49; and A. Spalinger, “The Army”, 124. It is even possible that the first encounter with Mitanni was not a planned attack: A. Spalinger, \textit{War}, 51.

\textsuperscript{88} D. Redford, “A Gate Inscription from Karnak and Egyptian Involvement in Western Asia during the Early 18th Dynasty”, \textit{JAOS} 99 (1979), 278-9; and H. Goedicke, “The Thutmosis I Inscription near Tomas”, \textit{JNES} 55 (1996), 175-6. There is considerable debate as to who the agents of this destruction were, A. Spalinger, \textit{War}, 65-6 note 7; and A. Spalinger, “The Army”, 124. See also our further comments in Chapter VI.

\textsuperscript{89} A. Spalinger, \textit{War}, 49.

\textsuperscript{90} One may hypothesise that a similar situation existed in Asia during the Middle Kingdom at the time of the military campaign in which Khusobek participated was conducted. The Egyptians, if indeed they had reached Shechem (Skmm), were able to penetrate quite deeply into southern Canaan with little resistance. This was not due to the fact that the territory they were passing through had already been subdued and that the goal was further territorial conquest, but rather this was more of a raid with no long term lasting effect, see: S. Cohen, \textit{Canaanites, Chronologies, and Connections}, 47.
the south and, geographically, Mitanni was in a better position than Egypt to extend its influence and empire into Syria and Palestine. Whether or not the city states in these regions believed the Egyptians would expand their influence permanently into their territories at this stage is open to question. Some may in fact have been happy to put up with the occasional Egyptian army passing through their domain if the result was keeping Mitanni at bay.

By the reign of Thutmose III, the network had changed considerably, and this reflects a move in Egyptian policy from conducting military raids to that of more permanent occupation. As a result, we find a marked increase in the number of operational bases.\(^91\) The network was also expanded into Syria with possibly Ugarit becoming one of Egypt’s most northern bases. There does, however, appear to be a significant gap in the network south of Byblos and north of Tell el-Ajjul.\(^92\) This could be in part because Egyptian armies were still occasionally transported by sea to the port city of Byblos. Alternatively, the region may not have been considered a serious threat, or it is possible a heavier reliance was placed on existing infrastructure. As well as placing garrisons in key cities, Thutmose III had at least one mnnw-fortress constructed in the region, possibly in the vicinity of Byblos.\(^93\) This heavier investment in Asia may also have been undertaken in response to the growing threat posed not only by more proactive Asiatic city-states but possibly also the actions of the superpower of Mitanni which was now in a position to vie with Egypt for control of the vassal states (hence the northern orientation of the network).

---

\(^{91}\) E. Morris, *The Architecture of Imperialism*, 136-64. Confirmed bases, however, still remain few in number: Tell el-Ajjul, Megiddo, and Byblos. The locations of Yarimuta and Ullaza likely also featured Egyptian bases. Other probable bases may include (from South to North) Gaza, Jaffa, Beth Shan, Yenoam, Akko, Sumer, Ullaza, Tunip, and Ugarit. It appears that the Egyptians relied heavily on existing infrastructure and local resources in order to ensure their new imperial policy remained cost effective: *ibid.*, 141-2.

\(^{92}\) As noted by E. Morris, *The Architecture of Imperialism*, 140.

\(^{93}\) For a discussion on the possible location of this fortress, see: E. Morris, *The Architecture of Imperialism*, 153-6.
The above schematic chart is based on Kress’s Visual Network Model. This model is utilised to provide a useful overview of the key properties of the operational logistics network. At a glance one is able to identify the unique characteristics of a particular network, especially where it may be deficient. For example, by following the protocol as established by Kress and applying this to the above example (fig. 4.1) which in this case represents Egypt’s logistics network in Asia during mid Dynasty XVIII, we can quickly make the following observations. First, each oval represents a logistics base at a particular level. A larger oval refers to a base with a greater capacity than a base represented with a smaller oval. Therefore, the bases of Peru-nefer and Tjaru possess considerably more capacity than bases at lower levels. The

---

94 M. Kress, *Operational Logistics*, 158.

95 On the identification of Peru-nefer as Tell el-Dab’a, see note 80 above. Tell el-Dab’a was strategically located in the Pelusiac branch of the Nile and was therefore ideally suited as a departure point for expeditions to Asia, M. Bietak, *Avaris*, 81. The citadel of the late Hyksos period alone, encompassed some 50,000 m², M. Bietak, “The Center of Hyksos Rule”, 115. Furthermore, evidence uncovered at this site indicates soldiers were stationed there, possibly residing in tents: *Avaris*, 81; and “The Center of Hyksos Rule”, 115 respectively. The site also featured large grain storage silos as one
shade of the base indicates the base’s survivability. A dark shade refers to a relatively secure base, as with Peru-nefer and Tjaru. Moving into the operational level, Egypt’s vassals are classified as being less secure than Egyptian controlled bases. This is due to their somewhat unpredictable (i.e. unreliable) nature as well as the fact that they and their lines of communications tended to be more vulnerable. At the other end of the network, the bases at the tactical level are potentially the most vulnerable (the Egyptian camp at Qadesh for example). The status of the frame of the oval refers to the base’s mobility. A solid line indicates a static base (such as a city, city state, or fortress) while an oval with a dashed line refers to a mobile base (or in other words a tactical camp). The shade of the “edge” (that is, the line connecting each oval) represents its vulnerability. A dark edge indicates a reasonably stable connection (free from possible enemy interference) while a lighter shade refers to an edge which is vulnerable to hostile interference. Referring again to the above chart, the edges connecting Gaza, Byblos, and Ullaza (each being an Egyptian controlled base) are not as secure as those edges running back to the two strategic bases. They are however more stable than the edges running from the forward bases to the tactical camps. In this case, the more secure lines can be said to represent major communications routes such as the Via Maris. The width of the network indicates its flexibility. If we were, for example, to remove the vassal states from the equation, the resulting network would be considerably more restricted and therefore less effective in supporting military operations. This model can also be used to gauge an indication of the amount of resources the Egyptians have invested into their network. Essentially, a network that is extensive and exhibits secure bases and lines of communications throughout would indicate a high level of investment. A weak, inflexible and vulnerable network model on the other hand points to insufficient investment. The Dynasty XVIII model is about halfway between the two extremes. The system is secure where the Egyptians

would expect of a militarily vital base, ibid., 116. This is further emphasised by the second phase of construction within the massive palatial compound which possibly took place during the joint reign of Hatshepsut and Thutmose III, M. Bietak, “The Thuthmoside stronghold of Perunefer”, 14-5. With respect to fortress sizes in general, it is noteworthy that hmnnw fortresses tended to be large, substantially so, whereas mmnw fortresses were generally smaller and fell into a very similar size bracket. Other types of fortresses that are not classed as mmnw and are clearly not what we would consider operational bases, such as the Sinai fortresses, are even smaller.

As the Amarna letters indicate, retaining control of one’s vassals was no easy task (see Chapter V), although this was also a problem faced by the Hittites, see: J. Miller, “The Rebellion of Hatti’s Syrian vassals and Egypt's meddling in Amuru”, SMEA 50 (2008), 533-54.
have established permanent garrisons and supply depots (indicating a higher level of interest and investment of resources), but is weaker in those areas where vassal states are relied upon to furnish support.\textsuperscript{97} Finally, one may note that there are only two key routes in which the Egyptians are able to utilise in order to enter the theatre of operations. The sea route, although faster, became, however, less desirable than the land route, which was utilised more heavily (as one would expect from a land power) from mid Dynasty XVIII onwards.\textsuperscript{98}

Overall, the above model (as well as the following ones) serves only to provide a somewhat basic abstract representation of Egypt’s Asiatic logistics system. To provide a more detailed assessment, we would ideally need to include all known bases, and vassals, and then restructure the model to better fit the geographical setting, that is, taking into consideration distances between points. More accurate representation of the carrying capacity (i.e. size of each oval) would also need to be adhered to. Unfortunately, given space constraints, the networks as presented in this study cannot follow all these conventions. Rather, our intention here is to introduce the possible applicability of Kress’ visual network model in analysing the Egypt’s logistics networks with the intention of pursuing this further in a future publication.

From the end of Dynasty XVIII, the network began to undergo a massive change and it was found that more Egyptian manned and maintained bases were needed to defend Egypt’s Asiatic territories.\textsuperscript{99} Some of the newly constructed bases reflected a higher level of investment (in terms of resources and personnel) than anything found previously. For example, one of the most visible aspects of this new policy was that it was found necessary to (re)fortify the “Ways of Horus”, something that appears was not needed during the reign of Thutmose III.\textsuperscript{100} Generally, the

\textsuperscript{97} Such as was the case near the end of Thutmose’s reign, see: D. Redford, \textit{The Wars in Syria}, 256-7. The Egyptians during this period, made substantial use of existing infrastructure and Canaanite labour for construction efforts from the reign of Thutmose III until the end of this Dynasty, E. Morris, \textit{The Architecture of Imperialism}, 274.

\textsuperscript{98} See our discussion in Chapter V: \textit{An Operational Shift}.

\textsuperscript{99} During late Dynasty XVIII, Egyptian bases included Deir el-Balah, Tell el-Ajjul, Gaza, Tell el-Hesi, Lachish, Gezer, Jerusalem, Jaffa, Beth Shan, Megiddo, Akko, Kumidi, Yarimatu, Byblos, Sumur and possibly Ullaza, E. Morris, \textit{The Architecture of Imperialism}, 217-310. For Dynasty XIX, the archaeological evidence increases considerably, and Egyptian bases are confirmed at Deir el-Balah, Tell el-Far‘ah, Tell el-Ajjul, Gaza, Tell Sera’, Tell el-Hesi, Ashdod, Tel Mor, Gezer, Jaffa, Aphek, Beth Shan, Byblos, Sumur, and possibly at Tell es-Sa‘idiyeh and Akko, E. Morris, \textit{The Architecture of Imperialism}, 382-98.

\textsuperscript{100} E. Oren, “The ‘Ways of Horus’”, 69-70.
fortifications found along the “Ways of Horus” and those in Palestine were constructed either late in Dynasty XVIII or early Dynasty XIX. This corresponds to a major shift in Egyptian policy with respect to its empire in Palestine which may have been officially instigated by Horemhab. ¹⁰¹ Due to what was likely a combination of both external and internal pressures, the Egyptians were now investing considerably more resources in this region. This meant a move away from an approach where exploitation was undertaken with the least possible cost (utilising indigenous resources and infrastructure wherever possible) to a more active and costly involvement. ¹⁰² One of the external catalysts may have been that the alliances, or at the very least pledges of support, from the various cities in this region, that were so important in Dynasty XVIII for logistical reasons, could now no longer be relied upon. ¹⁰³ This reliance had been especially valuable in the absence of Egyptian controlled bases as it allowed the Egyptians to conduct military operations further afield than would otherwise have been possible. However, if an ally or vassal was lost for whatever reason, or even worse, if one, two, or more key cities decided to rebel without warning, this would have resulted in major disruptions to operational and strategic planning. It would also have resulted in an unavoidable reduction in Egypt’s strategic reach. This situation could have been offset somewhat by either skilful diplomacy (in part of what Horemhab may have been attempting to do) or an efficient intelligence gathering system (as may have been evident from the Amarna letters) which could have provided sufficient forewarning of loss of support. However, it was only with the construction of Egyptian fortresses within key cities so to secure them, and the key geographical points they controlled (if any), that proved to be the best remedy. On that note, another danger that had to be contended with, which also necessitated an increased military presence, was potentially dangerous raids by


¹⁰² J. Weinstein, “The Egyptian Empire in Palestine”, 17-9; and A. E. Killebrew, “New Kingdom Egyptian-Style and Egyptian Pottery”, 309 and 342. Egypt’s military frugalness in Asia was especially notable during the period from Amenhotep III to the death of Horemhab, J. C. Darnell and C. Manassa, Tutankhamun’s Armies, 142.

¹⁰³ Ellen Morris, for her part, places more emphasis for this shift in the above mentioned internal policy changes of Horemhab which were meant to curb the excesses of a corrupt bureaucracy, The Architecture of Imperialism, 275-6.
Bedouin tribes and other unruly elements, the Apiru in particular.\textsuperscript{104} The main or immediate stimulus for this major change of policy was not necessarily direct interference by the other superpowers or their allies.

For the Egyptians, it was now necessary for them to secure their operational bases at their own cost, and while they remained predominantly self-sufficient with respect to their own supply needs, they were now, in effect, located in hostile territory (Sety I, for example, had to recapture Beth Shan and rescue the city of Reheb which was under enemy attack\textsuperscript{105}). It was therefore important that the Egyptians ensured that their supply lines and associated support infrastructure remained immune from enemy interference.\textsuperscript{106} The result was the installation within the network of fortified stations at key locations throughout this region supported by permanent garrisons.\textsuperscript{107} In Asia proper, the orientation of the bases appeared to be centred more towards the south in

\textsuperscript{104} Raiders by their nature, while destructive, were more a transient problem. For a comprehensive study of the Shasu, see: R. Giveon, Les Bédouins Shosou des documents égyptiens (Leiden, 1971); and W. Ward, “The Shasu ‘Bedouin’: Notes on a Recent Publication”, \textit{JESHO} 15 (1972), 35-60. The threat posed by the Shasu as well as other unruly irregular elements will be covered in Chapter V. Rebellions, on the other hand, generally required far more time and effort to put down.

\textsuperscript{105} \textit{KRI} I, 12.7-13.

\textsuperscript{106} Indeed, by Dynasty XIX, it appears that Egypt was facing persistent threats in all three strategic theatres to their lines of communications, see for example: E. Morris, \textit{The Architecture of Imperialism}, 649.

\textsuperscript{107} Another visible manifestation of this change of policy was the establishment of the so-called “Governor’s Residences” or administrative centres whose role was to more closely oversee Egypt’s economic and military interests. J. Hoffmeier, “Egyptian Foreign Policy”, 130 and 141. This, according to Hoffmeier, may have been an attempt by the Egyptians to establish a colonial model in Asia similar to what was attempted in Nubia. Killebrew noted, however, that there was less of a colonial intent here but rather the main purpose of these strategically located centres was to aid in the collection of tribute and deal with issues of security when required “New Kingdom Egyptian-Style and Egyptian Pottery”, 342. In either case, such an investment would only have exasperated the costs of military occupation to such an extent to lead to a system wide collapse. It is doubtful that the “residences” did in fact belong to members of the Canaanite elite as argued, for example, by: C. Higginbotham, “Elite Emulation and Egyptian Governance in Ramesside Canaan”, \textit{T4} 23 (1996), 154-69; and C. Higginbotham, \textit{Egyptianization and Elite Emulation in Ramesside Palestine: Governance and Accommodation on the Imperial Periphery}, (Leiden, 2000). For further criticism of Higginbotham’s primary thesis and similar minded studies which attempt to undermine the idea of direct Egyptian rule Asia (most notably the study of Betsy Bryan: “Art, Empire, and the End of the Late Bronze Age”, in \textit{The Study of the Ancient Near East in the Twenty-First Century. The William Foxwell Albright Centennial Conference}, J. S. Cooper and G. M. Schwartz (eds.), (Winona Lake, 1996), 33-79), see: E. Oren, “An Egyptian Marsh Scene on Pottery from Tel Sera’: A Case of Egyptianization in Late Bronze Age III Canaan”, in \textit{“I Will Speak the Riddles of Ancient Times”: Archaeological and Historical Studies in Honor of Amihai Mazar on the Occasion of His Sixtieth Birthday}, A. M. Maeir and P. De Miroschedji (eds.), (Winona Lake, 2006), 272-3; and C. Lilyquist, “The Use of Ivories as Interpreters of Political History”, \textit{BASOR} 310 (1998), 25-33. On the Governors’ Residences, in general, see: E. Oren, “Palaces and Patrician Houses in the Middle and Late Bronze Ages”, in \textit{The Architecture of Ancient Israel Prehistoric to the Persian Period}, A. Kempinski and R. Reich (eds.), (Jerusalem, 1992), 117-20.
Canaan (where most of the bases are located), rather than in Syria. The section of highway between Gaza and the Jezreel Valley especially underwent considerable change from Dynasty XVIII – XIX with the various cities along the route losing their autonomy and becoming Egyptian military centres. The city of Aphek had by the reign of Ramesses II become an Egyptian stronghold with a permanent garrison and this was the case for Ashdod as well. The latter served as an important supply base for convoys travelling north and was also located halfway between Gaza and another important centre – Joppa. Both of these cities were garrisoned by Egyptian troops. Other centres like Tell el-Far‘ah also came under Egyptian dominance if not during the reign of Ramesses II then definitely not long afterwards. Former sites of importance such as Tell el-‘Ajjul where the building known as ‘Palace IV’ has been classified as a fortress, may, on the other hand, have lost some of their value to other sites in this new strategic environment. New Dynasty XIX fortresses, for example, were built at the sites of Tell Mor and Beth Shan. The level VII fortress at the latter

---

108 E. Morris, *The Architecture of Imperialism*, 572-83 (for Aphek) and 550-7 (for Ashdod); and I. Singer, “Merenptah’s Campaign to Canaan and the Egyptian Occupation of the Southern Coastal Plain of Palestine in the Ramesside Period”, *BASOR* 269 (1988), 2. Aphek was of particular importance as being located at the headwaters of the Yarkon River it dominated this part of the major international artery. In particular, the road at this point contracts to a narrow pass between the Yarkon and the hills of Ephraim to the east. Adding further to the appeal of this site was the close proximity of a major water source and the presence of surrounding fertile agricultural land, Y. Goren (*et al.*), “Provenance study and re-evaluation of the cuneiform documents from the Egyptian residency at Tel Aphek”, *Ägypten und Levante* 16 (2007), 167. While the abundant fertile land would have helped to make the garrison of this site self sufficient with respect to their supply needs, on one occasion nonetheless, a shipment of 15 metric tons of wheat was requested from Ugarit by the Egyptian official Haya, *ibid.*, 164-5 and 168-9. Overall, considering the diverse range of documents uncovered at this site, it is clear that even though it was small in size (the residency is about 400 m²), Aphek held a great deal of importance for the Egyptians, *ibid.*, 161-7.

109 For Tell el-Far‘ah, see: E. Morris, *The Architecture of Imperialism*, 530-40; and I. Singer, “Merenptah’s Campaign”, 2. Singer also believes Tell Jemmah may have served as an Egyptian base, *ibid.*, 2; but see the comments of E. Morris, *The Architecture of Imperialism*, 773.

110 J. Weinstein, “The Egyptian Empire in Palestine: A Reassessment”, *BASOR* 241 (1981), 18. This building, however, appears to date to late Dynasty XVIII and was itself rebuilt from an earlier Dynasty XVIII structure, E. Morris, *The Architecture of Imperialism*, 307. Tell el-‘Ajjul has also been suggested by this scholar as the site of Ahmose’s siege of Sharuhen, *ibid.*, 29 and 52 (see also our comments in Chapter II note 91. Also from this site, the structure Fort III, dated to the reign of Hatshepsut and Thutmose III, was a 27 m long and 9 m wide rectangular block with walls 2.5-3 m wide. Subsequent forts were built on top of this structure with the last (Fort V) likely being destroyed during the Egyptian withdrawal from Canaan. These structures were built primarily to guard the main coastal road, A. Kempinski, “Middle and Late Bronze Age Fortifications”, 140-1.

111 E. Morris, *The Architecture of Imperialism*, 558-61 (for Tell Mor) and 586-611 (for Beth Shan). The first of the fortresses at Tell Mor, dating to Dynasty XIX, measured 23 m x 23 m with 3 m thick walls and resembled the fortress uncovered at Deir el-Balah, whereas the second smaller fort, measuring 11 m x 11 m with c. 4 m thick walls, was similar in appearance to the Beth Shan “tower”, A. Kempinski.
site, called *The Migdol*, also appears to be of the type depicted in Sety’s Karnak reliefs. This structure possessed reasonably thick walls (around 2.3 m for the north and east sides) in addition to bastions. The walls also feature the hollow cavities found at other sites some of which were filled with wood and stones. The dimensions of this fortress are approximately 17 m from east to west and just over 15 m from north to south. Inside were four rooms with hard-packed clay floors, and the only entrance was via an off-centre door flanked by two bastions (west side). The fortress, which most likely served as the main quarters for the Egyptian garrison, was also the main defensive position inside the town itself. However, it would have had only a limited exterior defensive function due to where it was sited. Next to the building, a large silo was discovered which probably served the inhabitants of both the fortress and the nearby “Commandant’s House”. Although it resembles the other Sinai and Palestinian fortresses (notably the one located at Tell Mor), its closest parallel is, however, with the Dynasty XIX fortress located at Gebel Abu Hassa. There is also evidence that the fortress underwent modification at a later date as an extension was built on the western side. Overall, Beth Shan provides us with an excellent example of the establishment of a permanent New Kingdom military base on foreign soil. From the excavations conducted at the site (namely levels VIII and VII which are contemporary with the beginning of Sety I’s rule in Dynasty XIX to around the beginning of the reign of Ramesses III in Dynasty XX), its transformation from a Palestinian town can clearly be seen. The choice of Beth Shan as a location for a military base was most likely due to its strategic importance in that it could control (and protect) major trade routes between Mesopotamia and Egypt. It was also one

“Middle and Late Bronze Age Fortifications”, 141. Ellen Morris argues that this second structure was likely not occupied by the Egyptians in Dynasty XX, *The Architecture of Imperialism*, 772-3.


114 The fortress was located on the opposite side of the tell to where the gate was, and next to the steep southern slope of the mound, *ibid.*, 237-9.

115 The silo is identical to the ones found at the site of Bir el-'Abd, see Chapter III. The carrying capacity equated to 526 hlr of emmer, E. Morris, *The Architecture of Imperialism*, 608.


117 The city guarded three fords of the Jordan River and was located at the juncture of two major trade routes, E. Morris, *The Architecture of Imperialism*, 249.
of the more northern Egyptian bases in Palestine and thus the first line of defence
against any attack originating further to the north.\footnote{118} Although, there was a
greater emphasis on land based military activity, especially during Dynasty XIX, seaborne
military excursions were still a factor even in this late period. While the proposal that
Tell Abu-Hawan served as an Egyptian naval base and port entry point for the Jezreel
Valley has been dismissed,\footnote{119} it is possible that the city of Akko served as a maritime
entry point and operational level base for the Egyptians. This site, located just north of
the Carmel mountain range, was a key point of entry to both the Plain of Akko as well
as the Jezreel Valley and the Galilee.\footnote{120} Again from the archaeological evidence, it
appears that this city only became a naval base after it was attacked by Ramesses II.\footnote{121}

While space considerations do not allow for us to undertake a comprehensive
examination of every single military base in Asia,\footnote{122} we can sum up the new political
situation by emphasising the fact that by Dynasty XIX it was no longer possible to
conduct military operations in the fashion of Thutmose I or even Thutmose III, further
expansion was now dependant on taking and securing key operational bases. The
strategy employed, therefore, was not too dissimilar to that utilised by the English in
the final stages of the Hundred Years War, that is, the need to systematically take key
centres one at a time.\footnote{123} Unfortunately for the Egyptians, in spite (or rather because)
of their huge investment of resources in establishing this extensive network, it
ultimately proved to be unsustainable and by Dynasty XX many of these bases had
been lost.

\footnote{118} F. James and P. McGovern, \textit{The Late Bronze Egyptian Garrison}, 57.

\footnote{119} This site (founded by Sety I) did, however, possess a “Governor’s residence” (Building 63-65), see:
This building and the associated fortifications were possibly demolished at some point during the reign
of Ramesses II, \textit{ibid.}, 43-4.

\footnote{120} It was also the busiest of the southern harbours, E. Morris, \textit{The Architecture of Imperialism}, 371.

\footnote{121} This occurred sometime between his fourth and tenth years (but see the comments of: E. Morris,
\textit{The Architecture of Imperialism}, 371). The city is also depicted at Karnak as being destroyed by this
king, see: Weinstein, “Was Tell Abu-Hawam a 19th-Century Egyptian Naval Base?”, 44-5. Ramesses
was also responsible for the destruction of Stratum Va at Tell Abu-Hawan. While the fortifications at
this site were torn down and the main building (\textit{ibid.}, 63-5) was demolished, the city walls were rebuilt
afterwards either by the local inhabitants or the Egyptians possibly as a response to local unrest, \textit{ibid.},
45.

\footnote{122} One would be best to refer to Ellen Morris’ comprehensive study, \textit{The Architecture of Imperialism},
\textit{passim}.

\footnote{123} A. Jones, \textit{The Art of War}, 169-73.
The Logistics Network in Libya

The logistics network in Libya was the least extensive (or possibly the least visible) of the three networks under discussion. Indeed, the textual, pictorial and archaeological evidence regarding the establishment of Egyptian bases and fortresses throughout this entire region is not significant and this would still remain the case even if we were to extend our discussion back to include all material from the Old Kingdom period onwards. What hard evidence we do possess is mostly concentrated both in time (Dynasty XIX and shortly thereafter) and geographical extent (the coastal region in particular) and it is here that we shall concentrate our discussion. Even so, the chain of fortresses or “network” that was constructed was not much more extensive than the series of fortresses which protected the “Ways of Horus”. Whether this can be interpreted as reflecting a certain lack of interest or investment on the part of the Egyptians is difficult to say. Yet considering that it was from this theatre the Egyptians faced some of their most significant military challenges, the lack of investment in border defences would seem somewhat ironic. Construction of the chain of fortresses (or at least the ones along the coast) apparently commenced during the reign of Ramesses II with the starting (or anchoring point) likely being the city of Memphis. From there, the chain traversed the western edge of the Delta and then the northern coastline for a distance of roughly 350 km. At present, and barring any future archaeological discoveries, the fortress located at Zawyet Umm El-Rakham marks the westernmost extent of the chain. This fortress possessed external walls around 4 to 5 m thick (and some 10 m high) and deep corridor-like gateways. From the original observations by Habachi, the size of the fortress’s internal area was estimated at around 6,000 m², but recent excavations at the site which turned up a

---

124 For a useful overview of the fortresses in this region, see: E. Morris, *The Architecture of Imperialism*, 611-45 (for Dynasty XIX) and 774-82 (for Dynasty XX).

125 That the Egyptians appeared to have invested heavily in Asia in Dynasty XIX (and Nubia in Dynasty XVIII) may have meant resources were scarce for the Libyan theatre.


large rampart wall to the east now allow for an estimate of around 20,000 m². Also discovered at this site is evidence that the fortress may have had an additional function apart from the standard military one. Magazines were uncovered just to the north of the temple area which contained the remains of a number of ceramic vessels that were, with some exceptions, of non-Egyptian type. It has thus been suggested that Zawyet Umm El-Rakham may have been the first port of call for traders coming across the Mediterranean and could have functioned in a similar fashion to the trading-post located on Bates’ Island (see below). In other words, this was no isolated military outpost but was in fact a frontline fortress and trading post of some importance.

Other fortresses have also been discovered at El-Alamein (200 km east of Zawyet Umm El-Rakham) and 50 km further to the east, at El-Gharbaniyat. There is also evidence for more temple fortresses at Tod (50 km southeast of El-Alamein), Tell-Abqa’in, and Kom Firin. Unfortunately, not a great deal is known about these constructions but it has been hypothesized that they were built at intervals of around 50 - 80 km so as to be within one day’s communication with each other. If this was the case then there must have been at least one or possibly two additional fortresses.

129 E. Morris, *The Architecture of Imperialism*, 635; S. Snape, “Walls, Wells and Wandering Merchants: Egyptian Control of Marmara in the Late Bronze Age”, in *Proceedings of the Seventh International Congress of Egyptologists*, C. J. Eyre (ed.), (Cambridge, 1998), 1083; and more recently, S. Snape, “Neb-Re and the heart of darkness: the latest discoveries from Zawiyet Umm el-Rakham (Egypt)”, *Antiquity* 75 (2001), 19-20. The enclosure wall, measuring 4.5-5 m thick, also featured an external plastered glacis. At present, the southern wall has not been discovered. An additional feature of this fortress, and one that is also found in our other examples, was the presence of a temple (in this case dedicated to Ptah). Snape also noted that an attempt was made to erase all mention of the fortress’s commandant Neb-Re, *ibid.*, 19-20. It is unclear, however, whether the original east wall discovered by Habachi was an earlier construction or part of the internal layout, for his diagram, see: L. Habachi, “The Military Posts of Ramesses II on the Coastal Road and the Western Part of the Delta”, *BIFAO* 80 (1980), 17.

130 E. Morris, *The Architecture of Imperialism*, 638; S. Snape, “Neb-Re and the heart of darkness”, 19; and S. Snape, “Walls, Wells and Wandering Merchants”, 1082. Among the finds were three examples of coarse-ware stirrup jars and seven Canaanite amphorae – all transport vessels.

131 S. Snape, “Walls, Wells and Wandering Merchants”, 1082-3. The Bates’ Island inhabitants appear to have traded with merchants from Crete and elsewhere. See further our comments below.


situated in the huge gap between Zawyet Umm El-Rakham and El-Alamein. It appears the thickness of this wall and also the walls of Zawyet Umm El-Rakham were designed not to repel against a battering-type attack but were built (up to heights of 10 m as already noted) to be unassailable and to provide an unobstructed view of the surrounding desert. The total area of the Tell Abqa’in site has been estimated at over 50,000 m². To compare these fortresses with their contemporary counterparts in Nubia indicates the latter were not primarily concerned with defence. For example, the fortified location of Amara West possessed walls that were no thicker than 2.84 m. An inscription found in the fortress at Zawyet Umm El-Rakham provides us with another piece of tantalising information concerning the nature of the western fortresses. The inscription mentions that some of them possessed wells (ṣdywt) within their walls and, indeed, this fortress possessed at least one well inscribed with the cartouches of Ramesses II. These wells or springs would have provided the fortresses with a secure source of water which would have been especially useful in the unlikely event of a siege. If the fortresses were built around natural sources of fresh water, this must have further served to hinder and delay (but not stop) the eastward movement of the Libyan communities, yet this appears not to have been the case (see below).

While there may still remain as yet undiscovered fortresses, those that we do know of allows for the reconstruction of the following network:


137 S. Thomas, “Tell Abqa’in”, 375-6. Thomas is also correct in assuming that the Libyans probably did not possess any siege warfare equipment, ibid., 375-6 note 14. It is also unlikely that their Sea-People allies possessed such weaponry.

138 The walls of this fortress varied from 2.3-2.84 m in thickness and were up to 4.0 m high in places, see P. Spencer, Amara West I, 15.

139 This well still bore water at the time of discovery, E. Morris, The Architecture of Imperialism, 639-40.

140 The fortress of Tell Abqa’in possessed at least three wells each inscribed with the cartouches of Ramesses II. All were of a standard type with an internal diameter of 1.65 m and, going by the most intact well, measured 3.95 m deep, H. Franzmeier, “Wells and Cisterns”, 43.
The above model (fig. 4.2) represents the network as it existed during the reign of Ramesses II as this appears to be when it reached its fullest extent (although it is possible that more sites will be uncovered). The sites included above are those which have yielded significant archaeological remains either in the form of a fortress or other substantial pharaonic activity, therefore some of the more questionable sites
in this region have been excluded. Starting at the strategic level, the two main bases are Memphis and Piramesses which count for two of the three key military bases within Egypt. Next, moving down into the operational level, we find Tell Abqa’în and Kom el-Hisn both located in close proximity to the Delta and as such they can be considered relatively secure from enemy attack. But as we move further away from Egypt we can see clearly the effect geography has on the network. The three remaining sites are more or less connected by a single line of communications which would progressively become less secure as we move away from the Delta. This part of the network is very similar to what we find in the Sinai, but the key difference there was that the single line of communications was anchored by Tjaru on one end and the city of Gaza on the other. The final operational base in the network, Zawyet Umm El-Rakham, was not as substantial a base as Gaza, but can be considered reasonably secure due to the fact that the fortress there was of considerable size. These operational bases would have allowed military activity to be conducted quite effectively within their vicinity, yet as one can see, there was very little in the way of flexibility in this system. It would have also been quite limited in its ability to deal with all enemy threats. A more mobile force, for example, could outflank the key bases and still reach the Nile.

As for the primary purpose of Egyptian military investment in this region, the prevailing view is that the fortress chain was built in order to guard against raids or major incursions by the Libyans, or at the very least, to ensure that the region they occupied remained subjugated. The fortresses may also have been used as staging posts for Egyptian raids deep into Libyan territory thus conforming to the idea they were indeed forward operational bases. The Libyan menace was to grow steadily worse throughout Dynasties XIX and XX, and even as early as the reign of Sety I, a

141 Khashm el-Eish, El-Bordan, and Rhacotis, for example.

142 The other being Thebes, see: C. Manassa, *The Great Karnak Inscription*, 98. For the importance of Piramesses as a chariot manufacturing and horse training centre, and also a site for weapons manufacturing, see: E. Pusch, ““Pi-Ramesses-Beloved-of-Amun””, 134-8 and 140 as well as our comments above. This centre appears to have had the facilities to house at least 350 horses. Weapons uncovered included: short bronze swords; leaf-shaped javelin tips of bronze; scales from armour; projectiles with helical blades that drilled into their target upon impact; and a massive core projectile which could reproduce the same effect of a dumdum bullet by causing the metal sheets to split upon impact, *ibid.*, 134-5.


Libyan campaign features prominently alongside the more traditional military actions against Asia and Nubia. This may very well serve as in indication of the beginnings of Egypt’s loss of initiative in the West.\textsuperscript{145} Others, however, believe their purpose to have been similar to the fortresses which populated the “Ways of Horus”, yet as has been pointed out, there simply could not have been anywhere near enough the volume of traffic for them to have served solely as provisioning posts.\textsuperscript{146} Another possibility is that the fortresses served a duel defensive function, that is, as well as providing protection to the Delta region against marauding Libyans, they also served as a defence against northern, sea based, foes. At this time, the Sea Peoples were starting to make their presence known in this region and evidence points to the fact that they were aiding the Libyans in their actions against the Egyptians.\textsuperscript{147} Ramesses II, possibly realising the danger they posed, constructed a defensive line facing the direction from which any attack would materialise, namely from the sea. References to protective measures from sea-borne threats are not particularly common but during the early part of Dynasty XIX, it appears that Sherden pirates at least were a potential cause of trouble. As noted in his Tanis II stela, Ramesses was forced to deal with Sherden warships which were apparently causing considerable havoc.\textsuperscript{148} The inability of the Egyptian fleet either to effectively defend against this problem or to attempt to seek out their operational bases is especially striking and further serves to explain the reliance now being placed on land based lines of communications.\textsuperscript{149} As a frontier defence, their numerically small garrisons and exposed locations would have limited


\textsuperscript{146} Nor were there any centres of reasonable size so far west of the Nile Valley: S. Snape, “Walls, Wells and Wandering Merchants”, 1081.


\textsuperscript{148} \textit{KRI} II, 290.1-4; F. Yurko, “Merenptah’s Wars”, 500; and our further comments in Chapter V. This anti-piracy campaign is also reflected in the Aswan stela where the king is mentioned as plundering the “warriors of the sea”, \textit{KRI} II, 345.2-3.

\textsuperscript{149} See Chapter V. Coastal fortresses may have been seen as a more effective tool against sea-borne threats than naval interdiction. The United States, for example, realising its naval inferiority prior to the American Civil War constructed a series of coastal fortifications in order to guard against possible European invasion, J. Keegan, \textit{The American Civil War: A Military History}, (New York, 2009), 33. To provide an indication to the level of resources consumed in their construction, the fortresses represented at that time the “federal government’s largest single investment in public works”, \textit{ibid.}, 33.
their ability to withstand a major attack. Against incursions by pirate or other irregular elements, however, these bases would have been a formidable defence. Furthermore, it is possible that the fortresses were well positioned to exert control over the narrow strip of coastal grazing land. This would (or rather should) have hindered the movements of large groups and their supporting animals migrating towards the Nile. Less likely, on the other hand, is the idea they controlled access to limited water sources along the coastal road. Indeed, if it was natural springs that the fortresses owed their existence to, it would have likely made Kitchen’s theoretical string of fortifications every 50-80 kilometres quite impossible. At the very least, these fortresses did protect established wells that would have provided the garrisons with a secure water supply if they ever were to suffer from a sustained attack by the Libyans or Sea Peoples, or both. A third possible function for the western fortresses that should not be overlooked is that their coastal location would have allowed at least some of them to engage in (and control) part of the lucrative trans-Mediterranean trade. This economic aspect, seen possibly at the site of Zawyet Umm El-Rakham, has been argued by some as one of the key reasons for the existence of these fortresses. Prior to Egyptian involvement in this area, it is believed that the Libyan communities were engaged in profitable trade with merchants from across the Mediterranean. This is seen predominantly at the site of Marsa Matruh where there is evidence that a foreign trading-post had been set up on Bates’ Island. This station was definitely operating from the 14th to at least part of the 13th century BC. The Libyans who were

---

150 Snape believes that even a sizeable garrison such as what may have been posted at Zawyet Umm El-Rakham would not likely to have been too keen to interfere with the movements of even the locals, S. Snape, “Walls, Wells and Wandering Merchants”, 1081 and 1083.


152 S. Snape, “Walls, Wells and Wandering Merchants”, 1083-4. It does appear that the water table is considerable along this coastal area and that wells could be dug in any place in order to reach fresh water (Snape personal communication (2006)). The fortresses, therefore, did not have a monopoly on this resource.


154 See in particular: D. White, “Provisional Evidence for the Seasonal Occupation of the Marsa Matruh Area by Late Bronze Age Libyans”, in Libya and Egypt: c1300-750 BC, A. Leahy (ed.), (London, 1990), 1-14; D. White, “1987 Excavations on Bates’s Island, Marsa Matruh: Second Preliminary Report”, JARCE 26 (1989), 87-114; and D. White, “The Third Season at Marsa Matruh, the Site of a Late Bronze Age Trading Station on the Northwest Coast of Egypt”, AJA 94 (1990), 330. Cypriot, Egyptian, Palestinian, Minoan, and Mycenaean ceramics were uncovered at the site as well as evidence for bronze working.
trading at this site were quite likely after bronze as well as other goods, and in exchange, they had little to offer except for two valuable commodities. The first, ostrich eggs, probably only had a limited market and was not enough on its own to trade for bronze. Thus it is likely that it was with the second commodity, silphium, that the Libyans were able to purchase large quantities of this metal.\textsuperscript{155} Connected very closely with all of this, were the seasonal movements of the various Libyan groups, some of which were in a position to deny other groups use of pastoral land important for their particular herd type.\textsuperscript{156} This pastoral land was part of a fragile system and when this was subjected to over exploitation, such as with the cultivation of silphium for export, the system no longer proved sustainable, and this led to increasing competition (and strife) among the tribes, and thus a general movement east towards the Nile Valley in search for fertile lands took place. In the middle of all of this, we have the Egyptians moving into this area and seizing control of the “key points of economic interaction on the coast.”\textsuperscript{157} This move would have meant that what key pastoral areas remained, were now dominated by the Egyptian fortresses. The establishment of the fortress at Zawyet Umm El-Rakham (with its very visible 10 metre high walls) a short distance west of the station of Bates’ Island, meant that this Egyptian controlled outpost became the new first port of call for traders plying an anti-clockwise sea route from across the Mediterranean. So, instead of attempting to move in and control the Bates’s Island trading station and its immediate area (and thus deprive the Libyans of their source for bronze), the Egyptians instead made their fortress the new “commercial hub”. Trade was redirected through this Egyptian port, and the Libyans were effectively cut off from their overseas markets. At this juncture, a question needs to be asked. Did the Egyptians, by moving into this region and seizing control of prime land as well as severing the trade links of the Libyans and their overseas markets, exacerbate an already worsening situation? In other words, did

\textsuperscript{155} S. Richardson, “Libya Domestica”, 152-9. No doubt most of this bronze ended up being used for the construction of weapons as noted with the 9,111 bronze swords of the Meshwesh mentioned in the Karnak booty list of Merenptah (\textit{KRI} IV, 2.9-12.6). Other bronze items included 3,174 vessels (Heliopolis Victory Column \textit{KRI} IV, 38.1-38.6). It must be stressed, however, that if the Libyans sought bronze for the construction of weapons, it is highly unlikely at this stage that this was for a future planned invasion of Egypt. Rather, the weapons created would have been employed by one Libyan tribe (or social group) in an attempt to dominate another group: a situation that became progressively worse in the 13\textsuperscript{th} century BC.

\textsuperscript{156} S. Richardson, “Libya Domestica”, 159-62.

\textsuperscript{157} \textit{Ibid.}, 161.
their actions hasten the economic collapse in Libya that thus led to the uncoordinated and desperate invasions of Dynasty XIX and XX?

As with the Asiatic military bases, such an extended chain of fortifications apparently proved to be unsustainable and by the time of Merenptah’s reign many of them may no longer have been in use, although a passage from this king’s Karnak Inscription points to the fact that at least some of the fortifications were still operational. We know that the Libyan chief Merey was spotted by the commander of the “Fortress (mnnw) of the West”. It is uncertain as to exactly where this particular fortress was located although some would like to equate it with the installation at Zawyet Umm El-Rakham. In addition, Merenptah specifically mentions defeating his opponent in the vicinity of the “guard-post (pr-m3) of [Merenptah who [hems in?] the Tjahenu, which is in] Pi-Iru” and the “upper settlements (dmi.w) of the desert land, beginning from Merenptah...”. Furthermore, in another reference, earlier in this same account, we discover that certain fortresses (mnnw) may have been plundered by the Libyans during their attack, although Merenptah’s victory appears to have rectified the situation. A passage from the Israel stela, for instance, speaks of peace having descended the land and therefore it was no longer necessary to man the fortresses (mnnw) judging by the mentions of open wells, peaceful ramparts, and dozy watchmen and police.


159 KRI IV, 7.3-5. See also the comments of: C. Manassa, The Great Karnak Inscription, 48-9.


161 KRI IV, 8.3-4 (and for the Kom el-Ahmar stela: KRI IV, 22.3-4). For the designation pr-m3 (which Colleen Manassa translates as fortified plantation), see: C. Manassa, The Great Karnak Inscription, 57-8. It is uncertain, however, whether we should consider such an installation as a supply base for the main fortresses as suggested by Manassa, ibid., 58. Ellen Morris, on the other hand, prefers the more literal translation “House-of-Truth”, E. Morris, The Architecture of Imperialism, 630-1. For the second installation, rather than “upper settlements”, Manassa translates dmi.w as “forts”, C. Manassa, The Great Karnak Inscription, 56. For this location as being the possible site of Ramesses III’s Libyan encounters, see our comments below.

162 KRI IV, 4.9. This, as noted by Manassa, would seem to indicate the fortresses were manned, C. Manassa, The Great Karnak Inscription, 30. See also the comment of: E. Morris, The Architecture of Imperialism, 629-30 who adds that given the fact these fortresses controlled established water sources and likely housed substantial food stores, they would have been desirable military targets.

Further references to the western fortress chain are found in the records of Ramesses III. In the reliefs of this king’s first Libyan war, where he returns from battle, we see what is possibly one of the fortresses (although its designation is dmi): “Usermaatre-Meryamun-is-the-repeller-of-the-Tjemeh”. In addition to this, from the records of his second Libyan war, we find two Egyptian fortresses, designated as towns, depicted side by side participating in the successful Egyptian defence. By this time, the Libyans, along with the Sea peoples, were clearly a significant threat to Egypt’s western frontier and despite the series of Egyptian victories, it is likely that Ramesses III would not have been able to retain control of any of these bases beyond this point.

Examining the evidence, and taking into account the important function these fortresses served, it is difficult to believe the Egyptians would have abandoned them without good reason either following the reign of Ramesses II or that of Merenptah. This is especially so considering that they must have been acutely aware of how unstable this region was. Part of the explanation for the apparent patchy post Ramesses II occupation could be down to basic necessity. The account in the Israel stela, a piece of literary fancy for sure, likely reflected some truth in that following Merenptah’s successful defence, the threat on this frontier, it may have been thought, had been neutralised. Therefore, the need to continually man these fortifications was considered superfluous. That is, they were fully manned only in times of crisis, and maintained the rest of the time by a skeleton crew. Alternatively, their garrisons may have been enlisted for other more urgent affairs of state. For example, Merenptah may have utilised them as part of the expedition sent south to crush the Wawat revolt.

On the other hand, if their abandonment had started following the reign of Ramesses II, an explanation may possibly be seen in the network layout. As noted above, the

---


165 KRI V, 43.9-11 and 50.4; *Medinet Habu* II, pls 69-70; and W. Wreszinski, *Atlas* II, pl. 141. Ellen Morris adds that these fortress-towns were possibly the same bases mentioned in Merenptah’s account above where he successfully repelled his Libyan attack (KRI IV, 8.3-4 and 22.3-4), E. Morris, *The Architecture of Imperialism*, 632, 775 and see also 781-2.

166 At present, there is no indication of pharaonic activity following the reign of Ramesses II at the site of Zawyet Unm El-Rakham, E. Morris, *The Architecture of Imperialism*, 641.

167 As we will cover in greater detail in the following chapter, Egypt may have been short of able bodied military men.
western most forts appear to have been serviced by a single, and quite vulnerable, line of communications running back to the Delta. If there was the increasing likelihood that this could be severed, it would have made occupation of the most distant bases a dangerous affair.

The Logistics Network in Nubia

It is in Egypt’s strategic theatre of Nubia that we find some of our best examples of Egyptian fortifications. Indeed, the numerous and somewhat elaborate (mnw) fortresses that were constructed over an extraordinary period of time clearly serve as a visual indication of Egypt’s strong and continued interest in this region. Nubia was, however, in many respects not too dissimilar to Asia in that the backbone of any logistics network was based on the establishment of fortresses at decisive points. The key difference was that there was no sufficient existing “native” system that could provide logistic support in the manner of say Egypt’s Asiatic vassals. Therefore, the fortresses, in addition to their pure military role, alone provided this valuable logistics function and this was one of the primary reasons for their existence. The key points that the fortresses commanded tended to be important geographical features (which were also excellent defensive positions), as well as vital communications points, in particular, where land routes intersected with the Nile. The fortresses were also responsible for securing the growing lines of communications back to Egypt, as well as protecting “in theatre” supplies that were required for campaigning armies. As such, Egypt’s logistic network in Nubia was closely entwined with the fortresses, more so than in the other theatres.


The construction of these fortresses would have been an enormous expense, and may therefore be a clear indicator of the perceived threat that Kerma posed, W. Emery, *Egypt in Nubia*, 152; B. Trigger, *Nubia under the Pharaohs*, 74-5; and B. Trigger, “The Reasons for the Construction of the Second Cataract Forts”, 1. On that note, see also the comments of David O’Connor who believed that even the Lower Nubians were a “military aggressive” people, *Ancient Nubia: Egypt’s Rival in Africa*, 26, 31 and also 39. O’Connor adds that the Nubians probably had the necessary skills to attack a large fortress (mining, scaling, and frontal assault techniques) which they had learnt from their service within the Egyptian Army, *ibid.*, 31. Of interest, the Huns, who tended not to be proficient in siege warfare, relied on Roman defectors and advisors, E. Luttwak, *The Grand Strategy of the Byzantine Empire*, 33 and 46.

283
During the Middle Kingdom there were two significant phases of fortress construction. The first phase took place primarily during the reign of Sesostris I and saw the initial (re)establishment of Egyptian permanent occupation in this region and the construction of Egypt’s logistics network. Ideally, with the establishment of any logistics network, one should find key operational and logistics bases in close proximity to the primary strategic base (in this case the Egyptian frontier around Aswan and the First Cataract) and this does appear to be the case. A mnnw fortress that was located on Elephantine Island, for example, likely served such a function. From an inscription found on the island, it was believed this fortress may have been repaired (or rebuilt) in preparation for the Year 8 campaign of Sesostris III. Yet, John Wells, in his commentary on a key phrase used in the text: [irt] r3-t3; noted that this may actually indicate not the repairing of the door of the fortress as commonly thought, but rather the preparation of the fortress for a future military campaign. Indeed, the inscription may provide us with a rare insight into the logistical requirements that were undertaken at a fortress for a campaign: [to make] the doorway in the fortress of Elephantine; to make storerooms (?) for the troop houses of Upper Egypt; [to marshal troops] on the shore Of Elephantine ……to overthrow wretched Kush… It is clear that this fortress was where troops and supplies were assembled prior to the king’s arrival. The above mentioned store-rooms were possibly to be utilised to receive the expected booty which would later be distributed to the

---


171 C. Vogel, *Ägyptische Festungen*, 211.


173 *Ibid.* , 343-4; J. Wells, *War in Ancient Egypt*, (Ph.D. Dissertation, Johns Hopkins University: Baltimore; 1995), 9-10; and see also the recent comments of C. Vogel, *Ägyptische Festungen*, 23-5. A similar passage occurs in the inscription of Tjehemau who states wn(=i) r3-t3.w “I opened the doors”, J. Darnell, “The Rock Inscriptions of Tjehemau”, 45-6; while in the Hound stela of Antef II, yet another passage reads: Tw it n(=i) t-t wr mw-kt=f, Wn.n(-i) ith.w=ns nd, Tr.n(-i) s(y) m r3 h(=i), (I) seized the entire Abydene nome; (I) opened all the strongholds; and turned them into a door behind (me), *ibid.*, 46. Darnell believes that this may indicate more than just scouting, and possibly is a reference to the subjugation of enemy strongholds guarding desert routes and passes. In the Antef inscription, he adds, we see the agricultural and unfortified areas of the Abydene nome attacked initially then the subsequent reduction of the fortified positions before ending with the Theban occupation. This nome then becomes a strongly held area, or in other words, a protective door (something that could be extended to include fortified desert passes), *ibid.*, 45-6. See also the comments of: H. Fischer, “The Inscription of In-it, born of Tj”, *JNES* 19 (1960), 261-2.

temples of Egypt. If the phrase [irt] ρς-ς “to make a doorway” does in fact refer to a fortified and logistically prepared “jumping off” point (in this case for military operations against the Nubians), the designation contrasts quite nicely with the use of htm to describe Egypt’s strategic bases which served to seal the frontiers from foreign attack. Therefore it appears the terms would emphasise the military nature of their installations with mnnw irt ρς-ς fortresses geared towards offensive operations as opposed to the more defensive orientated htm bases, the guardians of Egypt’s main entry points.

From this starting or jumping off point, additional fortresses or bases would have been required as one moved away from the primary strategic base. This again tends to be the case with Sesostris I’s building programme. A string of fortresses were founded or reoccupied by this king extending from the Egyptian frontier through Quban, Ikkur, Aniba, Buhen, and Kor (fig. 4.3). Somewhat surprisingly, Sesostris I may also have been responsible for the construction of Semna South located just below the Semna Cataract. If this was the case, this last fortress would have been in an extraordinarily vulnerable position as it was separated from its closest neighbour by two formidable cataracts and fifty or so kilometres (as the crow flies). The remaining fortresses, nonetheless, formed a fairly cohesive and rational grouping all being located to the north of the Second Cataract, a natural defensive barrier. As noted above, they also tended to occupy key geographical features. The fortresses of Ikkur and Quban were located close to major routes from the desert and as such would have controlled the movements of the Nubians as well as exerting influence over the nearby Wadis. Quban, for example, was sited to dominate the entrance of Wadi Allaqi – an economic and military vital region.

---

175 C. Vogel, Ägyptische Festungen, 212-22 and 230-9. The fortresses were predominantly built on the west bank of the Nile or on islands, B. Trigger, Nubia under the Pharaohs, 74; and A. Spalinger, War, 46.

176 C. Vogel, Ägyptische Festungen, 264-6.

177 S. Lupo, “The Inscription of Amenemhet II in the Temple of Ptah in Memphis: was there a real control of the Egyptian State over Kush during the Middle Kingdom?”, GM 198 (2004), 46. See also the comments of: B. Trigger, Nubia under the Pharaohs, 75-6.

178 Indeed, the fortress there was probably established in connection with the opening of the gold mines in the Wadi Allaqi, C. Vogel, Ägyptische Festungen, 212. See also: S. Lupo, “The Inscription of Amenemhet II”, 46; W. Emery, Egypt in Nubia, 151; and B. Trigger, Nubia under the Pharaohs, 67.
Aniba was situated near an important centre of C-Group settlements and also guarded the diorite quarries of Toshka and the “road to Elephantine” which served to
linked this fortress to Elephantine. Furthermore, the fortress was forded extra protection in that it was erected on an island. Buhen, the largest fortress in this network, was clearly a major operational base (see below), whereas the much smaller fortress at Kor which was built just to the south of Buhen was likely considered by the Egyptians as a sub unit of the larger fortress. Another shared characteristic of all these early fortresses was that in each case a fortified town has been uncovered in close proximity. Additional fortified sites are known of and these appear to have been established to protect key resource areas. Two such facilities, both apparently constructed early in Dynasty XII, were located at the sites of Areika and Wadi el-Hudi. With respect to the former, this appears to have been an administrative and military establishment, as well as regional control centre for the Amada region. The fortress encompassed a not too disrespectful area of 2800 m², although it did not share many of the defensive features found with some of the other installations


181 We can also include Mirgissa in this list, see: E. Uphill, “Nubian Settlement Fortifications in the Middle Kingdom”, in Studies on Ancient Egypt in Honour of H.S. Smith, A. Leahy and J. Tail, (eds.), (London, 1999), 327-30. Uphill also noted the similarity of their defences to the town wall on Elephantine Island and a frontier zone settlement found at Retabeh in Wadi Tumilat, ibid., 328. Furthermore, he also distinguished between two types of defence with respect to these settlements. The first type possessed strong elaborate double walls (dated to the period of the Mentuhoteps, namely, Late Dynasty XI) while the second type, a later phase, was characterised primarily by a single wall as seen most notably with the Buhen site where construction possibly commenced during the reign of Amenemhet I, prior to the construction of the fortress proper under Sesostris I. These weaker defences appear to have been built in conjunction with the lightly defended (phase I) fortresses built at Ikkur, Quban and Aniba which is characterised by thin vertical non-battered walls, ibid., 330.

182 S. Lupo, “The Inscription of Amenemhet II”, 46; and L. Török, The Kingdom of Kush, 34.

The fortress at Wadi el-Hudi, on the other hand, was tasked with protecting the amethyst mining activities within this Wadi. As with Areika, it featured weak defensive walls made from drystone rather than the more commonly employed mud-brick which appears to have been the preferred choice for military installations.

Prior to the second major phase of construction, which commenced during the reign of Sesostris III, one notable addition to the fortress network was the construction of the major fortress of Mirgissa, which is dated either to the reign of Amenemhet II or Sesostris II. Mirgissa was one of the largest fortresses in the network and like Buhen clearly served as a major (rear) operational base. Both fortresses, for example, were located in secure environments and were extremely well fortified. Mirgissa also possessed an abundant reserve of weaponry. This weaponry was not only stored here, but at least some, if not all of it, was manufactured on site. Stone “lasts” used to stretch and form hides in order to make shields were uncovered in addition to finished wooden cross-handles. The spear points that were uncovered were made from flint and not metal and the same is true for the arrowheads. The lack of “first class” weaponry should not come as too much of a surprise. Garrison troops (whether they be Egyptian or foreign) were generally of second rate quality at best. As such, one would not expect to find them in possession of high quality weaponry. In any case, both Buhen and Mirgissa were capable of housing large reserves of troops. Thus there was very little danger of either fortresses succumbing to an attack.

184 J. Wegner, “Regional Control”, 131-2 and 137.
187 B. Trigger, Nubia under the Pharaohs, 67-77.
188 And key trading centre, see: ibid., 72; and C. Vogel, Ägyptische Festungen, 240-5.
189 C. Vogel, Ägyptische Festungen, 242. The following amounts were uncovered from this site: 300-400 bows; 2,700 arrows; and 400 pikes and javelins (spears) S. T. Smith, Askut in Nubia, 41.
191 S. T. Smith, Askut in Nubia, 41.
Sesostris III, for his part, likely added two fortresses between Aniba and Buhen located at Serra East and Faras (fig. 4.4). As with the earlier fortresses, these new constructions occupied decisive points. These fortresses were situated around the Second Cataract or slightly to the north and were ultimately linked to the southern group by lookouts as well as signalling and patrol posts which served to supplement the forts. Overall, this northern grouping of fortresses effectively fulfilled the role of rear operational bases as the Egyptians had at this time extended their control south to Semna Cataract. As such, additional more southerly located fortresses (i.e. forward operational bases) were now required. Linking these southern fortresses to those further to the north was the fortress of Askut, built by Sesostris III, which as we have seen in Chapter III, served as a secure grain storage depot. This fortress provided a crucial line of site between Shalfak and Murshid, thus effectively connecting the Semna region with the Second Cataract. Indeed, the fortress sits virtually by itself almost halfway between Semna and Mirgissa (18.9 km and 22 km respectively) and is approximately 9 km to its closest neighbour Shalfak. Its importance was further elevated by the fact that nearby were sources of gold (and there is even evidence of ore processing at the site).


193 For Serra East, see: G. Hughes, “Serra East”, Kush 11 (1963), 121-30; and J. Knudstad, “Serra East and Dorginarti”, Kush 14 (1966), 165-86: 172-7. Faras, on the other hand, is grouped together with Mirgissa and Buhen in the Ramesseum Onomasticon. This site was reoccupied during Dynasty XVIII and was of particular importance as it controlled access to a number of significant desert roads including an eastern desert track that connected this base to Kurgus, J. C. Darnell and C. Manassa, Tutankhamun’s Armies, 112. Another fortress that has been uncovered in this area on the island site of Dabenarti, on the other hand, may in fact not date to the Middle Kingdom at all and will not be considered further in our discussion here, see the comments of: S. T. Smith, “Askut”, 122-3. Smith noted especially the ephemeral nature of occupation at this site.

194 B. Williams, “Serra East”, 443; K. Zibelius-Chen, Die ägyptische Expansion nach Nubien (Wiesbaden, 1988), 186-7; and B. Trigger, Nubia under the Pharaohs, 74. One such lookout was located on the rock of Abu Sir. Its signal fire could be seen from both Buhen and Mirgissa.

195 The Egyptians had effectively created a “defence in depth”, P. L. Shinnie, Ancient Nubia, 73.


Fig. 4.4: Northern part of the fortress network at the time of Sesostris III
The main construction effort of Sesostris III, however, was with the establishment of the southern fortress group which included Semna, Kumma, Uronarti, and Shalfak. The fortresses were clustered around the Semna Cataract (another key defensive barrier) all within sight of each other, and with the earlier fortress of Semna South, which still remained the most southern fortress in the network. The layout of these fortresses indicates they were likely conceived of as a single group under a unified command. The fortress of Uronarti located to the north was constructed by Sesostris III in Year 16 on an island and could be seen from both Semna and Kumma. Its garrison and storerooms were large enough to support the Semna forts both militarily and economically. Uronarti clearly fulfilled the role of a forward operational base. Kemp especially considered this fortress to be one of the (if not the only) campaign headquarters for Sesostris III, and this does appear to be the case. Kemp further believed that this was the purpose of the “palace”, which was located on the opposite end from the high point where the fortress was located. Uronarti also possessed strong fortifications, and being located on an island and in close proximity to the fortresses further to the south, this would have offered it additional protection from attack. Uronarti effectively meets all the requirements one would expect for an ideal operational base. Operational bases that served as military headquarters likely changed from campaign to campaign and from king to king as need dictated. The fortress of Semna, definitely completed by Sesostris III, but possibly started earlier, was likely the point where Nubian traders would have transferred their cargoes to Egyptian vessels or land caravans. Semna also featured

198 C. Vogel, Ägyptische Festungen, 249-63. These fortresses differed from their more northern counterparts in that the local topography dictated their layout, P. L. Shinnie, Ancient Nubia, 73.


201 As suggested by: W. Adams, Nubia, 183.

202 B. Kemp, “Large Middle Kingdom Granary Buildings”, fig. 6 and 135-6 (appendix).

203 S. T. Smith, “Askut”, 130-1. For an overview of this fortress, see: C. Vogel, Ägyptische Festungen, 259-61; W. B. Emery, Egypt in Nubia, 143-4; and B. Trigger, Nubia under the Pharaohs, 72.
extensive barracks facilities. This may indicate that either the garrison of this fortress was exceptionally large or that these facilities were used not only to house the garrison but also soldiers passing through on campaigns. The small fortress of Kumma nearby was built on a rocky hill which may actually have become almost an island during the high Nile thus affording it additional protection. Shalfak, the smallest of the Second Cataract forts, was located on a sharp bend in the river at the very end of the Saras Plain. At this point, the cliffs rise to 60 m above the river, and the valley becomes tightly constricted. One of its functions was probably to send out patrols in order to monitor the movements of peoples. The fortress of Semna South, because of its location just to the south of the cataract, was the most isolated of the group even though it lay about 1 km from the larger fortress of Semna. From the archaeological evidence, it appears that it was occupied from the reign of Sesostris I to at least Amenemhet III. Due to its relatively vulnerable location, Semna South would have been easily overwhelmed in a major assault. Therefore, in wartime, it may have been intended merely to slow any enemy assault long enough for the fortresses further north (Semna, Kumma, and Uronarti) to organise their defences. Thus its garrison would likely not have contributed any troops to the primary defensive effort. Overall, the new additions of Sesostris III to the network effectively filled the gap between Kor and Semna South.


From the late Middle Kingdom and into the Second Intermediate Period, Egypt lost control of virtually all of its Nubian possessions and it was only near the end of Dynasty XVII, during the reign of Kamose, that a programme of conquest recommenced.\(^{212}\) This king was also responsible for initiating the policy of

reoccupying and refurbishing the Middle Kingdom Nubian fortresses starting with Buhen and Faras. Of these old fortresses north of the Second Cataract, however, Buhen was the only one that was to be refortified. Ahmose, who completed the refurbishment of its fortifications, subsequently utilised this fortress as a forward operational base for the three (known) Nubian campaigns which likely took place south of the Semna Cataract. Following his military successes, this king (or possibly Amenhotep I) was able to set up an island fortress-town at Sai (Mnnw n ś3f) – the location of a significant centre of Kerman culture. Sai represented a “new breed” of fortress combining only some of the more traditional defensive features as found with Buhen but with greater emphasis on administrative and civil features. With its founding, Ahmose had established a permanent Egyptian presence into Nubia further south than any of his Middle Kingdom counterparts and as a result a new logistics network begins to take shape. Ahmose may even have reached and sacked Kerma itself although the Egyptian occupation appears only to have been temporary. The level of destruction that took place is consistent with the Egyptian policy of inflicting significant logistical damage on territories that they may not have been able to permanently hold (see below). Amenhotep I continued work on the Sai fortress-town and also sponsored works at other former Middle Kingdom fortresses, but these were focused on temple and cosmetic aspects rather than fortification


214 P. L. Shinnie, *Ancient Nubia*, 83-4; and E. Morris, *The Architecture of Imperialism*, 78. Even so, the repairs were more cosmetic and even slipshod, *ibid.*, 79 and 101-6.


217 E. Morris, *The Architecture of Imperialism*, 81-2 and 106; and P. L. Shinnie, *Ancient Nubia*, 85. While the fortress possessed 5 m thick walls, it lacked, however, the elaborate defences that were a feature of the Middle Kingdom fortresses (such as the parapet and glacis). Vercoutter noted that the walls were nearly 12 m high, “Excavations at Sai 1955-7”, 152.

refurbishments, a trend that was to continue throughout the New Kingdom. Thutmose I, for his part, appears to have been responsible for the final defeat of the last Kushite king and the abandonment of Kerma. If this was the case, then Thutmose I’s Nubian campaign neatly mirrors his achievements in Asia where he likewise conducted a highly penetrative campaign reaching as far as the Euphrates. As for his building activities, inscriptions dated to the reign of Thutmose II and Hatshepsut indicate that Thutmose I was responsible for the construction of a number of mnnw fortress-towns. As of yet, the sites have not been uncovered but Morris argues that Tombos, Kurgus, and possibly Napata may be likely candidates. This would fit in well with the idea of the establishment of forward operational bases, yet one must recall that Thutmose I was able to reach the Euphrates with little recourse to such bases. No new fortresses were constructed by either Thutmose II or Hatshepsut, although these monarchs did continue refurbishing some of the earlier fortresses, but not their fortifications. Indeed, with the exception (initially) of Buhen, these older fortress-towns essentially became civilian or colonial settlements. Clearly with Egyptian expansion now well beyond the Second and Semna Cataracts, these fortresses were no longer needed as a first line of defence.


220 See also the comments of: P. L. Shinnie, *Ancient Nubia*, 80-1; and C. Bonnet, “Upper Nubia from 3000 to 1000 BC”, in *Egypt and Africa: Nubia from Prehistory to Islam*, W. V. Davies (ed.), (London, 1991), 114. Bonnet believes some resistance may have continued after this time and it was probably not until the reigns of Hatshepsut and Thutmose III that an almost complete control over this locality was achieved.

221 E. Morris, *The Architecture of Imperialism*, 73, 82 and 89-98. This king did leave inscriptions at a number of fortresses, but these were built by other kings, 74.

222 *Ibid.*, 73, 82-3 and 90-7. The remains of a fort have been uncovered at Kurgus and this may possibly date to Dynasty XVIII, yet this has still to be established with certainty, see: *ibid*, 109-12; as well as Chapter V note 27. The site of Tombos especially would have been an ideal location for a forward operational base to launch attacks beyond the Third Cataract. John Darnell saw Napata serving as a base of operations for the Egyptians due to a mention of this area in the investiture of Huy, the viceroy of Kush: J. C. Darnell and C. Manassa, *Tutankhamun’s Armies*, 112.

223 P. L. Shinnie, *Ancient Nubia*, 85; and E. Morris, *The Architecture of Imperialism*, 76. In addition, a cartouche of this king was discovered at Napata, but whether this could be seen as sufficient evidence for a fortress (or temple) at this time is another question.

224 E. Morris, *The Architecture of Imperialism*, 78-80 and 97-98. The Middle Kingdom fortresses of Uronarti, Semna, Shelfak, Kumma, and Mirgissa were reoccupied, but only at Mirgissa was some refortification undertaken, *ibid.*, 80-1. Even Buhen was to become more of a civilian settlement as the Egyptians pushed their control further south, *ibid.*, 79-80.

This seems to be confirmed by the fact that Thutmose III appears not to have engaged in any new construction or even repairs of the defences in the fortress-towns.
of Lower Nubia. Rather, he was more concerned with temple (re)construction and building storehouses as noted at Aniba, possibly Faras, Buhen, Uronarti, Semna, Kumma, and even Sai. It would seem by the time of his reign, Nubia had been largely pacified. This king’s possibly one and only major addition to the network was further south where a mnnw fortress “Slaying-the-foreigners” was established at Napata. Yet the possibility exists that this fortress may have been founded during the early New Kingdom, a period of greater military activity. Thutmose’s immediate successors, Amenhotep II and Thutmose IV, did not add to or refurbish any of the fortifications at existing sites, and nor did they feel the need to establish any new fortresses. Therefore, the operational network as it existed mid Dynasty XVIII (fig. 4.6) had essentially reached, for a time being, a level that was optimal to effectively “hold” Nubia and support any military operations required.

The strategic base was represented by the duo fortresses at Elephantine and Bigeh. Both were, admittedly, classed as mnnw fortresses in one linguistically anachronistic Dynasty XVIII source, yet textual evidence from Dynasty XIX clearly labels them htmw. As such, the terminology fits perfectly with what we find with the Asiatic network. The older frontline Middle Kingdom fortresses clearly lost their military value as the Egyptians pushed their frontier further south. Only Buhen received particular attention as it served, briefly, as a forward operational base before becoming a rear operational base, although one still retaining some (symbolic) importance. The dual fortresses of Sai and Napata now fulfilled the role as forward operational bases although given the great span of territory between the two one may wonder if Napata alone fulfilled this requirement. The lack of additional southerly fortresses at this time is puzzling in that the system had little redundancy in place if one of these two fortresses were lost, although other fortresses, however, may have


227 L. Török, The Kingdom of Kush, 94.


229 Ibid., 190-5.

230 Ibid., 202-4.

231 Ibid., 196 and 659. Morris believes that these two fortresses were most likely referred to as htmw in Dynasty XVIII, ibid., 659-60 and 666-7.
existed but have not yet been uncovered. Alternatively it is possible that by this time
the Egyptians considered Nubia to have been effectively pacified.

The lack of bases was remedied somewhat with the founding of the two towns
at Sesebi and Kawa during the reign of Akhenaten.\textsuperscript{232} These two new settlements
represented the only real notable addition to the network for the remainder of this
Dynasty (fig. 4.6).\textsuperscript{233} Other construction efforts were predominantly non military in
nature.\textsuperscript{234} This trend continued into Dynasty XIX where the only construction of note
was the establishment of the \textit{mnnw} fortress-towns of Aksha and Amara West under
Sety I which effectively displaced Soleb and Faras the older capitals of Upper and
Lower Nubia.\textsuperscript{235} The establishment of these two towns represented a fundamental
administrative shift in the network but this was more due to political reasons rather
than logistic or external factors. Moreover, these new fortress-towns, while sharing
similarities with the earlier constructed fortress-towns, were smaller than their
Dynasty XVIII counterparts and their military function likewise appears minimal. The
walls of Amara West, for example, each measured only 108 m long and were 5 m
thick.\textsuperscript{236} Aksha was even smaller, only 120 m x 82 m (in addition to a large square
tower (5.85 m x 5.85 m)) with 6 m thick girdled walls.\textsuperscript{237}

\textsuperscript{232} P. L. Shinnie, \textit{Ancient Nubia}, 86-7; and E. Morris, \textit{The Architecture of Imperialism}, 319. Kawa
(which may even have been founded by Amenhotep III, \textit{ibid.}, 317 note 373) was still located 100 km
downstream from Napata, \textit{ibid.}, 333. Sesebi featured the same rectangular plan and thick walls (4.65
m) as Sai but curiously also possessed highly vulnerable gateways, \textit{ibid.}, 337.

\textsuperscript{233} Tutankhamun, however, is credited with establishing a new walled \textit{mnnw} town at Faras displacing
Aniba, yet this was more of a civil project than a military one: E. Morris, \textit{The Architecture of
Imperialism}, 324. Even though designated as \textit{mnnw}, these sites were not elaborately fortified and nor
would they have held up to a sustained attack by a determined foe. Rather, the defences appear more
g geared towards discouraging opportunistic raids by unruly troublemakers coming in from the desert,
\textit{ibid.}, 327.

\textsuperscript{234} \textit{Ibid.}, 310-24.

\textsuperscript{235} L. Török, \textit{The Kingdom of Kush}, 102; E. Morris, \textit{The Architecture of Imperialism}, 310-24; and I.
Hein, \textit{Die ramessidische Bautätigkeit in Nubien}, 38, 51-2, 80-7 and 175 map 5. For Amara West alone,
see: P. Spencer, \textit{Amara West I}.

\textsuperscript{236} E. Morris, \textit{The Architecture of Imperialism}, 679.

\textsuperscript{237} A. Rosenvasser, “Preliminary Report on the Excavations at Aksha by the Franco-Argentine
Archaeological Expedition, 1962-63”, \textit{Kush} 12 (1964), 98.
Fig. 4.7: The fortress network in Nubia - late Dynasty XVIII to early Dynasty XIX
Construction efforts for the remainder of Dynasty XIX, including the lengthy reign of Ramesses II, were even more negligible.\textsuperscript{238} This state of affairs was carried over to Dynasty XX where no new additions to the network are evident at all.\textsuperscript{239} Indeed, by the reign of Ramesses XI, the Egyptians appear to have withdrawn completely from the fortress-towns in Upper Nubia and this was probably due to the expense of maintaining the network rather than because of external threats.\textsuperscript{240}

\textit{Operational Level bases within Egypt.}

One final note, logistics networks, albeit on a considerably more limited scale, could also be found during periods of internal strife within Egypt itself. During the First Intermediate Period, operational bases were likely fortified cities located along the Nile. King Wa-anhk Intef used Abydos as a base from which he could launch strikes against his northern opponent.\textsuperscript{241} Likewise, such bases were also prominent military targets yet could be difficult to capture (see Chapter VI: \textit{Sequential Operations} for one notable example). During the Second Intermediate Period, the Egyptians would have required operational bases within the Nile Valley in order to conduct campaigns against the Hyksos in the north.\textsuperscript{242} One such base may have been located at Deir el-Ballas. Located on the east bank of the Nile and a mere 20 km south of Dendera, this site is of particular interest in that during this tumultuous period there

\textsuperscript{238} E. Morris, \textit{The Architecture of Imperialism}, 645-9; and I. Hein, \textit{Die ramessidische Bautätigkeit in Nubien}, 88-96. While Ramesses II built extensively in Nubia, his efforts were mainly directed towards the erection of “fortified” temples and other cultic works.


\textsuperscript{240} L. Török, \textit{The Kingdom of Kush}, 104; and E. Morris, \textit{The Architecture of Imperialism}, 790. The Egyptian withdrawal from Nubia was a gradual affair, as it was with Palestine. By Dynasty XX, control beyond the Third Cataract was weak, and by the reign of Ramesses XI, evidence for this king’s rule is only found only as far south as Buhen, L. Török, \textit{The Kingdom of Kush}, 104.

\textsuperscript{241} J. Wells, \textit{War in Ancient Egypt}, 344.

\textsuperscript{242} For example, as Kamose advanced north against the Hyksos, additional bases north of Asyut may have been required, T. Säve-Söderbergh, “The Nubian Kingdom of the Second Intermediate period”, \textit{Kush} 4 (1956), 58. If such was the case, additional precautions would have had to be taken in order to ensure lines of communications remained opened, as Kamose himself stated when he destroyed the Bahria oasis, \textit{ibid.}, 58.
is evidence of Nubian occupation. The site exhibits extensive activity from Dynasty XVII to XVIII and featured a “North Palace” surrounded by a large enclosure wall, and a “South Palace” which was likely a military installation. The latter was situated on a high hill dominating the valley and surrounding wadis. From Deir el-Ballas, the Theban princes could have gathered together their forces to attack Apophis. As the Egyptians were able to extend control further north, additional operational bases would have been utilised.

**Counter Logistics**

Having examined the impact that logistics had on the establishment of the operational networks within each of Egypt’s major theatres, we will now address to what degree the Egyptians utilised logistics as a tool of war. In other words, we will examine instances of where the Egyptians have deliberately targeted the logistic support networks of their enemies and attempt to ascertain as to whether there was a conscious awareness on their part that logistical warfare was a viable military option that could be utilised to achieve strategic objectives. The idea of targeting the logistics of one’s enemy is not novel. Archer Jones, for example, noted in numerous conflicts throughout history examples of what he termed as the employment of a “logistic strategy” over a “combat strategy” when attacking or invading (either permanently or transiently) enemy held territory. By employing a combat strategy, the primary goal

---


244 J. Bourriau, “Relations between Egypt and Kerma during the Middle Kingdom and New Kingdoms”, in *Egypt and Africa: Nubia from Prehistory to Islam*, W. V. Davies (ed.), (London, 1991), 131. The “northern palace” is said to be a “close counterpart” to the palace structure uncovered at Tell el-Daba, whereas the 8 m high “southern palace” or monumental watch tower resembles the platform of the major palatial fortress at the same site, see: M. Bietak, *Avaris*, 68-70. For a description of both constructions, see: P. Lacovara, *Deir el-Ballas*, 2-3 (Northern Place) and 5 (Southern Palace). See also his Plan 4 for a diagram of the façade of the latter palace. Bietak noted that given the similarities in construction it is likely that after the campaign residence of Deir el-Ballas was abandoned (following the expulsion of the Hyksos) a new base was established at Tell el-Dab’a, M. Bietak, “The Center of Hyksos Rule”, 116-7.

245 See the excellent photograph in P. Lacovara, *Deir el-Ballas*, pl VIIa.

246 As originally argued by Stevenson Smith, see: J. Bourriau, “Relations between Egypt and Kerma”, 131.

247 A. Jones, *The Art of War, passim*, but see, especially: 54-7 and 692-701.
was to destroy the military assets of the enemy, that is, their armies and other military forces. Employing a logistic strategy, on the other hand (or what Moshe Kress classifies as “counter logistics”\(^{248}\)), the emphasis moves away from defeating the enemy forces and onto capturing (or destroying) their logistics infrastructure which could include their land, cities, and vital resources. In other words, the objective was to eliminate the enemy’s capacity for waging war indirectly, while at the same time strengthening one’s own position, in particular, by utilising their captured resources against them (as the Germans attempted to do against Russia during the Second World War\(^{249}\)). This could also be an effective strategy in dealing with unruly elements within one’s own sphere of influence. A rebellious vassal or city state could be effectively brought into line by capturing or destroying its food supply and other important resources, without necessarily destroying key infrastructure. In situations where it proved impossible to maintain a permanent hold on the resources or territories of an enemy then a “logistic raiding (as opposed to persisting) strategy” could be just as effective.\(^ {250}\) That is, temporarily holding or passing through an enemy’s territory and inflicting as much destruction as possible before withdrawing to a secure base. An excellent example of this was General Sherman’s raid from the city of Atlanta to Savannah involving some 60,000 men operating far from their operational bases and supplying themselves primarily off the land of their enemy.\(^ {251}\)

As we will note below, the Egyptians utilised both types of logistic strategies in their military campaigning.

Instances of logistic destruction as noted in the pictorial reliefs and textual accounts tended to revolve predominantly around three key resource areas each representing a very critical aspect of human and settlement survival (fig. 4.8):

\(^{248}\) M. Kress, Operational Logistics, 66.

\(^{249}\) A. Jones, The Art of War, 557-9.

\(^{250}\) Ibid., passim, but see: 693-701.

\(^{251}\) W. T. Sherman, “The Grand Strategy of the War of the Rebellion”, Century Magazine 37 (1888), 595-6. One of the major difficulties faced by the Union army, and likewise the Egyptians, was they did not possess enough “force to space” to effectively occupy captured enemy territory, hence the reliance on such logistic focused raids.
The deliberate targeting and destruction of infrastructure could vary considerably depending on a number of circumstances (as will be covered below). At one level, it may be sufficient that only certain elements of a settlement be targeted (defensive related infrastructure, for example) while at the other extreme, the complete and total destruction of a settlement may have been required. Not surprisingly, this type of logistic destruction predominantly occurred in the Asiatic theatre where there was a target rich environment of settlements of all shapes and sizes. The second area that was often targeted was the food supplies of a settlement. This included crops, orchards, livestock and essentially everything that a settlement may depend upon for basic survival and trade. We see instances of this type of destruction in both the Asiatic and Nubian theatres and to a lesser extent the Libyan theatre. Again, this occurred in varying degrees, depending on the circumstances. The final area that was targeted was the inhabitants of a settlement themselves. Elements of a population could be deported, enslaved, maimed, and killed. What percentage of a population suffered what fate was likewise depended on the circumstances at the time of attack. Generally, however, harsher treatment was meted out to rebellious foes. Targeting the population of a settlement took place in all three theatres, and it was especially an effective tool with dealing with semi nomadic peoples as these tended not to be reliant on permanently situated infrastructure and food supplies.

---

252 For an excellent study on aspects of cruelty in the Egyptian texts and images, see: M. Müller, “Facing up to Cruelty”, BACE 20 (2009), 115–42. The Assyrians, during their occupation of Egypt, likewise engaged in severe methods against rebels such as flaying and impaling them, R. Morkot, “Tradition, Innovation, and Researching the Past in Libyan, Kushite, and Saite Egypt”, in Regime Change in the Ancient Near East and Egypt: From Sargon of Agade to Saddam Hussein, H. Crawford (ed.), (Oxford, 2007), 160. For a king’s personal involvement (or rather lack thereof) in such acts, see especially: Z. Bahrani, Rituals of War, 154–8 and figs. 5.5 and 5.6.
Treatise of Enemy Cities

References to the destruction of entire cities do occur frequently in the Egyptian texts although there is some difficulty in determining just how complete the destruction supposedly was. During Kamose’s operations against the Hyksos, he had certain cities completely destroyed and their dwellings burnt down. These sites were supposedly never re-inhabited. A very similar proclamation is found in Thutmose III’s Gebel Barkal stela. In this inscription, he refers to the complete destruction by fire of cities during his campaigns against Mitanni. Thutmose made them into mounds which were never reoccupied. While one cannot rule out the likelihood of exaggeration here, in certain cases, nonetheless, the complete and utter destruction of minor cities or towns was a very effective logistic raiding strategy. Destroying such cities denied one’s enemy potential tactical or operational bases which could have been used for assaults against Egyptian territory. Resources that these cities may have been able to provide, such as troops, food, water, fodder, shelter and so forth are now no longer available. On the other hand, if the Egyptians were ever to permanently occupy these previously ravaged territories at a later date, the resources (and potential bases) are lost to them as well. Thutmose III may in fact have attempted to completely destroy certain Mitannian towns or villages in order to ensure the safety of Egyptian interests by pushing back Mitannian influence. A similar situation may have surrounded Kamose’s initial military actions. While the Egyptians were indeed moving over to the offensive, the complete expulsion of the Hyksos was by no means certain. Therefore, the destruction of select centres may have been necessary in order to thwart a possible future counterattack. Eliminating such centres not only served to restrict the enemy’s operational reach, but once enough operational bases had been removed from the equation, it then became possible to strike at the enemy’s strategic

253 That is not to deny the level of destruction inflicted may have been considerable: I. Shaw, “Battle in Ancient Egypt”, 253. For logistic destruction in general, see especially: M. Hasel, Military Practice, 98-100, 102-4 and 109-13.

254 H. S. Smith and A. Smith, “A Reconstruction of the Kamose Texts”, ZÄS 103 (1976), 48-76. For the key passage in question: “I hacked up their towns and set fire to their dwellings and they were made into red mounds (or tells) forever”, see also: T. Säve-Söderbergh, “The Nubian Kingdom”, 54-6.

255 Urk IV, 1231.9. A similar passage is also found in the Ramesseum record of Ramesses II where that king states that he plundered the cities of the Hittites turning their places into reddened mounds, KRI II, 173.14.
base(s). For Kamose, a logistics raiding strategy may have been seen as a better option (at least initially) in that it allowed for Egyptian forces to withdraw to more secure southern bases after inflicting terrific logistic destruction on the enemy. Nevertheless, even where a city or town was claimed as being completely destroyed, it is probably quite unlikely that the results were always permanent.\textsuperscript{256} The devastated sites would eventually have been rebuilt and resettled (although this could have taken some time), especially if they controlled vital geographic points or other “strategic locations”. The coastal city of Ardat was supposedly destroyed by Thutmose III, as was the city of Tunip.\textsuperscript{257} Yet this “destruction” was only temporary as both cities reappear in later records, again as military targets of the Egyptian armies. Tunip for its part, never really came under strong Egyptian influence and permanently garrisoning it may not have been possible. Therefore, the Egyptians appear to have resorted to a logistic raiding strategy of simply destroying its resources (at least as much as they could) before withdrawing south. Some of the reliefs of Ramesses II, which depict abandoned and defeated cities, probably also fall into this category, that is, cities which the Egyptians could not hold, or were not important enough to warrant a garrison, were thus partially or completely “destroyed”. Other depicted cities may have attempted to rebel against Egyptian rule and likewise suffered the fate of being “destroyed”. Many of these sites, however, were probably reoccupied having suffered no real long term damage, although they were likely somewhat less hostile in their attitude towards Egypt. An archaeological analysis conducted by Hasel somewhat confirms this point in that within Egypt’s somewhat shaky sphere of influence such destruction of cities and their associated resources was by no means permanent or even long term.\textsuperscript{258} Indeed, it appears that it was the inhabitants of the cities that suffered more rather than the actual cities themselves.\textsuperscript{259} This is especially so during Dynasty XIX in the Levant where Egyptian military action was directed against


\textsuperscript{257} \textit{Urk} IV, 687.5-7 and 729.15-730.1.

\textsuperscript{258} M. Hasel, \textit{Domination and Resistance}, 240-56.

\textsuperscript{259} See also our comments below: \textit{Treatment of the Inhabitants}. 305
rebellious populations and troublesome dissidents. These hostile elements would ideally be defeated in open battle, but if it was found necessary to capture their city or cities by assault, this resulted in some plundering of the city and select destruction of such elements as the gates and other fortification devices. Thus, while the population or certain segments thereof would be led off into captivity, the city itself remained largely intact (see also below). This suited Egyptian strategy, as it would not be in their best interests to decimate potential operational bases within their own sphere of interest, and as a consequence, ultimately undermine the integrity of their logistics network.

With respect to the Nubian theatre, the destruction of settlements (in part, or in total) was not as pronounced, although this was likely a reflection of the more limited infrastructure found in this region. What Nubian infrastructure that did exist was easily superseded by the infrastructure of the Egyptians (the fortresses in particular). From Dynasty XII, however, mention is made of Amenemhet I burning down houses in Nubia. The territory was probably never occupied by Egyptian forces, instead Amenemhet was more concerned with ensuring that the Nubians did not interfere with Egyptian interests in this region and was thus resorting to a logistic raiding strategy. The pictorial reliefs, likewise, make only infrequent reference to attacks on Nubian settlements with the most notable being those of Ramesses II and Ramesses III.

Treatment of the Inhabitants

The second logistically vulnerable category that the Egyptians often targeted was the inhabitants of cities, towns, villages as well as semi nomadic and nomadic

---


261 For discussion, see Chapter II.


263 For example, it would have made little sense for Thutmose III to destroy the strategically important city of Megiddo, and as such the destruction noted there in the archaeological record (stratum IX) was likely not his doing, W. Shea, “The Conquests of Sharuhen and Megiddo Reconsidered”, 5; and R. Gonen, “Megiddo in the Late Bronze Age”, 83-100.

264 W. Wreszinski, *Atlas II*, pls. 165-6 and *Medinet Habu I*, pls. 8-9 respectively.
peoples. Their fate could vary greatly depending on circumstances. City assaults and sieges, in particular, were messy affairs. This was in part due to the presence of non combatants who were more often than not caught up in the fighting, and also to the inherently difficult nature of urban fighting which often provoked considerable resentment among the troops of the attacking army. It was, therefore, not uncommon for soldiers to engage in uncontrolled rape, pillaging, and plundering following the fall of a particularly resilient city. Such behaviour was not a symptom of undisciplined armies, but was more of a “psychological release” for the attackers especially if they had suffered considerable casualties in the siege process.

From the pictorial and textual accounts, it is clear that a percentage of the inhabitants of assaulted cities ended up as prisoners and were transported back to various locations within Egypt. Others would have been killed, either intentionally

265 Wholesale slaughter, as was undertaken, for example, by the Romans at New Carthage under the command of Scipio, and the Thracians at Mycalessus during the Second Peloponnesian War, see respectively: Polybius, The Rise of the Roman Empire, trans. Ian Scott-Kilvert (London, 1979), X.15; hereafter cited as Polybius; and Thucydides, VII. 29, appears not to have been commonly carried out and this is supported by the various textual and pictorial accounts. Rather, the Egyptians, being a cost conscious bureaucratic culture likely found there was more value to be had in keeping captives alive. On that note, see the pertinent comments of Kenneth Kitchen, “Egyptian New-Kingdom Topographical Lists”, 135.

266 See, for example: S. McGlynn, By Sword and Fire: Cruelty and Atrocity in Medieval Warfare (London, 2008), 151-94.

267 For the types of battle injuries associated with attacking a fortified location refer to H. E. Winlock, The Slain Soldiers of Neb-hetep-Re Mentu-hotepe (although, as mentioned in Chapter II note 47, it is by no means conclusive these soldiers perished in such an assault). For a wider study on the treatment of civilians and the usual atrocities that are associated with the capture of ancient cities, see: P. Kern, Ancient Siege Warfare (Bloomington, 1999), passim. For the Egyptians, this psychological aspect may not have been as pronounced especially with their preferred style of “indirect” warfare, That is, they tended not to engage in major prolonged sieges (again another cost consideration) and thus avoided the gradual building up of group pensive anger and viral resentment that is usually found among besieging troops with respect to the besieged population. This was a fact that was not lost among the inhabitants, and Maurice advised that in order to avoid last ditch desperate resistance against the rampaging troops when a populous city is taken, the gates should be left open in order to facilitate the fleeing civilian body, Strategikon, 81.

268 For the transportation of captives during the Middle Kingdom, see: S. Larkham, “Human Cargo: Transportation of Western Asiatic People during 11th and 12th Dynasty”, JSSEA 34 (2007), 107-13. These captives were divided between estates in Egypt, ibid, 110. Some captives may even have been branded, including those prisoners that ended up working for the temple of Amun, E. Morris, The Architecture of Imperialism, 65 note 152. The numbers of captives may at times have been substantial. For example, Khusobek ended up with 160 captives which would have provided this individual with a not too insignificant economic boost, J. Baines, “The Stela of Khusobek: Private and Royal Military Narrative and Values,” in Form und Mass, J. Osing and G. Dreyer (eds.), (Wiesbaden, 1987), 46-7; and W. Helck, Die Beziehungen Ägyptens zu Vorderasien im 3. und 2. Jahrtausend v. Chr.² (Wiesbaden, 1971), 55-6. Ahmose son of Ebana, on the other hand, came away with less captives, but these could have been of higher quality, ibid., 55.
or unintentionally, and if the population of the city was not in its entirety transported away, the remaining inhabitants (now the loyal subjects of the Egyptian king) would have remained to carry on with their lives. With the battle images, the carrying off of captured city folk as spoils of war is seen in some of our earliest scenes. In the bottom register of the Inty scene, we see a line of bound captives consisting of men, women and children. One of their guards, armed with an axe also carries a young child over his right shoulder. Asiatic prisoners (for the most part women) are also seen in the Deir el-Bahri fragments being led away from their doomed city.\textsuperscript{269} During Sesostris III’s Nubian campaign, the women are carried off,\textsuperscript{270} whereas Kamose, in his attack against the city of Avaris, or at the very least its environs, promises the women watching from the windows of the city that they will be dragged into the hulls of his ships.\textsuperscript{271} From Dynasty XVIII, images from the Memphite tomb of Horemhab depict lines of prisoners, male and female, being carried off into captivity,\textsuperscript{272} and from Dynasty XIX, in a damaged scene from Ramesses II’s Amara temple, we see a procession of prisoners being led away from a conquered Asiatic city.\textsuperscript{273} As one would expect, if it was believed that the city was about to fall, some of the inhabitants, or the defending garrison, would have tried to flee, and in the battle scenes we do find examples of this. From the Deir el-Bahri fragments, we see Asiatics fleeing their besieged city, while from the battle reliefs depicting Sety’s attack on Yenoam there is a wonderful image of Asiatic soldiers (who are supposed to be protecting that city) hiding among nearby trees.\textsuperscript{274} In Ramesses II’s assault on Mutir we can just make out the head of an Asiatic soldier who is hiding in the trees close to

\textsuperscript{269} A. Schulman, “The Battle Scenes”, 175.

\textsuperscript{270} M. Lichtheim, Ancient Egyptian Literature Volume I: The Old and Middle Kingdoms (Berkeley, 1975), 119; and W. Emery, Egypt in Nubia, 157.

\textsuperscript{271} There is a strong element of revenge here, in that the Egyptians were repaying in kind the destruction the Hyksos (and their Egyptian allies) had inflicted on Egypt, T. Säve-Söderbergh, “The Nubian Kingdom”, 54-6. Indeed, in Kamose’s stela, all three logistically valuable resources (cities, crops, and inhabitants) are either attacked by this king or threatened with destruction. For further comments on this particular passage and its similarities with a passage found in the Dream Stele of Tanutamun (Cairo JdE 48863), see: J. Darnell, “Two Sieges”, 85-90.

\textsuperscript{272} G. T. Martin, The Memphite Tomb of Horemheb, pl. 105. Of the prisoners taken, it has been suggested that Hittites are not among them, see: J. Darnell, “Supposed Depictions of Hittites in the Amarna Period”, SAK 18 (1991), 113-40.

\textsuperscript{273} P. Spencer, Amara West I, pl. 36: e-d.

\textsuperscript{274} RIK IV, plas. 9 and 11.
the city. Another memorable image is the hapless individual who fled the city of Satuna.\textsuperscript{275} In other instances, however, it proved impossible to flee a city as was the case following the Egyptian attack on Megiddo when Thutmose III had it surrounded with a wall.\textsuperscript{276} The textual accounts are likewise quite informative when describing the fate of the inhabitants, and those who were lucky to survive the Egyptian assault often found themselves prisoners of war as seen, for example, in the texts of Ahmose son of Ebana and Ahmose Pen-Nekhbet.\textsuperscript{277} Such prisoners either ended up as servants of the soldiers who captured them or were handed over to that soldier’s superiors. Along with the devastation wrought by Thutmose III against the towns of Mitanni, as described in the Gebel Barkal stela, mention is made of the fact that the inhabitants (the surviving ones at least) were carried away.\textsuperscript{278} Other prisoners were less fortunate and were killed either during the assault, or soon afterwards as punishment for their crimes, although, such harsh penalties was generally reserved for the chiefs or leaders and not the general rank and file.\textsuperscript{279} On the whole, it is difficult to believe the Egyptians engaged in the wholesale slaughter and mutilation of inhabitants of certain cities as this was simply an activity that was not in their best interests to do so. That they did do so against \textit{rebellious} elements in Nubia is clear and evidence for this dates back to at least Dynasty XII,\textsuperscript{280} but in Asia this appears not to have been the case.\textsuperscript{281}

\begin{footnotesize}
\begin{enumerate}
\item W. Wreszinski, \textit{Atlas} II, pls. 66-7.
\item \textit{Urk} IV, 660.14-661.1.
\item \textit{Urk} IV, 1.15-11.14 and \textit{Urk} IV, 32.1-39.7 respectively.
\item \textit{Urk} IV, 1231.10-11. The targeting of civilians continues into the Late Period as noted in King Piye’s Victory Stela, M. Lichtheim, \textit{Ancient Egyptian Literature} III, 69.
\item See, for example: P. Der Manuelian, \textit{Studies in the Reign of Amenhotep II}, 50. This of course should not come as too much of a surprise considering that sanctioned killing or capital punishment for certain crimes was fairly wide spread within Egyptian civil society, see: K. Muhlestein, “Royal Executions: Evidence bearing on the Subject of Sanctioned Killing in the Middle Kingdom”, \textit{JESHO} 51 (2008), 181-208.
\item See, for example, our comments in Chapter V: \textit{Force} and note 136. Other instances of excessive violence carried out against Nubians are noted in a campaign dated to the reign of Thutmose II (as carved on a rock between Aswan and Philae) where Egyptian soldiers killed every male inhabitant: \textit{Urk} IV, 140.3-17; J. Galán, \textit{Victory and Border: Terminology related to Egyptian Imperialism in the XVIIIth Dynasty} (Hildesheim, 1995), 76-7; and P. L. Shinnie, \textit{Ancient Nubia}, 81. A further extreme form of punishment was human sacrifice and at the Middle Kingdom fortress site of Megiddo, one such (Nubian) candidate has been uncovered. Possibly expressing the ultimate evolution of the execration ritual, this luckless individual had been decapitated and buried upside down in a shallow pit, J. C. Darnell and C. Manassa, \textit{Tutankhamun’s Armies}, 133.
\item Although mentions of cutting the throats of Asiatics (in addition to beheading Nubians) were not uncommon, J. Galán, \textit{Victory and Border}, 107.
\end{enumerate}
\end{footnotesize}
Certain cities were likely devastated severely and the logistic and economic destruction is clearly evident, but their populations probably had more value to the Egyptians alive rather than dead. The killing or incapacitation of certain segments of a society, in particular the ruling elite, was, however, practiced and this alone could seriously impair that society’s ability to field an army. At the other end of the human spectrum, eliminating the next generation of fighting males was also an effective deterrence tool. An enigmatic passage from the Israel stela of Merenptah mentions that “Israel is wasted, bare of seed”. This passage has been the subject of considerable interpretation. While some scholars see it as referring to the destruction of crops, or even their usurpation by Egyptian soldiers, others believe that it alludes to the slaughtering by the Egyptians of all the male children (the future providers and warriors of that society). If this was indeed so, we therefore possess an extreme example of striking at the core logistic base of the enemy.

Treatment of Crops and Livestock

The destruction of enemy crops and other foodstuffs is a common recurring theme in the texts and to a lesser extent the reliefs. In one of the earliest texts, the Autobiography of Weni, there is a brief reference to the cutting down of figs (dībw) and vines (iṣrīt) belonging to the enemy. This is a clear instance of the employment

282 Rebellious Asiatic chieftains were often subjected to varying degrees of punishment for their crimes with some of the more extreme cases dated to the reign of Amenhotep II (see our comments in Chapter VI note 213. At the other end of the spectrum, humiliation appears to have been a popular form of punishment. In a fragment dating to the reign of Tutankhamun, we witness an Asiatic, likely a chieftain locked within a cage, W. R. Johnson, An Asiatic Battle Scene, 78 and 164 pl. 38, whereas from the Autobiography of Ahmose, that soldier makes mention of Thutmose I returning to Egypt with a defeated foe hanging upside down from the prow of his ship, Urk IV, 9.5. On the importance of ruling figures as a nexus of power, see our comments in Chapter VI: Centres of Gravity.

283 KRI IV, 19.7.


285 See, for example: M. Hasel, Military Practice, 98-9 and 100-13. For the terminology employed, see: M. Hasel, Domination and Resistance, 75-83. Maurice noted that plans should be formulated to defeat an enemy through poisoning their grain and despoiling their drinking water, while at the same time, ensuring this did not happen to one’s own supplies, Strategikon, 91-2. Grain and wine found within a hostile country should be tested for poison (by being given to prisoners) and water from wells should not be drunk, ibid., 99-100.

286 Urk I, 103.11-14.
of a logistic raiding strategy. That is, the Egyptians were not concerned with capturing logistically valuable territory, but rather Weni’s military action was a raid of destruction with the victorious army then returning to Egypt. From the Middle Kingdom, we find a number of references to Egyptian soldiers engaging in logistic destruction. While campaigning in Nubia, Amenemhet I pulled out the corn and cut down all the sycamore trees of his enemy.\(^{287}\) From the Wadi Halfa stela dated to the reign of Sesostris I, soldiers are mentioned throwing barley into a river,\(^{288}\) while later during the reign of Sesostris III, Egyptian soldiers, also in Nubia, pulled crops from the ground belonging to their enemy and fired them.\(^{289}\) Kamose, in his speech, makes mention of his intentions to uproot the field of Avaris (\(d^\text {w} t\ h^\text {t} w^\text {frt}\)) and to cut down the trees. Although he failed to capture the city, Kamose states that he left the territory destroyed and empty of people. Furthermore, he “destroyed their towns and burned their homes to reddened ruin-heaps forever” (a theme that we see repeated with Thutmose III).\(^{290}\)

During the New Kingdom campaigns of Thutmose III, there are a number of mentions made to the destruction of crops and other life-subsistence systems. After “destroying” Ardat (fifth campaign – Year 29) and Tunip (Year 42), the king attacked the harvests of both cities. He destroyed (\(s^\text {k}\)) the grain (\(i^\text {t}\)) of Ardat and cut down (\(w^\text {ht}\)) the grain (\(i^\text {t}.w\)) of Tunip.\(^{291}\) In the case of Ardat a further reference to the cutting down (\(s^\text {n}^\text {d}\)) of fruit trees is made whereas with Tunip only the cutting down (\(s^\text {n}^\text {d}\)) of trees without specification (\(m^\text {nw}\)) is mentioned.\(^{292}\) The distinction between trees in general and fruit trees may be an important one. The former would have been a potential source of wood to be used in industry. The latter, however, were a renewable source of food and possibly income (through trade), as well as a source of


\(^{289}\) As recorded on the Semna stela, see: M. Lichtheim, *Ancient Egyptian Literature* I, 119; and W. Emery, *Egypt in Nubia*, 157-8. On the difficulty of firing crops, see our comments below.

\(^{290}\) Redford, D., “Textual Sources for the Hyksos Period”, 14.


\(^{292}\) *Urk IV*, 687.5-7 and *Urk IV*, 729.15-730.1 respectively. See also: M. Hasel, *Military Practice*, 110.
wood, if required. We may remember that Thutmose during the siege of Megiddo cut
down fruit trees around the city and used this wood for his siege works. This would
have been a triple blow for the inhabitants (losing a food, income and wood source all
in one hit) and would have further undermined their ability to support themselves.
Following the action against Ardat, Thutmose’s campaign against the city of Qadesh
(Year 30) also saw significant destruction of enemy resources. Thutmose mentions
that upon arriving at the city, he cut down (whi) the grain (it) and hacked up (ṣd) its
trees (mnw).\textsuperscript{293} Finally, from the Gebel Barkal stela, Thutmose mentions specifically
that he took away the means of survival for his defeated enemy. He pulled out their
barley and cut down all their trees \textit{as well as} their fruit trees, and the entire land was
turned into a place where “no trees will ever exist”\textsuperscript{294}. The emphasis in this passage
appears to be on the \textit{absolute} destruction of the enemy’s resources. Such instances as
these appear to be examples of a logistic raiding strategy. There was to be no
permanent occupation of enemy territory, rather its complete and utter destruction was
sought.

The extant battle reliefs of Dynasty XIX and XX rarely depict the destruction
of crops. The one notable exception is Ramesses III’s assault against the city of
Tunip. While the main attack is taking place, a detachment of Egyptian troops is in
the process of cutting down trees nearby.\textsuperscript{295} The lack of references to such resource
destruction was possibly a reflection that the “glory” raids of the previous dynasty
were now no longer an option. The Egyptians, now on the defensive, probably had
less opportunities to inflict such damage, and were more concerned with ensuring
their own logistically valuable resources remained free from enemy interference.
Having said that, it is tempting to view the Tunip campaign of Ramesses III (if it in
actual fact took place) along the lines of this king mounting one last “fling” in Syria,
destroying as many resources as possible before retreating permanently from this
region.

Along with the usual destruction of the harvest, the fate of captured cattle is
often mentioned. Generally cattle and other livestock are either slaughtered outright or

\textsuperscript{293} \textit{Urk IV}, 689.7-10; and A. Spalinger, “\textit{A Critical Analysis}”, 42. Later still, this same king, during his
Year 33 campaign, plundered towns and hacked cities as well, \textit{ibid.}, 43.

\textsuperscript{294} \textit{Urk IV}, 1231.14-19.

\textsuperscript{295} \textit{Medinet Habu} II, pls. 88-9.
taken back to Egypt, although how many of the latter actually lived to see Egypt is another matter. In one early text, the Instructions of Merikare, mention is made of the cattle of the defeated enemy being taken away.296 Sesostris III, as noted in the Semna stela, slaughtered the cattle of his Nubian enemies near their wells, while cattle captured by Kamose was given to the army.297 Thutmose III, for his part, took away the cattle that he captured in one of his campaigns.298 Indeed, this does appear to be the norm and the numerous booty lists of successful campaigns often include large numbers of captured cattle and livestock. Thutmose III, for example, at Megiddo captured the following: 1,929 cows; 2,000 goats; and 20,500 sheep.299 During the two later campaigns of Amenhotep II (Years 7 and 9), the booty lists included, in addition to captured horses, a number of cattle (both small and large).300 Merenptah after defeating the Libyans captured oxen, asses, goats, and rams totalling some 11,594/5.301

The pictorial evidence is also quite rich with images of captured cattle, and likewise is the recurring motif of the lone Asiatic who attempts to singlehandedly save his charge of cattle from the attacking Egyptian soldiers. One of the earliest examples supposedly depicts the aftermath of a campaign by Sahure against the Tjehenu. The scene in question (which was later recopied by Sahure’s successors) depicts (very) large numbers of cattle and other livestock, accompanied by equally large numbers of donkeys.302 The scene depicting a besieged fortress from the tomb of Khaemhesy is also of interest as we see the defenders are bringing in their cattle thus

296 M. Lichtheim, Ancient Egyptian Literature I, 104.

297 See, respectively: ibid., 119; and H. S. Smith and A. Smith, “A Reconsideration of the Kamose Texts”, 103.

298 Urk IV, 1231.10-12.

299 Urk IV, 664.12-14. Some of these animals would of course have been consumed by the troops, see also our comments in Chapter III. The 1,929 cows alone would have provided a considerable amount of meat.

300 Although, there are some difficulties associated with these particular booty lists, see: P. Der Manuelian, Studies in the Reign of Amenophis II, 76-7; and A. Spalinger, “The Historical Implications of the Year 9 Campaign of Amenophis II”, 92-3 and 100-1.

301 KRI IV, 38.1-6. The Karnak booty list of this battle lists at least 1,307 heads of cattle. Unfortunately, the other estimates are not as complete, KRI IV, 2.9-12.6.

302 For a discussion of these scenes, see: A. Spalinger, “Some Notes on the Libyans of the Old Kingdom and Later Historical Reflexes”, JSSEA 9 (1979), 132-6.
denying them to the attackers. Vegetius stressed that when there was the possibility that one’s territory was in danger of being invaded, it was vital to bring in all livestock, fruit or any other foodstuff in order to deny the enemy any means of sustenance. This is especially so when there was the likelihood of a siege. In Sety’s assault against the city of Qadesh, we see a lonely Asiatic herdsman attempting to drive his cattle to safety. A similar scene is also found in Ramesses II’s attack on Mutir, and in a third scene, an enemy bowman flees for his life while at the same time attempting to save the livestock of his city. Also worth mentioning, as it is reminiscent of the Sahure image, is the scene of Ramesses III hunting wild animals, including assas in the desert.

In addition to the utilisation of logistic destruction as a military means to achieve strategic victory, there was also (as only to be expected) instances of pillaging and plundering undertaken by the attacking soldiers that may or may not have been part of official policy. Uncontrolled or unsanctioned plundering was often quite harmful and even militarily dangerous to any army. At the very least, it was detrimental to discipline, but at the very worst, it could also expose the army to a sudden counterattack by the enemy. It is well known that Roman army commanders attempted to curb unsanctioned plundering right down to the individual level. As Roth pointed out, this was done not to protect the local inhabitants through which territory the army may have been passing, but rather to maintain discipline among the ranks.

303 Clearly a “defensive logistic strategy” is being employed here.
304 Vegetius, 66 and 116-7.
305 RIK IV, pls. 23-4.
306 W. Wreszinski, Atlas, II, pl. 71. Capturing the cattle of one’s enemy is also mentioned in King Piye’s Victory Stela, M. Lichtheim, Ancient Egyptian Literature III, 69.
308 Medinet Habu II, pl. 116.
309 Khusobek, for example, who was awarded with the weapons of the enemy he had slain, forgoes the temptation to plunder by having his subordinates collect the weapons, J. Baines, “The Stela of Khusobek”, 55-6. In addition, having weapons collected in such a fashion allowed Khusobek to continue the fighting uninterrupted. Hans Goedicke considers this to be an indication of how heavily equipped the soldier was, see his: “Khu-u-Sobek’s Fight in ‘Asia’”, Ägypten und Levante 7 (1998), 36.
310 It is the natural tendency for soldiers to personally horde what they pillage thus resulting in an unfavourable logistical situation, J. Roth, Logistics, 148-54. Indeed, one of the factors leading to Napoleon’s defeat in Russia, as noted in Chapter III, was due to the undisciplined actions of his soldiers which seriously hampered logistical arrangements, M. Van Creveld, Supplying War, 66-70.
Commanders did allow their soldiers to plunder but this was done in a more or less controlled fashion and after the battle had been won. The Egyptians also practiced a policy of controlling when soldiers were allowed to plunder, yet this policy did occasionally break down. This is, of course, famously noted with the battle of Megiddo where Egyptian soldiers broke ranks to plunder the enemy camp without sanction rather than following up their battlefield victory with an immediate assault on the city. Their punishment (if any) is unknown yet may have been harsh considering the repercussions of their actions. On other occasions, plundering and pillaging was condoned and is commented on frequently, and, as noted above, was an integral part of Egyptian strategy.

The plundering of foodstuffs, albeit under the tacit control of the king or other commanding official, in particular, allowed for an effective policy of provisioning and means of awarding successful soldiers. This was an important dual policy as soldiers were rewarded with food and other luxury consumables which would likely have been impossible to bring back to Egypt. Consuming these goods would also have denied them to the enemy which Sun Tzu, as noted in Chapter III, considered to especially advantageous. Second, with the soldiers largely sated with respect to their immediate concerns, this gave the commanding officers better control over distributing or safeguarding the more expensive items of plunder including slaves, gold, other treasures, and so forth. For instance, when Kamose captured the district of Nefrusy, he rewarded his troops with slaves, herds, fat and honey as well as other possessions. Such actions undoubtedly helped maintain order and discipline in that with an organised sharing out of the plunder following a military action there was less temptation to engage in acts of uncontrolled pillaging and plundering. No doubt, high value items such as slaves were rewarded to the more valiant soldiers as was the case with the soldier Ahmose who also received gold. The rewarding of heads of cattle to

311 For example, a passage from Polybius states clearly that when Scipio’s troops had entered the city of New Carthage, he “let loose the majority of them against the inhabitants, according to Roman custom, their orders were to exterminate every form of life they encountered, sparing none, but not to start pillaging until the word was given to do so (italics added)”, Polybius, X.15.

312 Urk IV, 658.8-10.

313 L. Habachi, The Second Stela of Kamose, 48-9; and D. Redford, “Textual Sources”, 14. Honey, in particular, would have been considered quite a delicacy.
soldiers was again likely done to supplement the basic food ration. At times, in between military actions, it was probably also expected of the Egyptian soldiers that they maintain their discipline and not engage in any form of unlawful activity. This is possibly confirmed by a passage from the Autobiography of Weni which, although somewhat vague in detail, may refer to a policy regarding unauthorised pillaging. The passage in question mentions that the Egyptian soldiers under the command of Weni refrained from engaging in any acts that would likely antagonise the local population in areas where they were stationed. The text states that it was forbidden for soldiers to seize food (specifically bread) or sandals from any traveller. Nor was it permissible to take cloth or livestock from any town. It is interesting to note that bread and sandals are singled out as these two items would have been the most sought after by any ill-provisioned or ill-equipped soldier. The presence of such a regulation (whether formally established or not) serves to indicate that the Egyptians possessed at least some understanding of the repercussions of “living of the land”. Indeed, this was something the Hittite army fully appreciated. We know that when passing through the territory of their allies or vassals, their soldiers were under strict orders not to engage in any unsanctioned raiding of the cities or the countryside. It is difficult to ascertain how far afield, so to speak, the Weni regulation applied. Was it primarily for the protection of towns within Egypt or did it extend to areas outside of Egypt where Egyptian armies operated? In addition, was this practice discontinued at certain times or maintained continuously? Overall, pillaging and plundering, when

---

314 Goedicke follows the view that cattle captured while on campaign probably never saw Egypt. Instead the animals were probably utilised as a food source: The Battle of Megiddo, 151. This was indeed a viable way of provisioning an army on the move. For example, during the American Civil War cattle were driven along with the marching armies thus providing an instant supply of fresh beef. Not surprisingly, the quality of the meat did deteriorate due to poor forage and distances travelled by the cattle: J. Huston, Sinews, 218-9. Since the Egyptians realised diet affected the taste of the meat, they possibly tried to ensure that any captured cattle were reasonably well fed.


316 As we have already noted in Chapter III, employing a logistical strategy where reliance was placed on the acquisition of provisions from the civilian population can seriously lower an army’s effectiveness and greatly reduce it range of operations. As the army quickly exhausts all supplies in the immediate area (at an exponential rate), they run the risk of antagonising the local population (whether they be enemy civilians or even their own). A perfect example of the use and eventual break down of such a logistics support system is found with the “Thirty Years War” which devastated the resources of entire regions of Germany to such an extent it impacted military strategy: A. Jones, Art of War, 214-20.

controlled, worked in well with a logistic raiding strategy which in turn fitted Egyptian strategy quite comfortably.

**Logistic Defensive Strategies**

As noted in Chapter III, a “friendly” army that engaged in living off the land at the expense of the local population would eventually incite either covert or overt hostility (or both) on the part of the latter towards the former. If the army was hostile, this would have been even more pronounced. In response to an attack by a hostile force, however, the defender was also capable of employing logistic strategies as a way of defeating (or at least slowing down) an attacking force. This, in essence, involved destroying one’s own logistically valuable resources, by employing what is popularly known as a “scorched earth” policy, thus denying their use to the enemy. The key objective here was to ensure that the invading force was unable to subsist in the territory in which it occupied. The resources subject to destruction included the all important grain and fodder followed by destruction of crops, and if possible, areas suitable for pasturage. Wells could also be targeted and made unusable, especially any water sources in the vicinity of a city that was about to be besieged. Although, effectively poisoning water sources may have been somewhat beyond the ability of the ancients, they could, however, dump the carcasses of dead animals into wells in the hope of inciting disease. Other (movable) resources such as cattle and other livestock, however, could be saved by bringing them into secure locations.

Employing a “scorched earth” policy was not without its difficulties. On a practical level there is the simple fact that it involves the destruction of one’s own resources and in addition to this, if the invading force is repulsed it will then be necessary to recover from any self inflicted logistical destruction. There is also the potential difficulty in carrying out such destruction in the first place.\(^{318}\) One needs to

---

\(^{318}\) Both for the attacker as well as the defender. Cereal crops could be especially difficult to fire due to their high water-content, see: D. J. Watson, “Inflammability of Cereal Crops in Relation to Water-Content”, *Empire Journal of Experimental Agriculture* 18 (1950), 150-62. The experiments, which were conducted by Watson, showed that if a crop was not fully ripe or if there had been recent rain, firing could be quite difficult to accomplish, *ibid.*, 150-7. Crops were, however, at their most flammable once they had ripened and if harvesting had been delayed, *ibid.*, 157. Ideally, an army wishing to engage in this type of logistic destruction had to arrive during this ‘window of opportunity’ (that is, after the crop had ripened but before it had been harvested). This could vary considerably with climatic conditions (hotter climates would for example increase crop vulnerability) and crop type (where ripening can occur at different times for different crops), see also the comments of: I. G.
have at least some basic idea of the direction and objectives of the attackers in order for destruction to be wrought in their path. If this information is unknown, it may be impossible for the defenders to ensure that all potential avenues are covered. The other major difficulty was more political in nature. While the destruction of one’s own territory was not particularly desirable, the destruction of resources belonging to an ally or vassal state was likewise thwart with complications especially if one is relying on their good will and overall support to contribute to your defence. Therefore, a situation may develop where such a defensive logistic strategy may be the best option for combating an advancing enemy force, yet its implementation proves to be politically impossible.\(^{319}\) This is especially true for campaigns in Palestine and Syria. As we have seen from the previous chapter, the great powers required the submission or at the very least the cooperation of key city states in order to support their armies logistically in these regions. Any attempts to initiate a scorched earth policy would have been extremely difficult and unpopular. Not only did one run the risk of antagonising the city states and destroying any good will for the future, it would also prove to be difficult for a great power to expand its empire into that region again at a later date.\(^{320}\)

**Counter Logistics at the Three Levels of War**

Having examined the types of resources the Egyptians targeted, how then did this fit in with respect to attacking the logistics networks of their enemies? To begin with, attempting to disrupt that network at the tactical level generally can have the most immediate and, without doubt, desirable effect on the outcome of a battle. One of the key goals of counter logistics at this level would be the annihilation of the

---

Spence, “Perikles and the Defence of Attika during the Peloponnesian War”, *JHS* 110 (1990), 369 and note 67. In general, Spence’s article is a useful reminder that logistic destruction can at times be difficult to carry out, and as such, serves as a useful counterbalance to those studies which may downplay these difficulties, see for example: J. Thorne, “Warfare and Agriculture: The Economic Impact of Devastation in Classical Greece”, *Greek, Roman and Byzantine Studies* 42 (2001), 225-53.

\(^{319}\) An excellent example is provided by Alexander’s campaign against the Persian Empire. A scorched earth policy initiated by the Persian commanders would have conclusively defeated the Macedonian king at a very early stage in his campaign. The Persian governor Arsites however, was reluctant to initiate such a plan and “would not consent to the destruction by fire of a single house belonging to any of his subjects”, Arrian, I.12-3.

\(^{320}\) Hoffmeier, for example, commented on the fact that it made “little sense” for the Egyptians to adopt a scorched earth policy in Canaan due their strong economic interests in the region, “Aspects of Egyptian Foreign Policy”, 133.
enemy’s tactical camp or baggage train – their immediate support base – which, if accomplished, would often facilitate (or be the primary cause for) a victory. Instances of logistic attacks at the tactical level are, however, relatively uncommon. For sure, the Egyptians captured and plundered the enemy camp following their victory at Megiddo, yet this occurred after the enemy army had already been defeated in battle.\textsuperscript{321} The plundering of the camp was, therefore, inconsequential. Furthermore, this camp had limited logistical value as the enemy still had in their possession a larger and more secure (operational) base, the city of Megiddo itself. Better examples which serve to highlight the potential of this strategy include the incidents that took place during the reigns of Merenptah and Ramesses III respectively. With respect to the former, during the course of the Year 5 Libyan invasion of Egypt, Merenptah was fortunate enough to have destroyed the forward enemy base which had been established outside Perbarset.\textsuperscript{322} The destruction of this camp occurred before the main battle, and therefore would have contributed to the defeat of the main Libyan invasion force. As for the latter, Ramesses III was successfully able to launch an attack directly on the baggage train of the Sea Peoples invaders.\textsuperscript{323} While the results of attacking an enemy’s logistic apparatus at the tactical level can be spectacular, they are generally short lived and usually restricted to within a small geographical space. Furthermore, disrupting the enemy’s logistics at this level has negligible repercussions for the remainder of the network.

Attacking and destroying an enemy’s logistics network at the operational level, on the other hand, can impact significantly their ability to wage war. The goal here is to disrupt, capture, or destroy the enemy’s key operational centres, generally the fortified cities within the theatre of operations that controlled key decisive points. This was the kind of military activity which the Egyptians carried out against other superpowers, mainly due to the fact that the operational bases of their opponents were considerably more vulnerable than their strategic bases.\textsuperscript{324} Our survey of the evidence

\textsuperscript{321} \textit{Urk} IV, 657.16-658.10.

\textsuperscript{322} \textit{KRI} IV, 14.14; \textit{KRI} IV, 20.14; and C. Manassa, \textit{The Great Karnak Inscription}, 13-4.

\textsuperscript{323} \textit{Medinet Habu} II, pls. 32 and 34.

\textsuperscript{324} The Hittites likewise ensured sensitive areas were adequately protected. For example, they built “a \textit{limes} of square-walled fortresses-towns from Tell Nebi Mend on the Orontes in a straight line to Jusuf Pacha on the Euphrates with Qatna as its best known stronghold”, W. J. Van Liere, “Capitals and Citadels of Bronze Age Syria in their Relationship to land and Water”, \textit{Annales archéologiques de
above confirms that cities, towns, and fortresses belonging to other superpowers, were regularly attacked and captured by the Egyptians and that their inhabitants and food supply systems all suffered accordingly. Some of these centres were completely incorporated into the logistics network of the Egyptians. Some centres were of such importance that they regularly changed hands as noted, for example, with the struggle to control the city of Qadesh from Thutmose III to Ramesses II. Other desired centres remained beyond the reach of Egyptian control and thus were “devastated” whenever possible. These operational level attacks were in many respects the only viable way the superpowers could strike at each other. In the case of the Egyptian versus Hittite struggle, neither side was able to decisively attack the other’s logistic strategic base(s). Therefore, counter logistics primarily took place at the next two levels down. The loss of an operational base or any element of an operational level logistics network was far more damaging and the effects more long term than at the tactical level, but being able to completely destroy the entire operational network would have been potentially difficult, if not impossible, to carry out.  

As we have noted above, operational level bases tended to be well fortified, and key cities also proved to be quite durable. It was almost as if neither side was particularly keen to eliminate an important centre in case it was required by them at a later time. Tunip, we have noted, was attacked and devastated by the Egyptians but never really brought under their effective control. It was also never completely destroyed. This was also the case for Qadesh. Unlike the operational level bases themselves, their support apparatus proved to be more open to attack, which included the inhabitants, the crops, and so forth.

In short, the destruction of enemy resources played a significant part in Egyptian strategy and this is evident from a very early period. This policy continues throughout most of the period under discussion and ranges from the simple destruction of crops to the supposed eradication of entire cities and populations. Of particular note, the Egyptians may have employed a rather perverse alternative of this strategy during the Amarna period. That is, instead of becoming too embroiled in the politics of this region, they may have been quite content to allow the various factions

---

Syrie 13 (1963), 118. Qatna, like Qadesh, was around 100 ha in size whereas the other fortresses were significantly smaller with areas of only 20 ha. This defensive line was constructed most likely to guard against both Egyptian and Bedouin intrusions, ibid., 118.

325 It was a far easier task to overrun a single tactical camp than it was to assault a series of well fortified centres.
to fight among themselves, therefore draining their finite logistic resources in endless battles. This would be a truly Machiavellian use of operational art.

Destruction of an enemy’s logistic apparatus at the strategic level is potentially the most difficult of all to accomplish. The goal here would be to attack, destroy or occupy the region or regions which provided the bulk of the enemy’s war resources. These are the key cities or manufacturing and storage facilities of a superpower which were essential to its military industry, in addition to those equally vital areas or points where raw materials were acquired. During the period under discussion we do come across instances where the state’s ability to adequately provide for its citizens failed, but this tended have been the result of internal difficulties or environmental factors rather than the actions of external foes.326 One of the earliest examples comes from a surprisingly late source – a Ptolemaic inscription which supposedly recounts a seven year famine that took place during the reign of King Djoser of Dynasty III.327 It records the chronic lack of food “kernals are lacking altogether”, and the subsequent breakdown of social order. The inscription of the nomarch Neheri I, on the other hand, describes the situation at the time of the First Intermediate Period and specifically mentions internal war and famine.328 Indeed, the situation became so desperate in the south that the ruling monarch Wahankh Antef II in Thebes sent a message to his northern opposite Khety at Herakleopolis requesting food.329 A

---

326 For example, difficulties could arise from simple incompetence and corruption, see: B. Williams, “Serra East”, 437 note 16. Other causes of famine were the result of environmental changes, as has been suggested as one cause for the reduction in population in Nubia by late Dynasty XVIII. It is possible that there was a decrease in Nile floods (as noted above) leading to a scarcity in agricultural lands, P. L. Shinnie, Ancient Nubia, 90-1.

327 The inscription was set up on the Island of Sehel, see: J. Renfrew, “Vegetables”, 193; J. Vandier, La famine dans l’Égypte ancienne (Cairo, 1936); P. Barguet, La stèle de la famine à Séhel (Cairo, 1943); and Y. Haiying, “The Famine Stela: A Source-Critical Approach and Historical-Comparative Perspective”, in Proceedings of the Seventh International Congress of Egyptologists, Cambridge, 3–9 September 1995, C. J. Eyre (ed.), (Leuven, 1998), 515–21. One of the key causes of famine could be a succession of low Nile floods during inundation, although a high Nile could be just as destructive washing away sown seed grain, J. Renfrew, “Vegetables”, 193. Crops could also be threatened from a number of other vectors including parasitic insects with locust swarms probably being the most destructive, see: K. Radner, “Fressen und gefressen warden”, 7-22. These swarms could consist of billions of locusts covering several hundred square kilometres, and they were capable of travelling great distances in a single day, ibid., 7-11. Pictorial evidence for famines are rare but from the causeways of Unas and Sahure, we do find some emotionally powerful images of emaciated Bedouin, see: S. Hassan, “The causeway of Wnis at Saqqara”, 139 and Z. Hawass and M. Verner, “Newly Discovered Blocks from the Causeway of Sahure”, MDAIK 52 (1996), 182-4 and fig. 2a respectively.

328 J. Darnell, “The Rock Inscriptions of Tjheimou”, 32.

significant, if not substantial collapse of the logistic provisioning system is especially
evident during the period from mid to late Dynasty XX. 330 At that time, a number of
factors, both internal and external, resulted in, or at the very least contributed to,
chronic grain shortages which led to a sharp rise in grain prices by the reign of
Ramesses VII. Provisions had to be obtained wherever possible and by whatever
means including from the black market, which incidentally may also have helped
precipitate the crisis. 331 One of the main factors leading to the shortage, however, may
have been foreign elements, notably Libyans, engaging in large scale plundering of
Egypt’s grain producing areas. 332 The situations, as described above, serve to
highlight the major trauma a state can go through when its logistics base is
undermined from within. Denying a state access to externally acquired raw materials
and resources was likewise another equally effective, if not indirect, way of
undermining its economic and logistics infrastructure at the strategic level. In the
following chapter, we will examine in depth the possibility that Egypt by the
Ramesside period at least was having difficulties acquiring sufficient quantities of
wood to fuel its military related industries. That the Hittite empire suffered from a
failure of logistics at the strategic level was apparent by Dynasty XIX where Egypt
was then supplying their former enemy with large quantities of grain. 333 The
Egyptians, for their part, may have employed a strategy of resource strangulation in
order to facilitate the expulsion of the Hyksos. First, attacks were launched against the
harbour facilities of Avaris targeting especially the large number of shipping berthed
there. This would have effectively severed Avaris’ seaborne lines of communications
with its Asiatic territories and allies. 334 The Egyptians, as we have noted in Chapter II,
extinct occupied Tjaru which guarded the key land based communications route to Asia.

331 Ibid., 232.
332 Ibid., 232.
333 KRI IV, 5.2-3. Indeed, large areas of Anatolia faced food shortages and famine, Y. Goren (et al.),
“Provenance study”, 165. Merenptah may also have sent military aid to the city of Ugarit: G. A.
Wainwright, “Merenptah’s aid to the Hittites”, JEA 46 (1960), 24. On the Egyptian constructed sword
found at this city, see the more recent comments in: M. Bietak and R. Jung, “Pharaohs, Swords and Sea
Peoples”, 214–6.
334 The economic impact of this alone must have been significant and likely played an important part in
the defeat of the Hyksos, see: J. C. Darnell and C. Manassa, Tutankhamun’s Armies, 13–4.
As a result, Avaris was effectively isolated.\textsuperscript{335} We must also recall that during the reign of Kamose, Avaris had already suffered tremendous logistic destruction.\textsuperscript{336}

On a smaller city state level, a total logistics systems collapse is significantly more straightforward to bring about as the primary logistic strategic base was likely encompassed within just one city, the “capital”, as well as its immediate surrounding environs. Unlike a superpower which may have its bases situated throughout an extended geographical area and be able to acquire resources from multiple vectors, a small power, on the other hand, was more restricted in both respects and thus considerably more vulnerable. They could not, for example, afford to trade the geographical space for time during periods of conflict as a superpower could comfortably do and therefore a major attack directed at the capital city would most likely have had overwhelming results. Indeed, the capture or destruction of the “capital” would in fact bring about a total systems collapse (and not just logistic!). Even so, a city state could still be a particularly difficult target to take requiring a significant amount of military effort, a cost that even a superpower may not have been willing to pay on a regular basis. The immediate surrounding environs were, however, more exposed to attack. Targeting these essential life support systems could bring about logistics failure and lead to ultimate military success for the attackers just as effectively as a direct assault on the city itself. As with superpowers, city states were likewise susceptible to economic and logistic strangulation. This could either be a “loose” sort of encirclement leading to logistic and economic failure over an extended period of time, as typified, for example, in the Amarna letters (and at a higher level, this was something that the Dynasty XVII pharaohs may have feared, having to deal with hostile elements to the north and south), or a more direct and physical encirclement (that is, a siege proper) where the city is isolated from all outside assistance and supply.

\textsuperscript{335} See our comments in Chapter II note 87. This military action is an example of not only utilising logistics as a tool for achieving military victory but is also a clear case of relational manoeuvre, see Chapter V.

\textsuperscript{336} For further discussion, see Chapter II: \textit{Second Intermediate Period – New Kingdom}. 
Conclusions: Logistics and Egyptian Warfare

It has been widely remarked upon that the nature of New Kingdom Egyptian rule in Asia was considerably different from what was found in Nubia. A great deal of this difference may be explained on logistical grounds. Both regions, as we have already noted in brief in Chapter III and will comment further in Chapter V, were geographically quite diverse. In Nubia, logistical problems were not as significant due to the presence of the Nile which allowed men and material to be easily transported south. It is a well established fact that transportation by water was generally quicker and cheaper than by land. The Nubian occupation was also fairly straightforward due to the absence of any major power to contest Egyptian rule and the relatively low population levels. This meant that the Egyptians were able to employ a sufficient ratio of force to space in order to make occupation and eventually colonisation possible. As we have seen already, all the operational, supply, and most of the tactical bases were located on or in close proximity to the Nile and as such support and supply considerations were greatly simplified.

This was not true for military operations in Asia. First, the geography and climate which was considerably more varied posed significant obstacles to military campaigning. Second, the Egyptians were forced to rely more on land communications especially as their military machine evolved during the course of Dynasty XVIII to become a truly land based power by Dynasty XIX. Although it is likely the Egyptians still utilised their fleet for the movement of some troops and supplies at this time, transportation by sea certainly took second place to what was sent by land. Third, the higher population of this region, in addition to the presence of more powerful resistance meant the Egyptians did not nearly possess enough force to space to occupy the territory it attempted to possess in the same fashion as in Nubia. This meant reliance was placed on allies and vassals in order to provide the necessary manpower and supplies for the Egyptians as they engaged in military operations throughout the region. This logistic consideration alone would have had a profound impact on Egyptian operations. Although the Egyptian army could transport their own supplies, they would still need to constantly replenish these supplies as they moved through this theatre. Finally, to give an indication of just how much logistics was tied to Egyptian strategy we only need to observe the change in Egyptian strategic policy from Dynasty XVIII to XIX. In Dynasty XVIII the political situation in Asia was such
that the Egyptians were quite able to exert their influence without a great deal of effort: maximum benefits at the least cost militarily as it has been so succinctly described.\textsuperscript{337} This “honeymoon” period, however, changed after the Amarna period. In particular, during Dynasty XIX, the Egyptians faced an entirely different political situation with the resurgence of Hittite power, restless Asiatic vassals, and threats from other fronts. The logistic apparatus of Dynasty XVIII which relied predominantly on the support and goodwill of the vassal states (and their infrastructure) was now vulnerable. The result was the establishment of numerous fortresses and garrisons many of which were erected during the reign of Sety I. Such a policy would have ensured that supply routes remained open but it must have also placed a great burden on the state to support such an infrastructure. Whether or not this contributed to the collapse of Egyptian rule in Asia is something that would need to be carefully considered.

What about Libya? The paucity and limited distribution of resources in Libya meant that they could be effectively controlled through the construction of just a handful of modest fortresses and outposts. Of prime importance was control of the coastal region followed hand in hand with some manner of influence over the desert oases. That the Egyptians attempted some kind of long term occupation of these oases at certain times is quite clear. A stela uncovered in the Kurkur Oasis region, dated to the reign of Tutankhamun, even makes mention of a “Western Wall (\textit{inb.t}) of Pharaoh” although its exact composition remains unknown.\textsuperscript{338} During late Dynasty VI, a substantial site in the Dakhla Oasis was uncovered at ‘Ayn Asil along with a number of smaller satellite sites.\textsuperscript{339} Egyptian interests in this area apparently continued throughout the Middle Kingdom and the New Kingdom. Indeed, during the latter period there was supposedly some sort of administrative infrastructure in place. However, the archaeological evidence is regrettably sparse and does not reflect the apparent importance the Egyptians placed on this region. The Oasis of Bahariya (or part thereof) was under Egyptian control from the late Middle Kingdom onwards and

\textsuperscript{337} A. Spalinger, \textit{War}, 165.

\textsuperscript{338} J. C. Darnell, “A Stela of the Reign of Tutankhamun”, 79-80. Darnell thought that given the fact no fortress like constructions has yet been uncovered in this region, the “walls” may in fact have referred to “small zeribas of brush and thorn”, \textit{ibid.}, 80.

\textsuperscript{339} L. Giddy, \textit{Egyptian Oases}, 166-7.
the discovery of an Egyptian tomb of an official dating probably to Dynasty XIX serves to highlight Egypt’s continued interest. Unfortunately, due to a lack of evidence from the oases of Farafra and Kharga it is difficult to reconstruct Egyptian activities in these two areas. Although, this is probably not too much of a surprise in the case of Farafra which due to its relative isolation may not have attracted too much interest. The archaeological evidence from the coastal region is considerably more substantial and we have a clearer picture of Egyptian attempts to control the coastal area during Dynasty XIX. The nature of the fortresses constructed in this area have already been discussed but it must still be stressed that their impact by controlling the limited resources along the coastal region cannot be underestimated. What is of particular interest is whether this logistic and commercial strategy was too effective. Denying the Libyans access to certain resources in order to weaken them economically and militarily may have contributed (out of sheer desperation) to the Dynasty XIX and XX invasions of the Nile Valley. What is perfectly clear is that these invasion attempts are a clear example of a Libyan logistic persisting strategy. That is, the permanent occupation of the logistically valuable resources of the enemy, in this instance, the fertile Delta region. Therefore, what we may have here is the employment of an offensive logistic strategy in response to Egypt’s own persisting logistic strategy.


341 *Ibid.*, 164-6. Its importance was predominantly as a transit point allowing effective passage between the Dakhla and the Bahariya Oases.
PART III

OPERATIONAL LEVEL
CHAPTER V

The Operational Level and Egyptian Warfare

Having addressed some of the more fundamental elements of Egyptian warfare at the tactical level, and determined the nature and extent of Egypt’s logistic capabilities, we are now in a position to examine Egyptian military activity at the operational level of war. Our evidence for this derives primarily from the textual accounts. The battle reliefs, which we have already considered in great detail in Chapters I and II are also of importance, yet it must be stressed their focus tends to be on tactical encounters. The textual accounts, on the other hand, provide us with considerable information with respect to the manoeuvring of military units and command level decisions made within the theatre of war, all of which took place above the tactical level. While there is no clear delineation between the three levels of war, we can for the sake of simplicity argue that we descend into the operational level essentially at the point where the Egyptian army leaves the security of Egypt (passing through, for example, one of the border htm bases) and enters into the strategic theatre or theatre of operations.\(^1\) As the Egyptians campaigned in three distinct strategic theatres, this chapter will also attempt to examine how their military operations may have differed for each and, subsequently whether these differences were reflected in their application (if any) of operational art. Before proceeding further, it would be useful to review three key parameters associated with operational warfare. This will allow us to identify any potential limitations that the Egyptians may have faced in attempting to conduct operational art within their three strategic theatres.

---

\(^1\) Or, in the case of internal conflicts and enemy invasions, the level is reached when the army leaves a designated staging area in order to combat a military threat. Of note, the modern military term “theatre of operations” which is never to be used interchangeably with “strategic theatre” has some applicability as to how the Egyptians viewed the areas where they conducted military activity (for these terms in modern warfare, see: M. Vego, *Operational Warfare*, 109-19). Essentially, a strategic theatre may consist of any number of theatre of operations, and the Egyptians themselves divided their strategic theatres into distinct parts either along geographical and/or ethnic lines. Thutmose III, for instance, clearly makes the distinction between his Asiatic campaigns conducted in Retenu and in Djahy (even though the geographical extent of these terms remains unclear, see the comments of: A. Spalinger, *War*, 131; and A. H. Gardiner, *Ancient Egyptian Onomastica* I, 142*-9*. For Libya, the two terms Tjemehu and Tjenu are commonly employed, and to these we can add the later designations of Libu and Meshwesh, see D. O’Connor, “The Nature of Tjemhu (Libyan) Society”, 29-37. For Nubia there is, of course, the well known division of this region into Wawat and Kush.
Operational Parameters

According to Milan Vego in his seminal study, there are three key factors vital to operational warfare that should be considered: Space; Time; and Force. The combination or rather interplay of these three factors will determine whether or not the employment of operational art was possible.

Space

The factor of Space refers to the physical environment where the campaign will be waged. It will, in essence, determine the nature of the military campaign and also the possible outcome of any extended conflict. The three strategic theatres in which the Egyptians campaigned reflected three very different physical and spatial environments, as noted in Chapter III, and we will be considering further these differences and their effects on military operations more fully in the course of this chapter.

With Asia, the first major hurdle to overcome, as we have noted, was the Sinai Peninsula which severely limited operational freedom to one key route, the “Ways of Horus”. Nonetheless, once the Sinai had been crossed, the potential campaigning space was immense both in depth and breadth. This allowed for great freedom of movement, but it also posed considerable difficulties especially in terms of projecting power and maintaining an adequate force to space ratio. This space was geographically and politically complex being inhabited by major superpowers, numerous minor powers, and a multitude of important and semi-important cities, towns, and villages each with the potential of being a key ally or antagonist. As the

2 M. Vego, Operational Warfare, 29-93.

3 As to just how the Egyptians perceived, mapped, and mentally organised these immense spaces, especially for conducting military activity, is an overriding consideration. Certainly, some sense of order and structure was obtained through the use of New Kingdom itinerary (topographical) lists, and for earlier periods, during the Middle Kingdom, for example, devices such as the Execration Texts likewise may have helped impose some sort of mental order with respect to foreign lands. The Romans especially made use of itineraries which remained “the predominant form of organizing spatial perception in the Roman world”. As such, the Romans conceived space (i.e. conquered territories) in terms of lines as this was connected to their heavy reliance on roads and rivers, A. C. Bertrand, “Stumbling through Gaul: Maps, Intelligence and Caesar’s Bellum Gallicum”, Ancient History Bulletin 11 (1997), 110 and 118. An awareness of distances between key points and relative locations (for example, geographical features and populations) also helped to install a certain degree of order, ibid., 119-20.
Egyptians extended their influence deeper into this region, lines of communications grew longer and maintaining distant frontiers proved to be a tenuous affair at best. For instance, we discover from the Amarna letters that at the fringes of Egypt’s Asiatic empire, vassal states tended not to be as subservient as those situated further south.\(^4\) They were also more susceptible to being won over by other less distant superpowers.\(^5\) As well as the land component, the sea component of this space was of significant importance and size. It encompassed a large area including not just the Eastern Mediterranean but essentially that entire sea.\(^6\) Given the military resources (means) available to the Egyptians, they would never have been able to exert control over this whole region which was for all intents and purposes limitless. They were not even able to penetrate into the heartlands of the major superpowers on a regular basis in order to achieve a decisive strategic level victory.\(^7\) Even the two instances where the Egyptians claimed to have reached the Euphrates penetrating into Mitannian territory and thus striking another superpower directly left no real lasting impression.\(^8\) As for the Hittite heartland, this was not threatened at all. As such, ultimate strategic

\(^4\) E. Morris, “Bowing and Scraping in the Ancient Near East: An Investigation into Obsequiousness in the Amarna Letters”, *JNES* 65 (2006), 179-95. Even regions closer to the Nile Valley that were difficult to exert control over (such as the hill regions) exhibited a certain degree of autonomy (see below). The Amarna letters are therefore insightful as they are a reflection of what was likely the normal state of affairs with respect to Egyptian control in Asia. Problems arose and help was requested. The military response (if there was one) tended to be small in scale. The letters are not, as has been previously thought, a written record of collapsing Egyptian authority, M. W. Several, “Reconsidering the Egyptian Empire”, 125-8.

\(^5\) In *EA* 51, Addu-Nirari informs the Egyptian king that he has refused a treaty offer from the Hittites: W. Moran, *The Amarna Letters*, 122; and see also: *EA* 53, *ibid.*, 125-6. Such offers could be very tempting if they were to include the promise of a comprehensive defensive alliance. See especially: G. Beckman, *Hittite Diplomatic Texts* (Atlanta, 1996), 13-22 for what such an alliance could encompass. On the other hand, and as noted in the previous chapter, the Hittite kings likewise faced difficulties in retaining the loyalty of their vassals, J. Miller, “The Rebellion of Hatti’s Syrian vassals”, 536-7.

\(^6\) While the Egyptians tended to confine their “naval” activities to the coastal regions of Asia, they did have trade interests with other parts of the Mediterranean, see for example: W. Davies and L. Schofield (eds.), *Egypt, the Aegean and the Levant*, (London, 1995), passim.

\(^7\) While the sacking of the Hittite capital, for instance, may have been a desirable strategic objective, it was, however, beyond the means of Egypt’s strategic capabilities. On the supposed military weakness of the Egyptian military in comparison with the other Asiatic superpowers, see: D. Warburton, *Egypt and the Near East*, 160-7.

\(^8\) For the Euphrates campaigns of Thutmose I and III, see: *Urk IV*, 696.15-697.9 and also the comments of E. Morris, *The Architecture of Imperialism*, 125. As noted in Chapter IV, the first Euphrates campaign against Mitanni may not have been a planned attack. Ultimately, the conflict proved to be an inconclusive affair with neither side able to inflict much damage on the other. Fighting between the two powers eventually wound down during the reigns of Amenhotep II and Thutmose IV, B. Bryan, *The Reign of Thutmose IV*, 336-47.
success was impossible. The territory that the Egyptians did manage to “subdue”, on the other hand, either directly or indirectly, was not insignificant. While direct Egyptian control did fluctuate greatly, their “Asiatic empire” which arguably reached its peak (or at least one thereof) at the time of Thutmose III extended as far north as Ullaza (which was definitely garrisoned\(^9\)), with the possibility that there was at least one additional Egyptian base even further to the north located at the city of Ugarit.\(^10\) The same may also have been true with Tunip which may have been garrisoned, and if so would have marked the north-eastern limit of the empire under that king. Maybe not too surprisingly, this city was only a mere 60 or so km from the coast. Indeed, geographical and logistical considerations meant that the penetration of the empire was not as “deep” towards the east with many of Egypt’s garrisons and permanent bases being established to the west of the two major rivers in the region – the Orontes and the Jordan. For example, moving further south, the major Dynasty XVIII and XIX base of Kumidi was only a mere 40 km from the coast whereas towards the southern end of the empire, the Dynasty XIX-XX base of Tell es-Sa’idiyeh, was located a more respectable 80 km inland. This last site is notable in that it appears to have been the only Egyptian base located (1.8 km) east of the Jordan River.\(^11\)

While there was no conceivable way that the Egyptians could ever have hoped to achieve complete strategic level success in this theatre through standard military conquest and control, their achievements were, nonetheless, considerable especially when we take into account that they were also militarily active in two other strategic theatres at around the same time. At the operational level, this immense campaigning space coupled with the limited resources at their disposal especially in terms of troop numbers would have provided the Egyptians with the best opportunities and incentives to develop a rudimentary concept of operational art. If this was the case, it may explain how given their limited military strength and capabilities, they were able to establish such an extensive Asiatic empire.

\(^9\) \textit{Urk} IV, 1237.15-17. Although, Ellen Morris considers Sumer to be Egypt’s most definite northern outpost, \textit{The Architecture of Imperialism}, 224.


The strategic theatre of Libya also presented a massive space with considerable depth and breadth. Yet unlike Asia, the Libyan landscape consisted (and still consists) predominantly of inhospitable desert. This, combined with the fact that it possessed nowhere near the population density, political complexity, and established infrastructure as found in Asia, meant that the theatre was actually quite restrictive with respect to conducting military operations. Indeed, the resulting logistical considerations meant that optimal lines of operations and communications ran along the coastal area, via the oases routes, and along established trade “roads”.12 The remainder of the space in this theatre was unsuitable for armies and military activity.13 Furthermore, Libya was resource poor and thus lacked any real strategic and economical value.14 This alone would have dampened Egyptian enthusiasm with respect to conducting military operations within this region. Initially, the main antagonists within this theatre were the Tjehenu and the Tjemehu both semi-nomadic peoples who realistically posed little strategic threat to the Nile. Indeed, they seemed to have been content in conducting occasional raids in which the Egyptians were quite happy to reciprocate. By Dynasty XIX the situation had changed and the Tjemehu along with the newly arrived Libu and Meshwesh proved to be considerably more coordinated and proactive in their military planning.15 The Libyan theatre also shared that same key geographical feature as Asia – the Mediterranean Sea which served as an additional arena of conflict. The main threats from this vector were pirates, and

---

12 See, for example, the comments of: P. Kuhlmann, “The ‘Oasis Bypath’”, 131-2. For the Libyan oases and the various routes interconnecting them see Chapter III. In addition, one may add the following studies: A. d. Cosson, “Notes on the Bahren, Nuwemisah, and el-A’reg Oases in the Libyan Desert”, JEA 23 (1937), 226-9; H. E. Winlock, Ed Dakhleh Oasis. Journal of a Camel Trip made in 1908 (New York, 1936); A. Fakhry, The Oases of Egypt: Siwa Oasis (Cairo, 1973); and D. Redford, “The Oases in Egyptian History to Classical Times (Parts I-IV)”, JSSEA 7.1-4 (1976/7), 7-10; 2-4; 2-6; and 7-10 respectively. We also know that significant desert roads were utilised in later periods for trade, see for example: M. Liverani, “The Libyan Caravan Road in Herodotus IV.181-185”, JESHO 43 (2000), 496-520.

13 Short excursions into desert regions while possible were somewhat dangerous if the necessary precautions were not taken. For example, Aelius Gallus in 24 B.C. lost almost his entire army to heatstroke and thirst while in Arabia: R. A. Gabriel and K. S. Metz, From Sumer to Rome, 106-7. Trade expeditions, which tended to be of a smaller size, were not so vulnerable, see Chapter III: Libya.

14 While resource exploitation of the Eastern Desert and the Sinai by the Egyptians is well documented, the geology of Libya, on the other hand, mitigated against the finding of precious materials. Even so, the Western Desert was a source of natural glass and natron, K. P. Kuhlmann, “The ‘Oasis Bypath’”, 128-9.

from Dynasty XIX the Sea Peoples. In order to achieve ultimate strategic level success against this array of foes, the Egyptians would have had to occupy or destroy their strategic centres. Yet, like the Superpowers in Asia, shear spatial distance and the (transitory) nature of their opponents may have placed the strategic and even the operational bases of these groups well beyond the reach of Egypt’s military. As a result, in any major hostile encounter, the Egyptians would have had to constantly assume a defensive posture always reacting and never being in a position to take the initiative. Overall, the massive space of the theatre presented the Egyptians with an insurmountable security dilemma. The considerably long frontier, extending from the Mediterranean Sea down into Nubia, needed to be watched and policed on a regular basis in order to guard against hostile raiders and invaders attempting to reach the Nile. Egyptian penetration into this space, on the other hand, was limited predominantly to the Oases. Although in Dynasty XIX, there was a conscious effort to extend permanent military control into this region with the establishment of a string of fortresses extending from the western edge of the Delta and along the Libyan coastline. The construction of these fortresses was likely undertaken in response to the increasing threat posed by the Libu and the Meshwesh as well as for more mundane trade interests. The chain terminated with the fortress of Zawyet Umm El-Rakham (some 300 km from the Delta) which would seem to mark the greatest permanent military penetration achieved by the Egyptians into this theatre. This was, however, to prove a very transitory occupation as many of the fortresses appeared to have been

---

16 As with the Asiatic theatre, pirates posed a considerable threat to trading vessels plying the Libyan coast: A. Altman, “Trade between the Aegean and the Levant in the Late Bronze Age: Some Neglected Questions”, in Society and Economy in the Eastern Mediterranean (c. 1500-1000 B.C.), M. Heltzer and E. Lipiński (eds.), (Leuven, 1988), 233-4. See our comments in Chapter IV: The Logistics Network in Libya and below.

17 Compare, for example, Egypt’s response to the Year 8 Sea Peoples’ invasion and the two Libyan invasion attempts of Years 5 and 11 (see Chapter VI: Identification of Military Goals for a more detailed discussion).


19 The Egyptians had in the past, however, engaged in long distance expeditions deep into Libya as noted, for example, with the site of Abu Ballas, some 200 kms southwest from the Dakhla oasis, see Chapter III: Libya. The expeditions of Cheops and Radjedef, in particular, reached distances of some 500 km northwest and 100 km southeast of Balat, K. P. Kuhlmann, “The ‘Oasis Bypath’”, 133. The camp and watering station of “Radjedef’s Mountain (of Water)” indicates that the size of some of these expeditions was small, consisting of only 18 donkeys (according to the number of tethering holes at the site), but accompanied by a large number of soldiers (up to 400 men), ibid., 133-7.
abandoned not long afterwards. Of the three theatres, the Libyan theatre is the most unique. It saw the least amount of investment, penetration and occupation by the Egyptians and it appears that in terms of offensive military operations, this theatre was always of secondary or more accurately third importance after Asia and Nubia where campaigning was a more prestigious affair and the economic returns greater. Yet ironically, it was this theatre that would pose the greatest danger to the Nile. Overall, given the restrictions posed by the geography of this theatre and the nature of their enemy, we should expect that there would have been less opportunity for the Egyptians to develop and employ operational art, or at the very least, they would have had to develop an operational art to fight their opponents in a very different fashion to what was utilised in Asia.

The third strategic theatre, Nubia, was in many respects the most restrictive for conducting military operations. Campaigns into this region were predominantly dictated by the Nile meaning the space available for lateral manoeuvre, while theoretically huge for both sides of the Nile, was actually limited to excursions along suitable desert or wadi roads which had the potential of being logistically difficult if not impossible with respect to supporting large forces. The meandering Nile did provide, however, for virtually unlimited spatial depth extending as far south as the navigation of vessels would allow. This space possessed at times more social complexity than Libya with various tribal groupings and a number of small albeit powerful kingdoms many of which were located adjacent or in close proximity to the Nile. Of the larger powers, the Kushite Kingdom was the main antagonist within this strategic theatre from the Middle Kingdom until the beginning of the New Kingdom. During the Middle Kingdom, the Egyptians undertook their first serious attempt to install control over this region with the result being a lengthy and attritional partial conquest which only reached as far south as the Semna Cataract. The powerful

---

20 Although efforts were undertaken at an early stage to ensure some form of control both east and west of the Nile as noted, for example, in an inscription from Deir el-Ballas that is likely dated to the reign of Mentuhotep II, see: J. Darnell, “The Eleventh Dynasty Royal Inscription from Deir el-Ballas”, RdE 59 (2008), 81-106. The inscription makes reference to expansion into Wawat, in addition to the securing of access to the oases as well as the Red Sea, ibid., 94-102 and 105-6. Indeed, the Egyptians were capable of sending large forces into the desert regions (for example, the Wadi Hammamat expeditions (Chapter III)) but only via well established routes. The Turin map papyrus (see Chapter VI) and Sinai fortress “map” (RIK IV, pl. 4) are testament to the fact that difficult routes were mapped out to a certain extent.


335
kingdom of Kush, barred further southern expansion, and given the move by the Egyptians to a defensive posture, as seen with the construction and layout of the formidable cataract fortresses, there may have been a genuine fear of a counter offensive originating from the south.\textsuperscript{22} This fear was realised in part following the complete Egyptian withdrawal from this strategic theatre towards the end of the Middle Kingdom and beginning of the Second Intermediate Period.\textsuperscript{23} Kush was more than happy to fill the resulting power vacuum. By the New Kingdom, the military situation had changed considerably. A series of powerful offensives undertaken by a succession of Egyptian kings decisively broke the power of Kerma which, unlike the strategically unreachable superpowers in Asia, was located in close geographical proximity to Egypt. Therefore in terms of space, reaching the strategic base of this hostile power (Kerma) proved to be well within Egypt’s New Kingdom military means. Egyptian penetration eventually reached as far south as Kurgus, where we find numerous royal and non royal inscriptions from Thutmose I onwards.\textsuperscript{24} While military expeditions and trading ventures were conducted beyond this point, the inscriptions, however, indicate that Kurgus (a natural boundary, see also Chapter III) marked the official limit of southern expansion.\textsuperscript{25} It is difficult to ascertain whether the Egyptians were capable of permanently occupying territory further to the south. The lack of

\textsuperscript{22} As discussed in Chapter IV.

\textsuperscript{23} S. T. Smith, \textit{Askut in Nubia}, 81-136.

\textsuperscript{24} Of the inscriptions at this site, the two, near duplicate, royal tableaux of Thutmose I and Thutmose III are most pertinent to our discussion here. Each contains three components with the stela component being the most important, W. V. Davies, “Kurgus 2000”, 46-7. Other inscriptions include two cartouches attributed to Ramesses II which represent the first \textit{in situ} inscriptive evidence for post Thutmose III activity upstream of Gebel Barkal and for Ramesside penetration this far into Kush, and may perhaps have been connected with the campaigns against the land of Irem, \textit{ibid.}, 53.

\textsuperscript{25} The Hagr el-Merwa “Rock of Quartz” is a distinct landmark measuring over 40 m in length and 23.6 m high and as such would have served as an ideal frontier region marking the southern limits of Egypt’s political and military reach (and effectively demarcating Order from Chaos), \textit{ibid.}, 57. Furthermore, it is possible that this “rock” was of sacred importance to the native population and this may have factored into the Egyptians’ decision to select this site. Inscriptions at the site confirm its frontier role. The stelae components of both the Thutmose I and II royal tableaux, for example, contain the same curse text warning any Nubian not to transgress that point. The text continues with a five-fold warning to all transgressors: “his Chieftains shall be slain”; “he shall endure in my grasp”; “the sky shall not rain”; “cattle shall not calve”; and “there shall be no heir”, \textit{ibid.}, 50. As noted by Davies, the threats are specific to the geographical context as Nubian tribes were dependent on cattle and rain water for their economic survival. On the other hand, even though Hagr el-Merwa may have been considered a frontier there is no definite evidence that it was fortified, see further our comments below. In addition, there is no evidence that Thutmose III’s successors campaigned beyond this point, see: H. Goedicke, \textit{Problems concerning Amenhotep III} (Baltimore, 1992), 14.
powerful enemies to bar further expansion along with the Nile would seem to argue that an extension of control was theoretically possible. On the other hand, the Egyptians may have believed that they had achieved “strategic dominance” in this theatre and thus no further expansion was necessary.\(^{26}\) They did not even deem it necessary to permanently occupy the Kurgus area, but rather a base was established further downstream at Napata.\(^{27}\) Yet, the real reason (as will be discussed in more detail in the following section) was likely Kurgus, as did the Euphrates, marked the furthest point possible that a military campaign \textit{under the direct command of the king} was able to reach.\(^{28}\) Of the three strategic theatres, Nubia was the only one in which the Egyptians were able to achieve a level of strategic dominance and this only occurred during the New Kingdom. The reasons for this are complex, but while the very restricted campaigning space may have severely inhibited the employment of “operational art”, we cannot discount the possibility that it was changes made at the operational level of war which was responsible for Egyptian success.

---

\(^{26}\) Thutmose I’s inscription may have also served to confirm Egypt’s claim over the strategically vital gold mining regions in the Eastern Desert, L. Török, \textit{The Kingdom of Kush}, 94.

\(^{27}\) Based on the textual evidence, it appears that a walled settlement existed at Napata during the reigns of Thutmose III and Amenhotep II, see: E. Morris, \textit{The Architecture of Imperialism}, 205-10. The archaeological remains, however, have yet to be uncovered. As for Kurgus, a fort that has been excavated there is dated much later, possibly post dating the Merotic period, see: I. W. Sjöström, “Excavations at Kurgus: The 2000 Season Results”, \textit{Sudan and Nubia} 5 (2001), 59-63; and the comments of E. Morris, \textit{The Architecture of Imperialism}, 110-11. Kurgus, like Napata, was the location of a natural boundary, as noted in Chapter III, and this may have been deemed as a sufficient, psychological, boundary in its own right. The “walls of Napata”, on the other hand, would appear to indicate an actual fortified location.

\(^{28}\) As established by the campaigning of Thutmose I and repeated, but not exceeded, by Thutmose III. Indications are that the kings actually travelled to the site, W. V. Davies, “Kurgus 2000”, 57. The stela at Kurgus records that Thutmose III travelled to the northern and southern boundaries of the empire in Naharin and Kush respectively with the southern frontier associated with the land of Miw. This accomplishment was also recorded in the Armant stela which mentions that king setting up a stela after crossing the Euphrates and another when in Nubia after travelling to Miw. This second stela was likely the one located at Hagr el-Merwa. Temporally, in order for this to fit, the Hagr el-Merwa expedition of Thutmose III could not have taken place earlier than Year 33 as this was when he established his stela in Naharin. Davies suggests that the Nubian excursion may have taken place in Year 34 as in this year there was in the Annals giving the tribute of Kush – a listing for the sons of the land of Irem, \textit{ibid.}, “Kurgus 2000”, 52. If this was the case it was an impressive accomplishment to campaign to the furthest points possible in two consecutive years.
Time

The factor of Time at the operational level encompasses not only the duration of a military campaign itself but includes the preparation and planning stages as well. The Egyptians had only a limited amount of time each year in order to wage a major military campaign. Given the level of technology and resources available, combined with the distances between the Nile staging areas and their respective strategic theatres, the Egyptians could not realistically launch major campaigns into two theatres simultaneously or even sequentially in the same theatre within a given campaign year. Thus it was vital that military actions were carefully planned and conducted when and where required. The two key blocks of time that we must consider are as follows:

![Fig. 5.1: Factor of Time – Offensive Military Actions](image)

It is the textual records that provide us with most of our evidence with respect to campaign planning and preparation. From the Old Kingdom account of Weni we learn that even at this early period the army was formed out of contingents from the three primary recruiting centres of Nubia (five tribes are specifically mentioned), Upper and Lower Egypt. Gathering together such a force must have taken a considerable amount of time as the various detachments would have needed to have been first “called up” for duty and then assembled for deployment at a prearranged

---

29 While preparation and planning actually occur at the strategic level, we have already noted in Chapter IV, that there is no strict delineation between the three levels of war.

30 They were more than capable, however, of undertaking numerous minor military actions or expeditions within a given year. The Mit Ratina inscription from the reign of Amenemhet II, which records military related activities, noted four separate military operations in one year alone, for complete references, see below (note 218).

31 For a comprehensive review, see J. Wells, *War in Ancient Egypt*, 1-74.

32 The complete army supposedly numbered in the “many tens of thousands” and also included Libyan mercenary elements, W. J. Hamblin, *Warfare in the Ancient Near East*, 227.
staging area. Assembling smaller forces for more local actions, on the other hand, was probably a far simpler task but still one that was worthy of note given the mentions of this in private accounts. During the First Intermediate Period, the nomarch Khety, in his tomb inscription at Asyut, mentioned that he formed a force numbering one thousand infantry and archers, while another nomarch, Neheri, was likewise tasked to raise a company of troops. Both inscriptions testify that local nomarchs, at the likely behest of the king, had the ability and means to raise sizable formations of troops with the resources at their disposal. From an operational perspective, the role of such subordinate military commanders would have ensured a quicker response time to hostile activity. This is especially so with sudden rebellions where the local commanders, upon being informed of the insurrection, could have acted quickly first to raise the necessary forces (possibly locally as seen above) and upon the king’s tacit approval, crush the rebellion before it was able to spread. This operational level flexibility will be examined in a separate section in the following chapter.

The Middle Kingdom Nubian campaigns, as one may expect, also required extensive preparations. For Sesostris III’s Year 8 campaign, recorded on a stela on the island of Elephantine, the fortress on this island had to be prepared as the staging base for this king’s campaign to Nubia. Time was also required to assemble the troops as well as for the construction of “storage facilities” in Upper Egypt (in order to hold the expected booty?). Finally, other major preparations for this particular campaign included the construction of a canal as reported in the Sehel graffito. Of note, certain preparations could also be undertaken to serve not just an immediate campaign but future campaigns, such as the digging of canals. This, however, falls more into the realm of strategic level logistics planning (see Chapter IV).

33 As was the case with Weni who assembled his army at the pyramid enclosure of Snofru at Dashur, see: J. Wells, *War in Ancient Egypt*, 5.

34 We may also add to this list the anonymous owner of the “Northern Soldiers-Tomb” who was apparently in charge of a local army, see: M. El-Khadragy, “The Northern Soldiers-Tomb at Asyut”, 147-64.


36 See Chapter IV: *Strategic Level Logistics*; and J. Wells, “Sesostris III’s First Nubian Campaign”, 344-5: a military force had to be assembled from the various districts of Upper Egypt.

As well as the assembling the necessary men, the preparation process also included issuing the weapons of war (see Chapter III). It is uncertain as to whether additional training was given to the troops at this stage, but this would generally seem unlikely due to logistic and time constraints. The account of Ramesses II’s Year 5 military action does refer to soldiers being provided with *tp-rd-*ḥ3 “instructions for fighting” which may refer to specialised training for the upcoming campaign. 38 Ideally, however, once the soldiers had been assembled and armed, they would have been deployed immediately. For campaigns into Asia, the Egyptians having established their presence in this region, also had to provide their vassals with enough forewarning of the army’s impending arrival so in order to make all necessary preparations. The preparation involved in just one campaign can clearly be seen in the Amarna letters. 39

The time needed for the undertaking of the actual campaign varied considerably depending on where the army was to be deployed and what military objectives it had to achieve. While the Egyptians would have had some control over just when they launched their campaigns, they were still subject to factors beyond their control. These included, among other things, the annual Nile flood (for campaigns into Nubia), and the harvesting season both in Egypt and Asia (in order to ensure the availability of sufficient supplies). 40 Generally, winter months were to be avoided. Not only was there a problem with respect to obtaining supplies, but the bad weather also tended to seriously undermine the road network and greatly swell the

---

38 Such as siegecraft techniques or close formation marching as suggested by J. Wells, *War in Ancient Egypt*, 20-1. The former may indeed have been a distinct possibility as one of the (unstated) objectives for the campaign was the city of Qadesh. Miriam Lichtheim, however, translates this term as “battle orders” which gives the connotation the troops were provided with at least some information regarding the upcoming campaign, *Ancient Egyptian Literature Volume II: The New Kingdom* (Berkeley, 1976), 63. It is doubtful, however, that the standard rank and file would have been provided with detailed information such as the campaign objectives (if only for security reasons, see Chapter VI: *Intelligence*) and its expected duration. Maurice, specifically, warns against informing one’s own soldiers that a fortress (or height) had to be taken until the army had actually reached the site, *Strategikon*, 98.

39 N. Na’aman, “Praises to the Pharaoh”, 397-406. See also Chapter III: *Living off the Land*.

40 The cereal harvest for the southern Levant, for example, was in June: D. Redford, *The Wars in Syria*, 43. For Egypt, wheat is first harvested at the beginning of April and barley one month earlier, A. Spalinger, *War*, 85. The Egyptians were therefore in an enviable situation where they were able to take care of their own harvests first and then march out into Asia in time to take advantage of that region’s harvests.
main rivers making them difficult if not impossible to ford.\footnote{D. A. Dorsey, *The Roads and Highways*, 32-3: the unpaved roads became virtually impassable due to the winter rains. As well as making them deep with mud, the rains also washed down stones from higher ground. Even after the mud has dried, the surface was left uneven. Repairs were undertaken only after the rainy season had passed, *ibid.*, 32-3. For the difficulties of fording rivers during the rainy season see: *ibid.*, 37-9. Another reason to avoid the winter months was the impact on combat operations. Wet weather, for example, affected the use of bows as noted in Maurice’s *Strategikon*, 87. This would have been an important consideration for the Egyptian army which was heavily reliant on archers.} Taking all of this into consideration, the actual “window of opportunity”, in order to launch a military campaign, was in fact quite small. For operations within Egypt, we know that Ahmose entered the city of Heliopolis during July which fits nicely with a campaign start date one month prior.\footnote{Year 11, Second month of ṣmw, see: D. Redford, “Textual Sources”, 16 and note 169.} This king also attacked Tjaru during the month of September or late October\footnote{First month of ḫḥt, Day 23, see: D. Redford, “Textual Sources”, 16 and note 170. It took Ahmose two weeks to travel from Heliopolis to Tjaru indicating that he may have faced some resistance or he engaged in other activities prior to moving against Tjaru, E. Morris, *The Architecture of Imperialism*, 47.} which is not unexpected as the army was engaging in operations well within the Nile region allowing them to continue a campaign longer than what would have been usually possible in Asia.

As we have seen in the previous section, the distances involved with the latter theatre meant that campaigns beyond the outer fringes of the empire and back would have taken a considerable period of time even under the most optimal conditions. For example, from an Amarna letter (*EA 29*) we know that a messenger, and his entourage, could make a return trip from the Mitannian court to the Egyptian court in 90 days.\footnote{W. Moran, *The Amarna Letters*, 92-9.} In this particular instance we are informed that the messenger did not remain long at the Egyptian court and was sent back almost immediately (albeit after being fed). It is also specified that he, or rather his mission, was not weighed down with heavy baggage for the return journey. Such optimal conditions, however, were not available for conquering armies which were subjected to all manners of “friction”. Therefore, in order to make a similar journey but with bellicose intentions we could easily double the amount of time required.

Considering that the ideal time for launching a campaign into Asia was the months of April and May and that the winter months were best avoided this placed a very real temporal limit as to how far into this strategic theatre that the Egyptians
could penetrate. Although, and as we shall see below, certain military actions such as sieges could easily extend beyond this period. For instance, after Ahmose had successfully (re)captured the fortress of Tjaru, thus opening the way for military expeditions into Asia, the Egyptians laid siege to Sharuhen for three years. Yet such military actions were exceptional and were likely undertaken with the bare minimum of forces in order to ensure logistic survival through the lean winter months.

Thutmose III, on his first independent campaign in Year 22/23, appears to have passed through the fortress of Tjaru around April or mid May. After nine days of marching, he had reached Gaza and twelve days later he was in Yehem. So far he had covered a total distance of around 330 km (200 km for the Sinai crossing and another 129 km to reach Yehem). If we include the Memphis (?) to Tjaru section of the journey we can add an additional 150 km (or 6-7 days of marching). Three days later, the army was at the town of Aruna (20 km from Yehem), and two days afterwards, the decisive battle took place outside the city of Megiddo (the distance from Aruna to the end of the pass was 15.3 km). Thus, Thutmose was able to reach and achieve his primary objective in less than a month and after marching some 365 km. Following the battle, however, the city was placed under a siege which lasted 7 months meaning that it was not until around December or later, when the city finally fell, that complete strategic success could be claimed.

A more precise indication of the time required in order to undertake military operations in Asia can be ascertained from the Year 7 campaign of Amenhotep II

---

45 Thus making the possibility of exceeding Clausewitz’s “Culmination Point” at the operational level a very real possibility (see our discussion in Chapter VI). The Crusaders and Fatimid armies tended also to campaign around the time of April and May, although there is a noticeable lag between initial Crusader action and Fatimid reaction (see also note 94 below). The siege of Jerusalem of 1099 was begun on 7 June and in response the Fatimid army reached Ashkelon in early August. The siege of Arsuf (1101) commenced on 15 April whereas the Fatimid army reached the area only by 30 June. Beriut in 1102 was attacked on 15 February with the Fatimids responding by early May. The siege of Acre (1103) commenced on 6 April and the Fatimid army arrived by 8 June, W. J. Hamblin, The Fatimid Army during the Early Crusades, 226.

46 Doubt has been expressed over the nature of this siege, see: H. Goedicke, The Battle of Megiddo; and our comments in Chapter II note 92.

47 See the comments of: P. Der Manuelian, Studies, 11; J. Wells, War in Ancient Egypt, 175; and A. Spalinger, War, 85.

48 As with the Egyptian march from Gaza to Yehem (See Chapter III: Asia), a considerable rise in the terrain between Yehem and Aruna may have slowed the army: J. Hoffmeier, “Reconsidering Egypt’s Part”, 187. Yet the greatest hurdle would have been clearing the Aruna pass in a timely fashion. For a detailed commentary on this aspect of the advance, see: A. Spalinger, War, 88-90.
which was launched against Retenu in April. Assuming a march of around 24 km per day, this king would have needed approximately 37 days to reach the Orontes from Egypt and another 62 days in order to achieve the strategic and operational objectives and make the return trip to Egypt. The campaign, therefore, consumed a total of at least 99 days. As it took place between the months of April and August, this also allowed the army to take advantage of the harvests in both Egypt and Syria-Palestine. The Year 9 campaign of that same king was of more limited scope, although, according to the dates provided in the textual account, it lasted some 203 days. Most scholars tend to argue that the end dating may be incorrect and the actual duration was closer to only two months. First, the campaign, while still taking place in Retenu, was, however, confined solely to Palestine and thus the objectives appear to have been limited, and second, since it took place outside of the traditional campaigning period, there may have been the urgency to return to Egypt as quickly as possible. Indeed, the campaign is notable in that it was conducted during the winter months of November and December, which as mentioned above, would have provided additional problems.

Ramesses II, on the other hand, launched his Year 5 campaign in April and in 30 days he had reached Shabtuna after covering some 600 km. The remaining 11-14 km could easily have been covered by the king in less than a day’s march especially if

---

49 Urk IV, 1301.3-1305.11 (Memphis); Urk IV, 1310.2-1314.12 (Karnak); P. Der Manuelian, Studies, 59; and D. Warburton, Egypt and the Near East, 62.

50 As proven logistically feasible in Chapter III; and as originally estimated by E. Edel, “Die Stelen Amenophis’ II. aus Karnak und Memphis”, ZDPV 69 (1953), 97-176.

51 E. Edel, “Die Stelen Amenophis’ II”, 167. That Amenhotep II made use of the “Ways of Horus” may possibly be indicated by inscriptions of this king found at the site of Tell el-Borg, see J. Hoffmeier and R. Bull, “New Inscriptions”, 80-1.

52 Urk IV, 1305.13-1309.20 (Memphis); and Urk IV, 1314.14-1316.5 (Karnak).

53 P. Der Manuelian, Studies, 69 and 75-6. Edel believed the march alone from Memphis to Aphek would have taken only 21 days, “Die Stelen Amenophis’ II”, 157 and 167. Yeiven, although agreeing that the campaign was of more limited scope than the previous one, still believed the campaign managed to consume 122 days in total, Sh. Yeiven, “Amenophis II’s Asianic Campaigns”, JARCE 6 (1967), 125-6.

54 Thus reaching the ridge south of Qadesh in May, A. Spalinger, War, 212; and J. Wells, War in Ancient Egypt, 175. Again this works out to be just over 20 km per day, but see the comments of A. Schulman who argues that it took the Egyptians two months to reach the vicinity of Qadesh, “The N’rn at Kadesh once again”, JSSEA 11 (1981), 9-13.
conducted at a heightened pace after receiving the fake intelligence. After two days of inconclusive battle around the city of Qadesh, however, the Egyptians made the return journey to Egypt which we can safely assume took at least another month. Therefore the entire campaign lasted around 70 days (give or take). This gives an indication of the bare minimum of time required to undertake military operations into Syria by land. With this campaign, which clearly ended prematurely, it still took a considerable period of time even under optimal conditions just to reach this outer region of the empire and undertake the return journey. Unlike Thutmose III, whose advance slowed after passing Gaza, Ramesses II appears to have been able to maintain a steady rate of march until reaching Qadesh. Furthermore, the army apparently did not encounter any enemy resistance on the march north. We can only assume that the expected duration of the campaign as originally planned must have been considerably longer. Of note, it seems that Egypt’s Asiatic enemies also took advantage of the “summer harvest months” in order to launch their campaigns. The Hittite army which had reached Qadesh by May must also have left their staging areas at least a month prior. As for Egypt’s other strategic theatres, Merenptah apparently conducted his successful defence against the Libyans during the month of May. Ramesses III, for his part, went to battle against the Libyans following their second invasion attempt during the month of July. Libyan preparations, staging, and deployment (which were followed by Egypt’s own reaction and deployment) meant that their start date could have been as early as May.


56 It is doubtful that following the near military disaster suffered at Qadesh the army was in any position to conduct further operations in Palestine and would instead have made an orderly return to Egypt.

57 Neither the “Bulletin” nor the “Poem” report any hostile encounters prior to the Hittite attack on the Pre division.

58 Advancing another 300 km north would have easily added an additional month to the campaign - assuming the 20 km per day rate of march could be maintained and that optimal conditions prevailed.

59 While Hatti was closer to Qadesh, the Hittites still had to assemble not only their own army but also the forces of their allies which must have required considerable time.


61 J. Wells, War in Ancient Egypt, 175.
Seasonal changes also placed certain restrictions on when naval operations could be safely undertaken. The optimum time to sail from Egypt to the Phoenician coast was during summer, whereas the return journey had to be ideally undertaken in autumn (from late September to December) to take advantage of the north wind. The winter months, especially January, were to be avoided if possible due to the increased danger of bad weather at that time of the year. Optimum sailing times for travelling to Punt on the Red Sea were during the months of August through to September. From November through to February, on the other hand, the currents and wind favoured south-to-north sailing. Sailing south on the Red Sea could, however, commence as early as May as was undertaken by Ankhow during the reign of Sesostris I providing one was willing put up with the rainy season and the hottest months of the year.

The optimal time for launching campaigns into Nubia was from June to the end of October when the annual inundation gave vessels the best conditions to navigate past the Nile cataracts. Yet Nubian campaigns rarely adhered to this strict timetable. Returning to the Year 8 Nubian campaign of Sesostris III, the Elephantine inscription provides the date “Third month of šmw” which was likely when all the preparations were completed, and the stela recording the campaign was set up. Therefore, the campaign could have been launched around October when the inundation had reached its height and was just beginning to recede. At this time, the Egyptian vessels would have been able to sail through the First Cataract with minimal

---

62 O. Tammuz, “Mare clausum? Sailing Seasons in the Mediterranean in Early Antiquity”, Mediterranean Historical Review 20 (2005), 156. The sea expeditions of Amenemhet II appear to have taken place during this time: E. Marcus, “Amenemhet II and the Sea”, 145-6 and note 23. The counter clockwise current in the eastern Mediterranean further aided travel from the Delta region to the Syro-Palestinian coast. At the same time, this would have hindered a northern based fleet attempting to move south, J. C. Darnell and C. Manassa, Tutankhamun’s Armies, 163.

63 Winter sailing was, however, more than possible for a number of open sea routes. The main danger was actually with sailing along the coastline where the risk of shipwreck was greater due to violent storms. Almost all sea travel appears to have come to halt during the month of January, but even then sailing on certain routes could still be undertaken – for a price: O. Tammuz, “Mare clausum?”, 155-6.

64 L. Bradbury, “Reflections”, 127-8. Henu’s substantial 3,000 man expedition, for example, took place in September.

65 Ibid., 128-9.

66 Ibid., 138-9.

67 J. Wells, “Sesostris III’s First Nubian Campaign”, 345; and J. Wells, War in Ancient Egypt, 81-2.
complications. In addition, if the campaign commenced only shortly after the completion of the decree’s charges then the Egyptians would have had left a full 5 months in this king’s eighth year to conduct the campaign. The return journey on a low Nile could also have been made without too much difficulty due to the construction of the canal mentioned above. An inscription recording Sesostris III’s Year 19 Nubian campaign, however, highlights the dangers associated with navigating past cataracts on a low Nile. The date provided on the inscription indicates that the time of year was March – this was the month when the Nile was at its lowest point. Sesostris who was apparently returning from the south had possibly suffered some unforeseen delay. As a result, the fleet became stranded around the Second Cataract region.

The Year 2 Nubian campaign of Thutmose I as recorded on the Tombos stela may provide us with our best indication as to the limits of Egypt’s strategic reach. Thutmose, after passing Tangur where an inscription recorded the passing of the fleet, reached Tombos around September (Year 2, Second month of 3ḥt, Day 15). The distance from Tangur to Tombos is around 250 km and assuming a rate of travel of 10.5 km, it would have taken around 30 days or longer to sail this stretch of the Nile. Thutmose continued sailing south eventually reaching Kurgus and thus covered another 600 km. Again, if the fleet was moving at the same rate of speed, at least another 60 days minimum would have been needed to reach this point. A date for the conclusion of this campaign may be found in the three inscriptions left by Thutmose I on Sehel island. The inscriptions are dated: Year 3, First month of ṣmw, Day 22, and specifically mention the king returning from an expedition to the south. As this works out to be around the month of May (before the Nile had begun to rise), it is therefore not too surprising that the inscriptions mention the clearing of a channel for the fleet to sail through. As this date was approximately eight months after that recorded at Tombos, the entire campaign, from the time the fleet left the First Cataract, could have lasted around ten months or longer.

69 Ibid., 345.
70 J. Wells, War in Ancient Egypt, 89-90: 24 days under ideal conditions. Yet the fleet had to navigate both the Dal and Third cataracts and at some point they engaged the enemy in combat.
In all likelihood, Kurgus probably marked the limit of Egypt’s military reach.\(^71\) Campaigning beyond this point would have meant the army being away from Egypt for longer than a year. This in itself would have ruled out the possibility of conducting another campaign either in Nubia or elsewhere in the following seasonal year.\(^72\) It would also have meant that a significant portion of Egypt’s military power was unavailable to be utilised in another strategic theatre for an extended period of time.

Other campaigns of note include one conducted during the coregency of Thutmose III and Hatshepsut. This appears to have passed through Tangur around the months of April and May meaning that it was likely launched when the Nile was near its lowest.\(^73\) Two separate inscriptions, one on the island of Sai and the other located between Aswan and Philae island, record the Year 5 campaign of Amenhotep III.\(^74\) At first glance, the dates on the inscriptions (Year 5, Second month of \(i\text{ḥt}\), Day 26\(^75\) and Year 5, Third month of \(i\text{ḥt}\), Day 2 respectively) seem to trace the return journey of the king following a successful and significant military operation.\(^76\) Yet the time difference between the two dates is only eight days and it is difficult to believe that the Egyptian fleet could have covered such a distance in that time. Rather, in order to explain the closeness of these dates we may assume that first, the actual battle took place sometime before the setting up of the two inscriptions and second, that the fleet returned to Egypt in separate contingents, the lead element setting up the Aswan-Philae inscription while a second contingent set up the Sai inscription eight days


\(^72\) Even the late (?) return of Thutmose I’s Nubian campaign ruled out the possibility of another campaign in Regnal Year 3.


\(^74\) For the stela (one of two) located between Aswan and Philae, see: *Urk IV*, 1665.5-1666.20, and for the Sai inscription, see: *Urk IV*, 1959.10-20 in addition to: J. Vercoutter, “New Egyptian Texts from the Sudan”, *Kush* 4 (1956), 81. On the possibility that two Nubian campaigns were conducted during the reign of this king, see: Z. Topozada, “Les deux campagnes d’Amenhotep III en Nubie”, *BIFAO* 88 (1988), 153-64; and D. O’Connor, “The World Abroad: Amenhotep III and Nubia”, in *Amenhotep III: Perspectives in His Reign*, D. O’Connor and E. Cline (eds.), (Michigan, 1998). 261-70. The military action as undertaken by Merymose will be discussed in greater detail in Chapter VI.

\(^75\) Although, see the comments of Vercoutter regarding this date, “New Egyptian Texts”, 81.

\(^76\) On the idea that this campaign involved a considerable number of men and was more than just a mere “police action,” see: D. O’Connor, “The World Abroad”, 264-5.
earlier (possibly after returning from an excursion even further to the south). The dates on the inscription indicate the fleet was making its return journey between the months of July and August. The Irem campaign of Sety I in Year 8 (?) took place during the winter months before the Nile rose, although it was probably beginning to rise once he had reached the region around the Second Cataract. Indeed, with this account we are also provided with greater detail with respect to the duration of at least part of this military operation. Upon leaving the fortress “Pacifier of the Two Lands” in the Fourth month of prt, Day 21, the king, after marshalling his army, was able to defeat his foes after spending seven days seeking them out.

While the time required for the planning, preparation, and conducting of a military campaign may have been limited, the Egyptians still held the initiative with respect as to when (roughly) and where (precisely) the campaign would be launched. They would also have had a fair idea of the proposed extent of the campaign itself (as determined by the proposed campaign’s strategic and operational objectives). A different situation, however, arises when there is a need to respond to a rebellion or invasion attempt. In these particular instances, it was necessary to counter the enemy action as quickly as possible. In other words, it was vital to achieve the fastest “turn around” from the initial enemy action to the deployment of Egyptian soldiers that was possible. The period from the enemy action to pharaoh’s reaction is, therefore, another block of time that needs to be considered:

---

77 The geographical extent of this campaign (in addition to the other) is not, however, known with certainty, see the comments of: D. O’Connor, “The World Abroad”, 266-70.

78 Year 8 (?), [xth month of] prt, Day 24: RITA I, 85.

79 As reconstructed by Kitchen (see RITA I, 86), but alternatively as: “Pacifier of...foreign land/peoples] in the 3rd month of Peret, day 13”, E. Morris, The Architecture of Imperialism, 662-5.

80 This fortress is thus clearly fulfilling the role as a forward mnnw operational level base (see Chapter IV). It is unfortunate, however, that its location is unknown as it could help pinpoint the location of Irem which given the seven days of marching could not have been more that 150 km from the Nile assuming a regular pace of 22 km per day was maintained, E. Morris, The Architecture of Imperialism, 649 and 660-1; and our comments in Chapter III. The main geographical feature mentioned in the text is the “six wells”. Kitchen identified these wells belonging to Wadi el-Qa’ab 65 km southwest of the Third Cataract area (thus making Sesebi the possible jumping off point), K. A. Kitchen, “Historical Observations on Ramesside Nubia”, in Ägypten und Kusch, E. Endesfelder (et al.) (eds.), (Berlin, 1977), 217-8; whereas O’Connor saw Northern Butana or the Berber-Shendi reach as more likely candidates, “The Location of Irem”, JEA 73 (1987), 133. For a useful summary, see E. Morris, The Architecture of Imperialism, 649.
A number of texts from the New Kingdom do present this “action-reaction” cycle. Thutmose II, for example, “raged...like a panther” after being informed of a revolt in Nubia. His military response was to crush the rebellion by killing all the male insurrectionists. Thus a campaign was to be undertaken with all the necessary planning and preparation. Following a rebellion in Wawat, Thutmose IV, after consulting Amun for (strategic) guidance, assembled his army and journeyed south by ship in order to restore order. After Sety I was informed of a rebellion in the land of Irem, he initially “held back” from any immediate action so in order to discover the true extent of the rebels’ plans. Following this, Sety then formulated his strategy which is clearly indicated by the preparation of battle plans and the setting of specific strategic objectives. The amount of time needed to undertake these activities is, unfortunately, never specified.

The Libyan war of Merenptah as recorded on his Year 5 Karnak inscription provides us with detailed information concerning Egypt’s reaction to a full scale invasion rather than just a rebellion. Merenptah, upon hearing of the invasion instigated by the Libu plus five groups of Sea Peoples, “raged like a lion”. Preparations were subsequently made in order to combat the threat and we are, further into the account, given a timeframe for the preparation of the troops for battle: 14 days. While this does provide us with some indication as to how long it could take

---

81 For a more literary perspective on this motif, see: P. Lundh, *Actor and Event: Military Activity in Ancient Egyptian Narrative Texts from Thutmose II to Merenptah* (Uppsala, 2002); as well as A. Spalinger, *Aspects of the Military Documents of the Ancient Egyptians* (New Haven, 1982), 114-9.

82 *BRE* II, §121; *Urk* IV, 137-41; A. Spalinger, *Aspects*, 115.

83 The role of Amun (and religion) in the formulation of Egyptian strategic planning and imperialism in general is unfortunately a topic that cannot be pursued here, but see the general comments of: A. Spalinger, *War*, 74-8.

84 See also Chapter VI for a more in-depth discussion of this entire episode.

85 C. Manassa, *The Great Karnak Inscription*, 27-9; and *KRI* IV, 4.4.

86 C. Manassa, *The Great Karnak Inscription*, 37-8; and *KRI* IV, 5.9.
to make ready a large military force for an impending battle, we do not know whether this was typical of the time needed or if forces were prepared as quickly as possible due to the urgency of the situation. In addition, as the Egyptians had some prior warning of the Libyan incursion, they had at least some additional time to assemble the necessary forces for the upcoming battle. The account of the Nubian campaign of this same king is likewise illuminating. Merenptah, on the verge of going into battle against the Libyans, was informed of a rebellion in Wawat.\textsuperscript{87} Being unable to immediately deal with this unexpected incident, the Egyptian response is delayed for a considerable period of time. Ramesses III, in order to resist the Sea Peoples invasion, undertook even more extensive preparations which included the reinforcement of the border at Djahy and the deployment of numerous naval vessels laden with troops to barricade the Delta river-mouths.\textsuperscript{88} The land army, consisting of chariots and infantry, was also assembled at the designated staging area.\textsuperscript{89} Such elaborate preparations hint to the fact that the Egyptians had some forewarning of the impending invasion, and indeed, such information was likely provided by informants within the Asiatic theatre.

The action–reaction cycle also occurs within campaigns and this serves to provide us with an important indication of operational level flexibility. That is, we are able to note how the Egyptians responded to unexpected developments during the course of a military campaign. For example, in a damaged section of the Ahmose son of Ebana account, Thutmose I rages “like a leopard” after being informed of some (unknown) enemy action.\textsuperscript{90} When Sety I was informed of the hostile actions of Hammath (see Chapter VI) during the course of his first Asiatic campaign, he subsequently adapted his battle plans in order to accommodate this unexpected development.\textsuperscript{91} A second incident, again involving Sety, occurred when this king was informed that the Apiru of the mountain of Yarmuta were causing problems. This

\begin{itemize}
\item \textsuperscript{87} \textit{KRI} IV, 34.1-10.
\item \textsuperscript{88} \textit{KRI} V, 40.5-9.
\item \textsuperscript{89} This may have been Piramesses as suggested by J. Wells, \textit{War in Ancient Egypt}, 33. Although, a more likely candidate was the military complex and fortress of Tjaru.
\item \textsuperscript{90} \textit{Urk} IV, 8.11-13: the text is partly broken at this point.
\item \textsuperscript{91} \textit{KRI} I, 12.10-13.
\end{itemize}
necessitated the sending of a troop detachment to restore order. In neither case did
the king feel the need to “rage”. Ramesses II, upon learning the true disposition of his
opponent’s army during his Year 5 Qadesh campaign, reacted by summoning the
leaders of his army for an emergency war council. It was only as the Hittites
descended upon the Amun camp, however, that he “rages” like his father Montu.

The need to respond to hostile actions in their three strategic theatres placed
the Egyptians at a certain disadvantage in that the enemy held the initiative and could
attack when and where they desired (hence the importance of pre-emptive actions).
This is most apparent with respect to the Asiatic theatre where a great deal of time
was required in order to prepare the army so to be able to effectively respond to
hostile actions. The same strategic dilemma was faced by the Fatimids in their
struggle against the Crusaders over control of Palestine. Placed at the outset on the
strategic defensive, they were severely handicapped by the fact that in order to
respond to any Crusader offensive action, it took an average of two months from the
initiation of hostilities to the arrival of an army at Ashkelon.

\[92\textit{KRI I, 16.8-16.}\]

\[93\textit{As noted in the Bulletin: KRI II, 113.1-121.10. See also: A. Spalinger, Aspects, 117.}\]

\[94\textit{The Fatimids had to progress through the same action - reaction cycle as the pharaonic Egyptians: offensive action on the part of the Franks takes place; word is sent back to Egypt; mobilisation commences; troops are assembled; supplies, animals, equipment are organised and transported to the fleet; and finally two weeks must be set aside for travel time from Cairo to Ashkelon, W. J. Hamblin, \textit{The Fātimid Army during the Early Crusades}, 225. For specific examples of this temporal lag, see: note 45 above.}\]

\[\textit{Force}\]

Probably the most important of the three principles discussed here is the factor
of force. For our purposes, force refers to all the military sources of power available
to the Egyptians that could be utilised in order to achieve their desired strategic
objectives. A greater superiority of force to that of a potential enemy ensured more
freedom of action as well as the availability of a wider range of military options at all
three levels of war. The factor of force essentially encompasses all the physical and
measurable elements of military power such as personnel, weapons, equipment,
firepower, and logistics along with other less measurable and intangible elements
including training, leadership, morale and discipline. The combination of all these
factors serves to provide the total combat potential of the state which could be (theoretically at least) unleashed upon the enemy. In reality, however, turning this combat potential into real combat power, that is, military force that could be directly applied against an enemy on the battlefield was not a simple task.\footnote{We must also remember that even if the bulk of the army was sent out on one campaign in one particular theatre, garrisons and reserve soldiers would have had to remain both within Egypt and in the other two theatres. The garrisoning of the Middle Kingdom Nubian fortresses, for example, would have absorbed a considerable amount of the combat potential of the state with the remaining potential being available for operations in Asia, of which, only a fraction could have been translated into true combat power (that is, soldiers employed on a battlefield against an Asiatic enemy).}

For example, simply from an operational perspective, the Egyptian military, as with any other military power before and since, was subjected to the same timeless factors that served to degrade combat potential and combat power. Paramount among these factors was Clausewitz’s concept of “friction” in war, and ambiguous situations created by the “fog” of war which could lead to an untimely dispersion of resources and force.\footnote{For the concept of “friction” in war, see: Clausewitz, \textit{On War}, 119-21. Clausewitz uses the analogy of traveller who has the intention of covering a set distance within a certain period of time, but due to unexpected developments finds himself unable to adhere to his original timetable. The concept is also defined and discussed by E. Luttwak, \textit{Strategy}, 8-13 who provides a similar but more up-to-date analogy of a group of vacationing friends attempting to reach their destination by a predetermined time. Their best laid plans, however, quickly fall apart due to a series of minor, again unexpected, developments. What is important to note is that each of the incidents experienced alone would not have greatly upset the timetable, rather it was their culminating impact which led to the unravelling of the original plan. For the second concept, Clausewitz, in Book 2, talks about “the general unreliability of all information presents a special problem in war: all action takes place, so to speak, in a kind twilight, which like fog or moonlight, often tends to make things seem grotesque and larger than they are”, \textit{On War}, 140.}

One of the more famous victims of the latter was Ramesses II who failed to unveil the true operational situation regarding the deployment of his opponent’s forces. His rival, on the other hand, was not so handicapped and the result was an almost complete military defeat for the former. All in all, when one also considers the affects of unfavourable terrain, seasonal weather, declining moral and discipline, disease, and even simple bad luck, the actual combat power available to be directed against an enemy at any one time was likely well below the theoretically available combat potential.

An important point in determining combat potential is ascertaining what the size of the Egyptian army may have been.\footnote{This is of course greatly influenced by the population base of the country in question. Anthony Spalinger, in his recent study, noted that the Asiatic region (including Palestine, Phoenicia, the Beqa Valley, and central and east Syria) had by around 1600 BC, a (high-end estimated) combined population of 450,000 inhabitants, \textit{War}, 147. The population of Palestine alone was 140,000 but by 1200 BC this had dropped to 60-70,000, \textit{ibid.}, 97 and 124. Egypt, on the other hand, possessed a population of some} Greater numbers, both in personnel and
weapons, are generally advantageous with respect to conducting military operations and such numerical strength also provides a convenient way of measuring and determining potential combat performance. Although, it must be added that a point may be reached where numbers become too unwieldy, either to control in battle or to support logistically, and as a result, military performance would be severely impacted upon.\(^9_8\) For the Egyptians, logistic but more probably manpower restrictions, would have provided a cap on the number of soldiers that could have been deployed at any one time. What these numerical restrictions were is still open to debate. Anthony Spalinger, for example, could provide no definite figures, yet he believed the numbers wielded by pharaoh were generally small especially when we consider the multitude of enemies the Egyptians faced.\(^9_9\)

2.9 million by around 1290 BC. This was a considerable increase from the 2.0 million estimate for 1500 BC, ibid., 147 and 153.

\(^9_8\) Xerxes invasion of Greece, for example, was possibly impeded more by the sheer number of soldiers taking part in the invasion than effective resistance on the part of the Greek defenders. Herodotus claims the army numbered some 1.7 million men in addition to a further 80,000 cavalry and 20,000 auxiliaries (the combined total was: 2,317,610). To this he then adds an additional 324,000 fighting troops (collected on the way), and finally the non combatants. This brought the grand total up to 5,283,320, Herodotus, The Histories, trans. Aubrey de Sélincourt (London, 1972), VII.186, hereafter cited as Herodotus. While this figure is clearly exaggerated, it is more than likely the Persian force was number heavy (of particular interest is the almost 50-50 split between fighting troops and non combatants, this is not unreasonable). We can confirm this by the fact that Xerxes departed Greece with a large portion of the army, following the battle of Salamis, leaving his deputy Mardonius to continue the fight with a mere 300,000 picked troops, Herodotus, VIII.100. While this was again an exaggerated figure, Mardonius believed that what troops remained with him was sufficient to deliver Greece to Xerxes “in chains”, ibid., VIII.100. The battle of Plataea, however, ended this hope, ibid., IX.20-74. While a Greek victory, it was nonetheless, a hard fought battle, and Herodotus singled out the Persian infantry contingent, the Sacae cavalry, and Mardonius himself for notable mention, ibid., IX.74.

\(^9_9\) Spalinger makes the important distinction between the numbers required for military campaigns against superpowers as opposed to those needed for general imperial maintenance (which would have been considerably lower), War, 151. Thutmose III, he believes, had at least 5,000 men available for his campaign against Megiddo (see also our comments in Chapter III), whereas for Ramesses II, the figure of 25,000 men (5,000 for each division) is suggested but with reservation as this represents, with respect to a total population of 3 million, an uncomfortably high ratio of fighting men to total population of 1:120, ibid., 149-50 and also 155-6 (at the other end of the spectrum, Spalinger feels that a ratio of 1:1000 for Dynasty XVIII as a minimum would not be unreasonable). Even so, a theoretical maximum of 40,000 troops including auxiliaries (or 30,000 native troops only) may not be too far from the truth, ibid., 229-30. It is interesting to note how this figure compares with data from another important period in Egyptian history. The maximum theoretical size of the Fatimid army was also estimated at 25,000 men, W. J. Hamblin, The Fatimid Army during the Early Crusades, 71-4. However, not all these soldiers could be fielded at the same time and as such, the usual field army may have numbered only 5-10,000 men reaching 20,000 in exceptional circumstances, ibid., 84-9. Determining the ratio between cavalry and infantry is more problematic, but may have been approximately half, ibid., 90-2.
In conducting their operations in Asia alone, the Egyptians came into contact with an extensive array of belligerents including superpowers, city states, rebels and nomadic peoples. Superpowers and city states generally fielded regular combat forces of similar makeup and composition to the Egyptian army (chariots, heavy and light infantry) whereas rebels and nomads, our irregular forces, did not. Regular forces are generally characterised by the fact that they are a product of a state which possesses a relatively high level of development as well as a sufficiently bureaucratic organisation and infrastructure capable of raising, arming, and feeding a large, diverse military force. A high level of sophistication would especially be noted if the military force of a state featured multiple distinct components interacting in unison. In other words, the state was able to employ a force capable of combined arms operations as discussed in Chapter I. Irregular forces, on the other hand, tended to be products of stateless societies, are more uniform in composition in that they lack the infrastructure to develop specialised weaponry, and are generally reliant on a basic decentralised support network. The Egyptians and the Hittites, for example, generally fought in a symmetrical manner as befitting their very similar military structures, organisation, and overall strategies. Both engaged in attacks either directly or indirectly on the territory of the other. Both attempted to win over the support of vassals in contested areas, and they appeared to have had similar minded expansionist policies aimed at the expense of the other. More important, both sides were capable of raising large (replaceable) armies for major campaigns. Indeed, when attempting to engage in battle the military forces of a superpower, or even a major coalition of city states, the Egyptians had to ensure they were able to achieve a sufficient concentration of force at the precise time and geographical point (schwerpunkt) where the battle (or battles) was to be joined and it is generally through manoeuvring at the operational level that this takes place. One needed, according to Clausewitz, to concentrate all available strength and effort against the enemy’s centre of gravity - his army - in order to

---

100 The pathetically armed Shasu as seen in the Sety I battle reliefs at Karnak, for example, possess only antiquated spears and no armour or shields, RIK IV, pl. 3.

101 See, for example, the study of C. E. Callwell, Small Wars: Their Principles & Practice (London, 1906), 40, 86 and 99. Each type of hostile force may possess their own set of unique military characteristics (differing centres of gravity for example) necessitating a flexible response. In that different types of enemies may require different approaches to defeat them has long been recognised. Maurice’s Strategikon, 113-26, for example, includes information on how best to fight different kinds of potential enemies. This writer recognised that an operational approach which may work for one type of enemy may not work for another.
achieve the elusive decisive battle.\textsuperscript{102} Defeating one’s enemy in such a battle can have serious repercussions at the strategic level where major policy changes could result among the victors and the vanquished alike. Throughout the period covered within this study, it is not surprising, therefore, that we come across only a small number of such battles, and for good reason. A Clausewitzian decisive battle was likely something that leaders on both sides may have coveted but tended to avoid given the political fallout that could result following a major defeat.\textsuperscript{103} Furthermore, the difficulties involved in merely raising a large army which may include allied contingents, mercenaries, and auxiliaries, was in itself not a simple task. Such a force could only be maintained for a finite period of time and at huge expense. Therefore, bringing about a decisive battle was no easy accomplishment, and the possibility of losing this valuable commodity must have weighed heavily on the minds of the commanders.\textsuperscript{104}

The battle of Qadesh is the closest example we have of what could have been a truly decisive battle fought between two superpowers. It ended, however, with a marginal victory (just) for the Hittites. Egypt ceded the battlefield but eventually recovered. Indeed, given the extent of territory in which a superpower holds sway, and the numerous resources at its disposal, they possessed strong recuperative powers which allowed them to recover from anything except a catastrophic military defeat. In the absence of a decisive battle, this made it difficult if not impossible to achieve an overall strategic level victory. This was another point that the Hittites and the Egyptians shared in common. Neither side possessed sufficient combat power to truly pose a serious military threat to the other. That is, a Hittite invasion of the Delta was just as unlikely as an Egyptian army sacking Hattusha.\textsuperscript{105} The effects of hostile

\textsuperscript{102} Clausewitz, \textit{On War}, 97 and 228.

\textsuperscript{103} This may be reflected in the motif of the all conquering sovereign who was able to achieve complete victory in a single day of combat, D. Stuart, “The Sovereign’s Day of Conquest”, \textit{BASOR} 221 (1976), 159-64. In other words, instead of having to conduct a military campaign or war that could last for an extended period of time and involve numerous battles, a (great) king should be able to achieve victory via a decisive battle spanning no longer than one day. See also our comments in Chapter VI note 189.

\textsuperscript{104} Although, probably not to the same extent as commanders from the High Middle Ages, J. Brauer and H. Van Tuyll, \textit{Castles, Battles, & Bombs: How Economics Explains Military History} (Chicago, 2008), 76.

\textsuperscript{105} This is especially so considering the peculiar siting of the Hittite capital, see: K. Bittel, \textit{Hattusha: The Capital of the Hittites} (Oxford, 1970), 11-2 (and for relations with Egypt, \textit{ibid.}, 113-31). The city was not only located in the northern part of the empire (and close to the highly aggressive Kashka
interactions among these two superpowers therefore, and as noted in Chapter IV, generally impacted only as high as the operational level (where their respective centres of gravity were more exposed to attack) and rarely impacted at the strategic level.\textsuperscript{106}

Moving through the spectrum of enemies, a city state also fielded regular forces yet given the fact their geographical territory and overall military power was significantly more limited than that of a superpower, the Egyptians could employ alternative operational approaches, with potentially less reliance on risky manoeuvres and greater emphasis on the employment of overwhelming force. As we have seen in Chapter II, rebellious or enemy cities would often attempt to meet the Egyptians in open battle and if unsuccessful, retreat back to their city and try to fight off any assault.\textsuperscript{107} Alternatively, they may have avoided battle altogether and simply relied on the fortifications of their city to survive the Egyptian attack.\textsuperscript{108} In either case, it was in the city’s best interests to hold out for as long as possible in the hope that the Egyptians would run out of time or patience and withdraw even though the latter had the ability on occasion to conduct lengthy sieges if and when required. It was the actual fall of the enemy city, however, that is important to us here as this generally resulted in repercussions quite different to what was possible with respect to operations conducted against superpowers. Against a rebel city or other similar enemy, it was possible for the Egyptians to not only achieve tactical and operational success (outmanoeuvring and defeating the hostile forces), but by capturing and occupying the hostile city (the nucleus of enemy resistance) and deposing the errant leader, they were able to achieve complete strategic level success. Thus a complete harmony can be achieved throughout the levels of war.

\textsuperscript{106} Occasionally, however, circumstances did permit a truly strategic level victory as was the case when the Hittite King Suppiluliuma launch a major campaign against Mitanni which led to the conquest of all of Mitanni’s vassals in northern Syria-Palestine, the overrunning of the Mitannian capital itself, and the eventual death by murder of their king, J. C. Darnell and C. Manassa, \textit{Tutankhamun’s Armies}, 165. Even so, the complete and utter strategic defeat for a superpower was usually the result of a combination of factors, either internal or external, or both, over an extended period of time, and even with this stunning victory over Mitanni, it still took the Hittites another few decades to complete their conquest, \textit{ibid.}, 165.

\textsuperscript{107} As noted, for example, following the battle of Megiddo, \textit{Urk IV}, 660.3-661.10.

\textsuperscript{108} This appears to have been the case with Thutmose III’s assaults against the city of Qadesh: \textit{Urk IV}, 892.6-892.15; and 894.5-895.7.
While a concentration of all available force against a single wayward vassal or enemy city state may have been desirable, in the case of a rebellion of a number of cities occurring at the same time over an extended geographical area, alternative operational approaches were required. Instead of a concentration combat power, it may instead be necessary to split one’s forces into multiple units in order to engage in simultaneous operations.\textsuperscript{109} Placing more emphasis on operational manoeuvring, however, came with increased risk, yet this would have been partly offset by the fact that a number of cities or military targets could be simultaneously attacked and overwhelmed by smaller more mobile Egyptian units. Success could be achieved far more quickly and efficiently than would otherwise have been possible. That small detachments of troops could be quite effective if not decisive in certain circumstances is supported somewhat by numerous letters from the Amarna archives. Egypt’s vassals, if they felt threatened, would often plead for the Egyptian king to send a force (generally consisting of archers) to help defend their cities.\textsuperscript{110} The numbers requested were never considerable, rarely did the vassals ask for more than 100 men. Sending such small numbers meant that it would have been possible to shield a number of threatened cities at the same time – thus providing a level of operational flexibility on the defence as well as the offence. Indeed, it was likely that garrisons in Asia were moved around as they were needed. This flexibility at the operational level would have allowed the Egyptians to exert authority over a large geographical area with minimum numbers of troops. This would be especially advantageous in helping offset their numerical inferiority.

At the other end of the spectrum, the Egyptian military often had to contend with hostile actions instigated by irregular elements on the fringes of (and often within) their empire.\textsuperscript{111} Fighting such opponents requires a considerably different operational level response than what is usually employed against regular forces.\textsuperscript{112} In Asia, the main troublemakers appeared to have been the Shasu and the Apiru. Both these groups were apparently semi nomadic which meant they had no permanent

\textsuperscript{109} See our discussion in Chapter VI: Simultaneous Operations.

\textsuperscript{110} See further our discussion below, and for references, see especially note 139 below.

\textsuperscript{111} E. Morris, The Architecture of Imperialism, 240-5.

\textsuperscript{112} For a detailed analysis of the problems associated with confronting irregular forces, see the outstanding study of C. E. Callwell, Small Wars, passim.
settlements that could be attacked and occupied. Both groups also operated from within difficult geographical environments. The Apiru appear to have been, among other things, mercenaries for hire living outside the bounds of society and often selling their services to city states that were not on friendly terms with the Egyptians.\textsuperscript{113} They appear to be associated with mountainous regions and likely made up a considerable part of the mountain population, and it was from these areas that they threatened Egyptian possessions.\textsuperscript{114} Their military value is, nonetheless, beyond doubt. According to the Amarna letters, they aided in the conquest of numerous Egyptian allied towns during late Dynasty XVIII.\textsuperscript{115} In the case of the Shasu, a nomadic/elusive desert dwelling people, the main danger they posed was that they were able to effectively harass Egyptian lines of communications, in particular by threatening supply lines and key bases. In this respect, they especially posed a serious danger to the Palestinian end of the vital “Ways of Horus”.\textsuperscript{116} Thutmose II did battle with the Shasu, as noted by Ahmose Pen-Nekhbet\textsuperscript{117}, as did the private individual

\textsuperscript{113} J. C. Darnell and C. Manassa, \textit{Tutankhamun’s Armies}, 153-4; A. Spalinger, \textit{War}, 170; and M. W. Several, “Reconsidering the Egyptian Empire”, 124-6. The military abilities of the Apiru varied but a number of texts do equate them to “low quality” elements often making an appearance in times of turmoil. It is noted, for example, that they often engaged in banditry, \textit{ibid.}, 126. In fact, the Apiru were so associated with nefarious deeds that the word itself was considered in the Amarna letters as a somewhat derogatory term. That it does refer to a specific group of people is, however, beyond question, \textit{ibid.}, 124. Despite their negative reputation, the Apiru did possess some military value and were utilised frequently by various states including the Hittites, \textit{ibid.}, 126. They were also capable of fielding significant numbers as noted for example in the Memphis Stela text of Amenhotep II where 3,600 captured Apiru are listed, \textit{ibid.}, 126.

\textsuperscript{114} E. Morris, \textit{The Architecture of Imperialism}, 223 (especially note 18 and the reference therein) and 245.

\textsuperscript{115} As mercenaries for hire, see, for example: \textit{EA} 195, W. Moran, \textit{The Amarna Letters}, 273. As a military threat to Egypt’s Asiatic possessions and allies, see: \textit{EA} 68, \textit{ibid.}, 137-8; \textit{EA} 71, \textit{ibid.}, 140-1; \textit{EA} 73-77, \textit{ibid.}, 141-8; \textit{EA} 79, \textit{ibid.}, 149-50; \textit{EA} 81, \textit{ibid.}, 150-1; \textit{EA} 85, \textit{ibid.}, 156-8; \textit{EA} 87-88, \textit{ibid.}, 159-62; \textit{EA} 90-91, \textit{ibid.}, 163-5; \textit{EA} 94, \textit{ibid.}, 168; \textit{EA} 100, \textit{ibid.}, 172-3; \textit{EA} 104, \textit{ibid.}, 177-8; \textit{EA} 111, \textit{ibid.}, 185; \textit{EA} 113, \textit{ibid.}, 187-8; \textit{EA} 116, \textit{ibid.}, 191-3; \textit{EA} 117-8, \textit{ibid.}, 193-5; \textit{EA} 121, \textit{ibid.}, 200-1; \textit{EA} 127, \textit{ibid.}, 207-8; \textit{EA} 129-30, \textit{ibid.}, 209-12; \textit{EA} 144, \textit{ibid.}, 230-1; \textit{EA} 148, \textit{ibid.}, 235; \textit{EA} 243, \textit{ibid.}, 297-8.

\textsuperscript{116} For mentions of the Shasu in Egyptian inscriptions, see: R. Giveon, \textit{Les Bédouins Shosou, passim}. The Shasu area of operations appears to have encompassed the Sinai, the Transjordan, the central hill country, and Syria, E. Morris, \textit{The Architecture of Imperialism}, 33. Overall, the Bedouin threat was a long running affair. Even as early as the Old Kingdom, Egyptian miners required military escorts for expeditions into the South Sinai and their camps also had to be fortified (as noted with the sites of Wadi Maghara and Wadi Kharig). This indicates the level of threat these irregular elements posed, S. Parcak, “Egypt’s Old Kingdom ‘Empire’ (T): A Case Study Focusing on South Sinai” in \textit{Egypt, Israel, and the Ancient Mediterranean World. Studies in Honor of Donald B. Redford}, G. N. Knoppers and A. Hirsch (eds.), (Leiden, 2004), 51.

\textsuperscript{117} \textit{Urk IV}, 36.12-14; R. Giveon, \textit{Les Bédouins Shosou}, 9. Although the first known reference to the Shasu (\$3sw) does not occur until the reign of Thutmose II, it is likely that this group or their
Amenemhab who combatted this foe in the Negev during Thutmose III’s Year 39 campaign. Indeed, the Negev region was apparently somewhat of a hotspot for trouble necessitating regular military operations to secure this area. Further mentions of the Shasu during Dynasty XVIII occur in the records of Amenhotep II, Thutmose IV, Amenhotep III, and Horemhab. They became particularly troublesome during Dynasty XIX and from the reliefs of Sety I we see clearly the danger these individuals could pose. In his first campaign, Sety found it necessary to clear armed Shasu from around the fortified wells and grain storage facilities of the “Ways of Horus” and also from the vicinity of the strategic city of Gaza. What is of particular interest is how they are represented in the reliefs. They appear to be poorly armed possessing only a spear as their main armament, although at least one individual is armed with an axe. They do not possess shields, small hand weaponry for close combat, projectile weapons, and nor are they equipped with chariots. We are clearly dealing with a second, if not third, rate opponent. As well as the Sety I reliefs, other Dynasty XIX fragments uncovered from Tell el-Borg (similar in size and format to the Sety scenes) likewise depict what appears to be military activity against the Shasu. The Shasu remained a threat to Egyptian lines of communications and supply into Dynasty XX. For example, they threatened Egyptian mining operations predecessors date back to at least the Old Kingdom. Possibly one of the earliest references to the Shasu is found in a scene from the causeway of the funerary complex of Unis: W. Ward, “The Shasu “Bedouin””, 36.


119 B. Mazar, The Early Biblical Period: Historical Studies (Jerusalem 1986), 150. See also our comments in Chapter VI.

120 R. Giveon, Les Bédouins Shosou, 10-38; and A. Spalinger, War, 170-1.

121 For their frequency in Egyptian texts during this period, see: R. Giveon, Les Bédouins Shosou, 39-131.

122 RIK IV, pl 3; and M. Hasel, Domination and Resistance, 226. Gaza was the capital of the Egyptian government in Palestine throughout the Late Bronze Age, and given its importance, it does appear this centre was fortified, A. Kempinski, “Middle and Late Bronze Age Fortifications”, 138.

123 J. Hoffmeier and L. Pinch-Brock, “A New Royal Chariot Scene” 82. Hoffmeier believes that this battle scene was set up at the Ramesside fort and would have sent quite an effective “message” to visiting foreigners, ibid., 85. Although admittedly, the fort was attacked and partially burnt (see Chapter III: Asia).

in the Sinai, and during the reign of Ramesses IX, the High Priest Amonrasonther commended some Nubian soldiers for successfully defending a gold mining expedition that had come under attack by the Shasu. What is particularly interesting about this action was that it took place in the eastern part of the Wadi Hammamat. In other words, the Shasu had evidently reached this area by crossing the Red Sea from the Sinai. It is clear that the Shasu were able to easily interdict Egyptian lines of communications and one can understand why the Egyptians felt it was necessary to seek them out in battle. Their inferior weapons would not have made the Shasu a military threat in an open battle, but their guerrilla style tactics and semi-mobile lifestyle meant that they could attempt to avoid confrontations with the superior Egyptian forces while at the same time target the more vulnerable supply depots.

Another potentially dangerous irregular group in the Asiatic theatre included the Israelites. Merenptah appears to be the first Egyptian king to have engaged them in battle during the course of his Asiatic campaign. From the terminology utilised, they were clearly viewed by the Egyptians as a semi nomadic force associated with the hill country. As well as these land based foes, pirates also appear to have been a serious threat, especially if we are to believe that Egypt was indeed a weak naval power. That Sherden vessels could raid the Delta for example, does testify to the navy’s inability to intercept such raiders. Although to the credit of the Egyptians, the raid was repulsed. Piracy and raids by the Sea peoples are attested in the records

125 M. Hasel, Domination and Resistance, 236.
127 Giveon is correct in pointing that this was neither an invasion attempt nor a major raid, “The Shasu”, 51-3. Yet the fact that such irregular elements could penetrate so deeply into Egyptian territory is a clear indication of weakening Egyptian power in Palestine and the Sinai. It also does not speak well for the quality of Egypt’s border defences at this time.
128 As noted by Kitchen, the city of Ashkelon represented the coastlands, Gezer the inlands, Yenoam the Galilee region, and “Israel” the hill-country, “The Victories of Merenptah, and the Nature of their Record”, 272.
129 Although, during mid Dynasty XVIII, the Egyptians were themselves conducting pirate activities in the Mediterranean as seen, for example, with Thutmose III who seized two ships and their cargo at sea during his fifth military campaign, Urk IV, 686.11-687.3. By the reign of Amenhotep III, however, the situation had been reversed with Sherden pirates raiding the Egyptian coastline, M. Bietak and R. Jung, “Pharaohs, Swords and Sea Peoples”, 219-20.
of other powers indicating that Egypt was not alone in suffering the effects of their actions.\textsuperscript{131} As we noted in Chapter IV it has even been argued that the Egyptians may have relied more on land defences to combat seaborne raiders as seen with the construction of the Libyan coastal fortresses.\textsuperscript{132}

In the strategic theatres of Nubia and Libya, the Egyptians, likewise, faced a spectrum of threats, from regular, semi regular, and irregular enemy forces.\textsuperscript{133} During the Middle Kingdom, the Kingdom of Kerma, for example, may have fielded forces of sufficient quality and quantity that they posed a significant enough threat to Egypt’s Nubian possessions to warrant the construction of a string of formidable fortifications. By the New Kingdom, this threat had been effectively dissipated, only to be replaced by a new and completely different threat posed by irregular forces engaged in raids and periodic rebellions. Police actions against Nubian troublemakers continued throughout the remainder of Dynasty XVIII and into Dynasty XIX.\textsuperscript{134} Thutmose IV’s action in Year 7 highlights the problem of combating these raiders. From the text, it appears that he was forced to fight the rebels in a valley that was considered difficult to access due to the terrain.\textsuperscript{135} The reference to difficult terrain is somewhat reminiscent to the troubles the Egyptians were facing in Asia. The

\textsuperscript{131} The Amarna letters, for example, make reference to pirate attacks, see: \textit{EA} 38, W. Moran, \textit{The Amarna Letters}, 111-2; \textit{EA} 105, \textit{ibid.}, 178-9; \textit{EA} 101, \textit{ibid.}, 174-5; \textit{EA} 105, \textit{ibid.}, 178-9; \textit{EA} 113 and \textit{EA} 114, \textit{ibid.}, 187-90. In \textit{EA} 101, the victims of the attack plead to the Egyptians to seize the offending ships which were by then docked in Egypt. See also the comments of: D. Warburton, \textit{Egypt and the Near East}, 91-2.


\textsuperscript{133} The Libyans, by Dynasty XIX as noted by David O’Connor, may have been fielding forces of reasonably high quality, “The Nature of Tjemhu (Libyan) Society”, 85. Furthermore, given the possibility that a large percentage of Libyan males may have been employed into military service (20-25% of the total population), then the forces fielded could have been large, A. Spalinger, \textit{War}, 202-3 and 244-5.

\textsuperscript{134} Notable instances of rebellion occurred under the following kings: Thutmose II (\textit{Urk} IV, 137-41); Thutmose IV (\textit{Urk} IV, 1545.1-1548.5); Amenhotep III (\textit{Urk} IV, 1659.1-1661.5; 1665.15-1666.20); Amenhotep IV (\textit{Urk} IV, 1963.1-12); Horemhab (\textit{Urk} IV, 2138.1-2139.20); Sety I (\textit{KRI} VII, 8.13-11.15) and Merenptah (\textit{KRI} IV 1.8-2.7; 33.1-37.14). See also the comments of J. C. Darnell and C. Manassa, \textit{Tutankhamun’s Armies}, 117-8. Darnell rightly notes that even small groups of rebels could cause significant disruption to commerce and the extraction of precious minerals, \textit{ibid.}, 117. The causative agent of these rebellions was likely a reaction to Egyptian policy which aimed at the complete control of the gold mining regions, L. Török, \textit{The Kingdom of Kush}, 103. This policy, Török adds, also determined Egyptian activity around the Fifth and Sixth Cataract regions where the intention was to guard against interference from hostile elements further south, \textit{ibid.}, 103.

\textsuperscript{135} For reference, see above, and also B. Bryan, \textit{The Reign of Thutmose IV}, 333-5.
seriousness of these threats is beyond dispute and this is reflected in their punishment. Irregular forces (especially their leaders) suffered more for their crimes than regular infantry.\footnote{For example, one of the more extreme punishments utilised by the Egyptians was impalement. We know of only two occasions where this was employed in combat situations. The first attested usage was against the Nubian rebels of Akuyati during the Amarna period, H. S. Smith, The Fortress of Buhen, 126; J. C. Darnell and C. Manassa, Tutankhamun’s Armies, 119; and see also our comments in Chapter VI. The second instance of impalement, recorded on the Amada stela, was employed against Libyan prisoners following the failed Libyan invasion during the reign of Merenptah, KRI IV, 34.13-14; C. Manassa, The Great Karnak Inscription, 100. This stela also records in detail other punishments handed out to the Nubians who had revolted at that same time: their “inheritance” was carried off to Egypt, and the leaders were set on fire. Others had their hands cut off, or their ears and eyes removed. The latter were then taken to Kush and placed into heaps in their settlements, KRI IV, 35.5-36.5.} In Libya, on the other hand, the situation was reversed: irregular military action that had characterised most of the Pharaonic period had by Dynasties XIX and XX had given way to major invasions by well equipped semi-regular forces.

At the strategic level, these groups were not much of a military threat. The same was also true at the tactical level. The Shasu, for instance, are depicted without chariots and armed with antiquated weaponry. The Apiru have a somewhat better military reputation, as noted above, but even so, they are often spoken of in a less than complimentary way. At the operational level, however, the situation is rather different. The manoeuvrability and transient nature inherent in both these groups made them a most elusive foe and because of their obvious military shortcomings, it was in their best interests to avoid direct military encounters with the regular forces of the Egyptian army and instead engage in what can best be termed “guerrilla warfare” against soft targets.\footnote{For the difficulties of combating such opponents, see the comprehensive work of C. E. Callwell, Small Wars, \textit{passim}, but especially 125-49. The Egyptian military escorts that protected the Sinai miners possibly numbered in their hundreds but even so were unable to achieve “a long-term decisive victory” over these unruly elements, S. Parcak, “Egypt’s Old Kingdom ‘Empire’ (?)”, 53.} In order to deal with such threats, the Egyptians would have ideally needed to employ a variety of operational level responses, including for instance engaging in multiple operations (with smaller and thus more mobile forces) over a considerable geographical area in order to pin these trouble makers down.\footnote{As possibly indicated, for example, by the multiple campaigns of Weni in southern Palestine, S. Parcak, “Egypt’s Old Kingdom ‘Empire’ (?)”, 53-4.} That they did so with respect to protecting vassal cities from enemy attack is clearly evident from the Amarna letters, as noted above.\footnote{Military aid packages were in heavy demand, see, for example: \textit{EA} 51, W. Moran, The Amarna Letters, 122; \textit{EA} 53, \textit{ibid.}, 125-6; \textit{EA} 55, \textit{ibid.}, 127-8; \textit{EA} 70-1, \textit{ibid.}, 139-41 (of note, Nubian troops are requested along with Egyptians) ; \textit{EA} 78-9, \textit{ibid.}, 148-50; \textit{EA} 81, \textit{ibid.}, 150-1; \textit{EA} 87-8, \textit{ibid.}, 159-62; \textit{EA} 90-5, \textit{ibid.}, 163-9; \textit{EA} 102-4, \textit{ibid.}, 175-8; \textit{EA} 106-8, \textit{ibid.}, 179-82; \textit{EA} 112, \textit{ibid.}, 186-7; \textit{EA}}
covered in Chapter IV, was to fortify key locations such as supply depots against enemy attack so to ensure lines of communications remained open.\textsuperscript{140} Amenhotep son of Hapu was one Egyptian officer tasked with combating irregulars. In one mission, he was out in command of a company of soldiers at the head of a road in order to repel foreign elements (which, according to the text) surrounded Egypt. He was also tasked with keeping a watch on the movements of Bedouin elements.\textsuperscript{141} This is something that we see in Nubia as well. The construction of the Nubian fortresses, as well as guarding against a possible invasion from the south, likely also had the equally important function of combating incursions by rebels.\textsuperscript{142} The Egyptians may have constructed these forts at key locations with the purpose in mind to forestall the assembling of an enemy force large enough to be a tactical threat.\textsuperscript{143} From a logistics point of view, assembling such a force in the first place was difficult enough, but with the fortresses protecting key resource areas, this would have become inherently more difficult.\textsuperscript{144} While the Nile would have provided more than sufficient water for such troublemakers, they still needed food in quantity, more than what could be provided by simple hunting and gathering. The threat of even small, hostile, groups cannot be discounted as they were capable of infiltrating deep into Egyptian territory from

\begin{itemize}
  \item[114] \textit{ibid.}, 189; \textit{EA} 117, \textit{ibid.}, 193-5; \textit{EA} 121-3, \textit{ibid.}, 200-2; \textit{EA} 126-7, \textit{ibid.}, 205-8; \textit{EA} 129, \textit{ibid.}, 209-11; \textit{EA} 217, \textit{ibid.}, 284-5; \textit{EA} 244, \textit{ibid.}, 298-9; \textit{EA} 287, \textit{ibid.}, 327-30. The numbers sent (if any) tended to be small, for instance: 50 pairs of horses and 200 infantry were requested in \textit{EA} 71, \textit{ibid.}, 140-1; 30 pairs of horses in \textit{EA} 90 (this number occurs frequently, as in \textit{EA} 100, \textit{ibid.}, 172-3 and \textit{EA} 107, \textit{ibid.}, 180-1); 300 men in \textit{EA} 93, \textit{ibid.}, 167; 20 pairs of horses in \textit{EA} 106, \textit{ibid.}, 179-80 (another number which occurs frequently); a total of 40 men (20 of them Egyptian) in \textit{EA} 108, \textit{ibid.}, 181-2; and 100 men in \textit{EA} 244, \textit{ibid.}, 298-9. While these forces were small, they were likely sufficient for the task at hand.

  \item[140] This was something that not just the Egyptians had to do. The Hittites, for example, also fortified key positions to safeguard them from attacks from irregular as well as regular elements, see: W. J. van Liere, “Capitals and Citadels”, 118.

  \item[141] \textit{Urk IV}, 1821.10-14.

  \item[142] While the New Kingdom \textit{mnw} fortresses would not have been able to stand up to a determined attack, their defences would have been adequate to guard against irregular hostiles and serve as a base of operations for retaliatory strikes.

  \item[143] B. Williams, “Serra East”, 443. A similar strategy, building small fortresses to anchor one’s control was also utilised by the English in their conquest of Wales, see: A. Jones, \textit{The Art of War}, 154-6.

  \item[144] Raids could be launched against the various groups in the Batn el-Hagar, the Eastern Desert, and south of Semna against other troublemakers such as the Medjay and other unruly groups, B. Trigger, “The Reasons for the Construction of the Second Cataract Forts”, 4; On the Medjay in general, see: D. O'Connor, \textit{Ancient Nubia: Egypt’s Rival in Africa}, 42-4 and 65. As with the Nubians, the Medjay often found themselves in the service of the Egyptians as soldiers and police as early as the Old Kingdom. Other groups, however, would always remain less accommodating with respect to Egyptian rule.

\end{itemize}

363
numerous vectors including the Red Sea hills, Dongola, or even Abu Hamed. The Semna dispatches, for example, make it clear that active patrols were needed in order to intercept such incursions. 145 If these small forces could be decisively defeated or turned away at a very early stage, the need for a major campaign could be averted. The Egyptian army did, nonetheless, appear to have some limitations in combating such groups. Their inability to conduct operations in the hill countries, a favourite hiding place, appears to have been one of their major operational weaknesses. 146

The idea that the Egyptians fielded armies that were numerically inferior, but of a higher quality, to their opponents must be now considered in greater detail as the combination of these two factors offers a greater possibility for the employment of operational art. That is, in military encounters between asymmetrical forces, one would expect to see a greater reliance on the use of operational art by the weaker of the two in order to offset numerical and/or qualitative superiority. For evenly matched opponents, both sides would be equally inclined to employ elements of operational art against the other in order to achieve some noticeable advantage, providing that is the rewards warranted the risks involved (as may be noted, for example, with the military encounters between Hittite and Egyptian forces). 147 A stronger power, on the other hand, would be less inclined to employ operational art against a weaker opponent due to the fact victory could be achieved via a lower risk attritional approach. 148

With respect to unfavourable asymmetrical encounters, it was important to avoid a direct confrontation with the enemy’s main strength. The primary objective should instead be to employ one’s forces “indirectly” against the stronger foe. As

145 Semna dispatch no. 4, for example, notes the discovery of tracks belonging to 32 men and three asses, P. Smither, “The Semnah Despatches”, JEA 31 (1945), 8-9.

146 New Kingdom Egyptian armies tended to avoid, for example, the area of Gibeon which was in the words of Finkelstein “sparsely settled, wooded, rugged and hostile…”., “The Campaign of Shoshenq I to Palestine: A Guide to the 10th Century BCE Polity”, ZDPV 118 (2002), 123.

147 Against evenly matched opponents where operational art was unable to be employed, an attritional approach must be employed as noted, for example, with the Middle Kingdom Nubian military operations which shared a common similarity with operations conducted in Asia during the Ramesside period. That is, one sees an emphasis on the use of an attritional strategy of occupation noted with the establishment of fortifications to retain territory. On the other hand, Dynasty XVIII Nubian operations shared more in common with those conducted in Asia at that same period where we see in both theatres a high level of manoeuvre and the employment of deep penetrative campaigns.

148 Although, a strong power attempting to deal with irregular forces would be better off employing elements of operational art in order to compensate for the ephemeral nature of their opponent (see above).
mentioned in the Introduction, B. H. Liddell Hart’s “indirect approach” is now considered to be an important aspect of operational art. By utilising the indirect approach, or to use the term coined by Edward Luttwak “relational manoeuvre”, the objective was to seek out and exploit the enemy’s weaknesses rather than confront their strengths.  

For campaigns that exhibit or rely upon a high proportion of relational manoeuvre, the operational level becomes most important as it is here that success must be achieved. Relational manoeuvre, if employed successfully, offers high rewards for less expenditure of resources, yet the risk of failure is considerably greater (and potentially catastrophic) than with employing a more safer and direct attritional approach. The latter is, on the other hand, more expensive to carry out both in resources expended and time required, but if enough pressure and resources are committed, success is usually a foregone conclusion. This is a high cost, low risk, approach of doing battle and success is sought and obtained primarily at the tactical level with little recourse to operational level manoeuvring.  

In a number of textual accounts, the Egyptians commonly described their enemies as possessing substantially larger forces often supplemented with contingents from a multitude of allied states. This idea of “one against many” is noted even at the beginnings of Egyptian Dynastic history. Indeed, in what becomes almost official

---


150 Luttwak made the following observation: “the more relational maneuver there is, the more important is the operational level”, Strategy, 116. On the other hand, if relational manoeuvre is low or almost nonexistent (as was the case, for example, with the trench fighting of the First World War) then the operational level is of less significance, ibid., 113-7.

151 The Romans, for example, relied on an attritional approach preferring to grind down their enemies with their “infantry killing machines”. This low risk approach, however, was not adopted by the Byzantines who placed more emphasis on mobility, E. Luttwak, The Grand Strategy of the Byzantine Empire, 281-7. As we have noted in the Introduction, the Chinese concept of utilising a “Shih” strategy against one’s opponent included the employment of key elements of operational art, in particular, avoiding the main areas of enemy strength and placing a heavy reliance on deception and surprise. The direct counterpart to Shih, on the other hand, was “Li” strategy which among other things placed strong emphasis on the employment of a direct or rather attritional approach. Sun Tzu, especially, favoured the former strategy, W.H. Mott IV and J. Chang Kim, The Philosophy of Chinese Military Culture, 24-44.

152 See for example, an inscription found on a bow (!) where it is stated the king (in this case Tutankhamun) fights “hundreds of thousands”, J. Galán, Victory and Border, 50. Another representation of Tutankhamun (in the form of a sphinx) has this king trampling an Asiatic prisoner while at the same time prisoners representing Egypt’s key enemies (two Nubians, a Syrian, and a Libyan) kneel before him, J. Sliwa, “Some Remarks Concerning Victorious Ruler Representations”, 107.
doctrine, Egypt viewed itself as being encircled by hostile elements, a state of affairs which is no better illustrated than with the concept of the “Nine Bows”. We can further note that this numerical superiority of Egypt’s enemies occurs at all three levels of war. For example, Kamose found himself in a position of being strategically “surrounded” by his enemies and outnumbered 2-1 with the Hyksos posing a threat from the north and the Nubians likewise from the south. At the lower levels of war, Thutmose III, at the battle of Megiddo had, if we are to believe the texts, to face an even worse ratio of enemies (1000-1). While this was somewhat exaggerated, and included more for literary effect, that king still had to fight an enemy coalition consisting of the combined forces of a number of hostile powers. This same king again did battle with another major coalition, this time headed by Mitanni, during his tenth campaign in Year 35. The numerical superiority of his enemy is emphasised in that the combined forces extended to “the ends of the earth” and were more numerous than the “[…sands of the seashore]”. Ramesses II faced a major “international” coalition centred on the superpower of Hatti (13-1 at the strategic level, and 11-1 for

---

153 G. Belova, “The Egyptians’ Ideas of Hostile Encirclement”, in Proceedings of the Seventh International Congress of Egyptologists, Cambridge 3-9 September 1995, C. Eyre (ed.), (Leuven, 1998), 143-8. Furthermore, images would often depict the Egyptian king grasping the hair of whole groups of foes, J. Sliwa, “Some Remarks Concerning Victorious Ruler Representations”, 103 and fig. 5. Of particular interest is that during the New Kingdom, there is a notable increase in the number of enemies (up to several dozen) seized by the hair in order to be dispatched by the king. ibid., 103. Indeed, the image of the Egyptian King smiting his enemy (generally by bashing in their heads) or at the very least, subjugating his foe by standing on him are both long standing motifs in Egyptian art, although whether this reflects a real intense hatred that the Egyptians had towards foreigners is another matter, see the comments of J. Hoffmeier, “Some Egyptian Motifs”, 53-6. For a more general discussion of the “Nine Bows” see the article of E. Uphill, “The Nine Bows”, JEO 19 (1965/6), 393-420. Uphill, in particular, points out that the bow symbolises the men of the tribe, so the “act of placing bows under the feet of the king…would thus symbolize his superior power to all his subject people in a most effective way”, ibid., 393.

154 D. Redford, “Textual Sources”, 13; and A. Spalinger, “The Army”, 119 and 121. Belova noted additional instances where the Egyptians may have perceived themselves as being surrounded by hostile elements, see his “The Egyptians’ Ideas of Hostile Encirclement”, 143-8. The danger of an alliance between the Hyksos and the Kushites likely prompted the initial period of conquest by the Egyptians against Nubia, L. Török, The Kingdom of Kush, 101.

155 Urk IV, 660.8.

156 The extent of the rebellion facing this king is given as extending “to the ends of the world”: Urk IV, 648.6-7. This is further emphasised by the massive smiting scene of this king on the seventh pylon at Karnak which serves to provide a dramatic visual representation of Egypt’s triumph at Megiddo over numerous foes, E. S. Hall, “A Continuation of the Smiting Scene,” 75 and 78 fig. 1.

157 Urk IV, 710.5-9; and D. Redford, The Wars in Syria, 83.
at least one tactical battle encounter). Furthermore, at one point in the battle he was, according to his own words, fighting all alone with only his shield bearer for company. Similar statements are also made by Amenhotep II who would often engage enemies in combat without his soldiers. One might have expected that these combined hostile masses may have invoked some fear or awe on the part of the Egyptians, yet this was not the case. The Egyptians tended to belittle these numerical threats and would often make derogatory comments, for example, comparing their numbers to swarms of insects as seen in the above case where the enemy masses are compared to locusts. This, in part, reflects the level of respect, or rather lack thereof, that the Egyptians had for the quality of their opponents, a point emphasised even further by the fact that the Hittite king had to strip his land of silver in order to raise his huge force.

The numerical superiority of potential enemies becomes especially evident when the Egyptians move over to the strategic defensive. Merenptah, for example, during the Year 5 invasion attempt of the Nile faced a combined force consisting of five groups of Sea Peoples as well as the Libyan Libu, thus giving a ratio of 6-1. Ramesses III during the first Libyan invasion faced a smaller alliance consisting of the Libu, Meshwesh and Seped, while during the Sea Peoples’ invasion of Year 8 the

---

158 *KRI* II, 3.6-4.16 and *KRI* II, 31.1-32.5 respectively.

159 *KRI* II, 63.1-69.5. When considered alongside the war reliefs, this could be seen as the ultimate in hostile encirclement. The king alone (in this case fulfilling the role of Egypt itself) surrounded by masses of enemy chariotry.

160 *Urk* IV, 1302.14 and 1307.14-17.

161 Ramesses III referred to his Libyan opponents during the Year 5 war as grasshoppers, *KRI* V, 26.6. The Egyptians also likened their enemies to flocks of birds with the Pharaoh assuming the role of a falcon, J. C. Darnell and C. Manassa, *Tutankhamun’s Armies*, 74. Mongol hordes were likewise compared to these insects by their enemies, P. Linebarger, *Psychological Warfare*, 15. In the *Strategikon* it is advised that enemy prisoners, if they appear to be in a sorry state, should be stripped and paraded in front of the army begging for their lives so to enforce the impression of the wretched condition of their foe, *ibid.*, 66. Overall, it is clear that the Ancients did have an appreciation of aspects of psychological warfare, P. Linebarger, *Psychological Warfare*, 3-8, and as such these statements should be seen in this light.

162 It must be said that locusts, however, were a particularly destructive insect when formed up in swarms, see: K. Radner, “Fressen und gefressen warden”, 7-11. On that note, the comparison with their activities and that of the Hittite king “stripping his land” is especially apt.

163 The Sea Peoples who took part included the Ekwesh, Teresh, Lukka, Sherden and Shekelesh, *KRI* IV, 2.12-14. If we include the Kehekyu, then the ratio increases to 7-1, but while the Meshwesh are also mentioned, it is possible only their weapons (and not the troops themselves) were utilised, see D. O’Connor, “The Nature of Tjemhu (Libyan Society)”, 40.
ratio of enemies had increased to 5-1.\textsuperscript{164} By the third invasion attempt in Year 11, the ratio had dropped to an equal (and more sober) 1-1.\textsuperscript{165} While the actual numbers fielded in each of these actions may not have been as disproportionate as the ratios suggest, the culminating effect of these attacks would have been damaging.\textsuperscript{166}

Even though serving as a literary motif, we cannot discount the fact that the Egyptians may have had to engage in combat, on a regular basis, foes that were numerically superior. If such was the case, this would provide another argument for the existence of an Egyptian operational art. That is, in a set piece battle of purer attrition, the Egyptians would have been overwhelmed by the greater numbers fielded by their enemies. The successful application of operational art, on the other hand, would have offset any disparity in troop numbers by enabling the Egyptian army to attack at key decisive points and neutralise their enemy by means of a more indirect approach. Victory could thus be achieved quickly and decisively with minimum casualties rather than having to engage in costly set piece battles that could have dragged on indefinitely.\textsuperscript{167} Malamat successfully identified key examples of the employment of the indirect approach by the early Israelites in order to achieve

\textsuperscript{164} For Year 5, see: KRI V, 22.13-4; RITA V, 20; and for the Year 8 coalition, this included the Peleset, Tjekkeru, Shaktusha, Danu<na>, and Washash, KRI V, 40.3-4; and RITA V, 34. In order to further emphasise the “one against many” motif, these enemies were represented by the Egyptian artists as an indistinguishable mass, a “visual equivalent of the ‘Nine Bows’”: R. G. Roberts, “Identity, Choice, and the Year 8 Reliefs of Ramesses III”, 63-9. Of interest, the Egyptian fleet is likewise outnumbered 5-4, A. Spalinger, \textit{War}, 254.

\textsuperscript{165} In this case, the main if not only opponent was the Meshwesh, although they may have been spurred on by others, D. O’Connor, “The Nature of Tjemhu (Libyan Society)”, 40-1. The Year 11 military account is considered the most reliable, A. Spalinger, \textit{War}, 257.

\textsuperscript{166} The total strength of the enemy coalition that Merenptah faced has been estimated at over 16,000 and possibly as high as 30,588, D. O’Connor, “The Nature of Tjemhu (Libyan Society)”, 41 and 44; but see also the comments of A. Spalinger, \textit{War}, 237-40. For Ramesses III’s Year 5 campaign, at least 12,625 (or up to 63,125) enemy were slain and at least 1,000 captured, D. O’Connor, “The Nature of Tjemhu (Libyan Society)”, 42-4. Numbers for this king’s Year 11 campaign are lower with 2,175 enemy killed and 2,052 captured (total: 4,227), but even so, the total force may have numbered as high as 19,020, \textit{ibid.}, 43-4.

\textsuperscript{167} A key difference in the military thinking of Clausewitz and Sun Tzu was that the former recommended a decisive blow be directed against the mass of the enemy (in particular his Centre of Gravity), whereas the latter recommended avoiding the enemy’s main strength and achieving victory through more indirect (and if possible, non violent) means. For a detailed comparison of these two individuals, see M. Handel, \textit{Masters of War}, 19-32 and 53-63; and W.H. Mott IV and J. Chang Kim, \textit{The Philosophy of Chinese Military Culture}, 1-10. Sun Tzu it would appear was a more operationally minded military thinker.
The Israelites were not only inferior in numbers to their opponents, but were also having to attack fortified cities which were well beyond their military means. The combination of these two factors alone meant that there was no way they could have succeeded militarily by engaging their opponents in attritional battles. As the Egyptians faced similar constraints (especially in their campaigning in Asia), it should not come as too much of a surprise that we do find examples of relational manoeuvre in their campaigns as well. Indeed, in one early text, Antef II recounts how he was unable to capture the city of Thinis in the Eighth Upper Egyptian nome during his northward advance. Instead of attacking the city directly, he bypassed it completely cutting it off from outside assistance. Thinis, and the rest of the nome that was still holding out, eventually capitulated. A similar course of action was likely undertaken by Kamose in his advance north against the Hyksos. Centres of resistance were bypassed by the manoeuvrable Egyptian fleet allowing more vulnerable locations downstream to be attacked. Furthermore, Kamose, and then Ahmose, also utilised relational manoeuvre to first weaken then ultimately defeat the Hyksos by targeting both logistic infrastructure and then isolating their primary stronghold at Avaris. Kamose may also have relied on the indirect approach in his military campaigning in Nubia in order for his army to reach Miu in the Shendi Reach. This manoeuvre may have been conducted to effectively deny Kerma military support further to the south. Thutmose III employed a form of relational manoeuvre with his decision to send his army through the Aruna pass. This was a high risk, high payoff gamble which ultimately proved to be successful. A non operational oriented

---

168 A. Malamat, “Israelite Conduct of War”, 44-6; and A. Malamat, “How Inferior Israelite Forces Conquered Fortified Canaanite Cities”, 31-2. The Mongol armies suffered from distinct numerical deficiencies, but compensated for this with a heavy reliance on misinformation in addition to their own operational style of warfare, P. Linebarger, *Psychological Warfare*, 14-5.


170 See Chapter VI: *Sequential Operations*, for further discussion on this military action.

171 A. Spalinger, *War*, 3. This, Spalinger argues, was how the Egyptian king was able to advance so far north in such a short time.

172 See Chapter II: *Second Intermediate Period – New Kingdom*, and Chapter IV: *Counter Logistics at the Three Levels of War*.


174 *Urk* IV, 649.3-652.11.
approach and one that would have involved the least amount of risk would have been to advance along the safest possible route and attack and defeat each concentration of enemy troops as they were encountered thereby employing an attritional rather than relational approach. Sety I also appears to have employed relational manoeuvre in his campaign recorded in the Beth Shan stela in that rather than going to the aid of the city that was under threat and presumably occupying the attention of his enemy, he instead attacked three other militarily vital alternative targets. The episode which occurred during the Year 5 campaign of Ramesses II is another (and in many respects quite perfect) example of an attempt to employ relational manoeuvre to achieve a quick and potentially strategic level success. When that king was informed by two Shasu Bedouin that the Hittite army was nowhere near the city of Qadesh, he instigated his operationally bold (high risk) attempt to capture this city (high reward) with minimal forces without, he thought, having to engage the main enemy strength.

The two city assault scenes depicting the Egyptian assault on the city of Dapur have already been considered in Chapter II, but some additional comments must be added here. It was noted that the Egyptians may have feigned an attack against part of the city in order to draw the defenders to that location while the main attack was to commence against a less defended part. This indirect approach (although occurring at the tactical level) is worth mentioning as it does not differ considerably to the stratagem employed by the Israelites in their attempts to capture major cities. While Merenptah himself appears to have employed operational manoeuvrings in his Asiatic campaign, the same may also have been the case for his Libyan opponent. Colleen Manassa believes that the Libyans, during their Year 5 invasion of northern Egypt, may have attempted to utilise an indirect approach in order to capture the city of Memphis. It could be argued that Ramesses III also attempted to engage in his own form of relational manoeuvre by engaging in some logistic destruction with the hope

---

175 KRI I, 12.10-13.


177 A. Malamat, “Israelite Conduct of War”, 49-50; A. Malamat, “How Inferior Israelite Forces Conquered Fortified Canaanite Cities”, 31-4; and see also our comments in Chapter II note 172.

178 See Chapter VI: Simultaneous Operations.

of either luring the enemy from their cities to defend these resources or weakening them through their destruction. As was touched upon at the end of Chapter II, it is important to note that most of the examples of relational manoeuvre as covered above involve cities or fortified targets. Avoiding direct confrontations with such targets was in keeping with Egyptian operational practices.

Overall, while we cannot know for certain the exact numbers of troops available for military service at any given period, one thing is clear. As Egypt’s imperial ambitions expanded during the New Kingdom, additional soldiers were needed not only to participate in larger and more frequent military campaigns, but also to garrison and defend the newly established frontiers. This must have placed considerable manpower demands on the state (regardless of any population increase from earlier periods) especially by late Dynasty XVIII and XIX when numerous fortresses and garrisons were established in all three strategic theatres. In addition, contrary to what the pictorial and textual records depict, the Egyptian army would have suffered casualties not just through battle but also from accidents, disease, and desertion. Prisoners of war taken by Egypt’s enemies would have also depleted

---

180 As noted in the Tunip assault scene, Medinet Habu II, pls. 88-9.

181 Other forms of indirect approach took place at a wider strategic level including the use a third party to attack one’s enemies (fighting by proxy). This was a common practice of the major powers who would, for example, utilise their allies or vassals to attack their primary opponent. The Hyksos may have attempted to do so by prodding Kerma into attacking Egypt from the south, D. Redford, “Textual Sources”, 14-5; and Mitanni may also have been the “behind the scenes” instigator of the rebellion of Qadesh and Megiddo, D. Redford, The Wars in Syria, 14-6. This situation was not too dissimilar to what took place between the United States and the Soviet Union during the Cold War with respect to their use and abuse of third world nations, C. Andrew and V. Mitrokhin, The World Was Going Our Way: The KGB and the Battle for the Third World (New York, 2005), passim.

182 Immigrant numbers coming into conquered territories such as Nubia were, however, probably small and likely reflected in part resistance to the possibility of buried outside of Egypt, L. Török, The Kingdom of Kush, 100. On the other hand, the need for huge influxes of foreign manpower for certain professions including the military may even have been felt as early as the Middle Kingdom as indicated by a significant increase in a Levantine presence at the site of Tell el-Dab’a at the later part of Dynasty XIII, M. Bietak, Avaris, 55.

183 Naturally, the inscriptions and textual accounts tended not to make reference to Egyptian or allied casualties suffered in battle. Some exceptions, however, include an image from the tomb of Setka in which we possibly see a (friendly) Nubian soldier struck by an arrow, M. Jenkins, “Notes on the Tomb of Setka”, 78. The inscription of Pepinakhte records this individual’s expedition to Sinai to recover the bodies of slain Egyptians. Pit graves have been uncovered at Tell el-Dab’a containing the bodies of young men between the ages of 18-25. These were likely soldiers who died in camp from diseases, M. Bietak, “The Tuthmoside stronghold of Perunefer”, 13. The papyrus fragments dated to the reign of Amenhotep IV reputedly show Libyans attacking a fallen Egyptian soldier, R. Parkinson and L. Schofield, “Akhenaten’s Army?”, 35. Fragments from a Hittite tablet likewise note victories against Egyptian troops and chariots, J. Miller, “The Rebellion of Hatti’s Syrian vassals”, 536. We can also safely infer that spectator military defeats like the collapse of the Pre division (prominently mentioned
troop numbers, and the fact that the Egyptians were pressing former Sherden prisoners into military service early in Dynasty XIX may provide an indication of an underlying manpower problem. A continuation of this reliance on foreign troops seems to have reached significant levels during the reign of Ramesses III where we find numerous foreign contingents featured prominently in the army.

As well as available numbers of soldiers, another important indicator for determining combat potential (and power) was the quality of the weapons employed. Superior weaponry allowed for greater combat potential and from the booty and tribute lists we are provided with an indication of their perceived (if not relative) importance. In these lists, offensive weaponry such as swords and bows often feature prominently more so than shields or other more defensive orientated equipment. The most important weapon mentioned in these lists was undoubtedly

---

184 That the Egyptians lost troops as prisoners of war is reflected in the Hittite accounts for example. In this particular incident, Egyptian prisoners from Amki carried the plague (the disease factor is also present here) which would eventually proceed to ravage the Hittite Empire for almost twenty years, E. Morris, *The Architecture of Imperialism*, 264-5; and T. R. Bryce, *The Kingdom of the Hittites* (Oxford, 1999), 198.

185 On the possibility the Nile Valley, especially Nubia, may have suffered a decline in population, see: E. Morris, *The Architecture of Imperialism*, 654-5 and note 895. It is even possible that Egypt may have always experienced chronic manpower shortages with respect to finding sufficient soldiers for their campaigns as indicated, for example, with the recruiting campaign of Mentuhotep Nebhetepre which gained the services of the soldier Tjehenau. Interestingly, the Hittite Empire through much of its history definitely suffered manpower shortages and this situation must have been exasperated with the onset of the plague (see also note above), T. R. Bryce, *The Kingdom of the Hittites, passim* but see especially 198, 204, 237 and 239. One must also consider the repercussions of this plague on subsequent generations. It would not only have killed men of military age at that time, but also women and children which would have impacted numbers available for future wars.

186 See, for example, the composition of Ramesside army units in formation as noted in Chapter I, as well as the comments of: A. Spalinger, “The Army”, 127.

187 It seems clear that arms races did occur during this early period, and that there was a recognisably distinct need to maintain a weapons parity with other rival powers, I. Shaw, “Egyptians, Hyksos and Military Technology”, 59.

188 If we are also to include the numbers of enemy slain and captives taken, these lists provide us with a useful and measurable indication of the combat power of the defeated enemy, as, for example, noted with the acquired booty from Thutmose III’s Megiddo campaign, *Urâ IV, 663.5-664.2*; and see also the comments of A. Spalinger, *War*, 93-4.
the chariot, and in many respects this is perhaps the most measurable and tangible indicator of combat power. The Egyptians began to utilise chariots in warfare near the end of Dynasty XVII, and by Dynasty XIX the chariot arm was an established element within the military (this timeframe is of particular importance for our discussion here). We have in Chapter I already examined the merits of the chariot at the tactical level, and the ability to employ considerable numbers of these weapons must have greatly enhanced Egyptian combat power to a point where we must consider it as a centre of gravity (see Chapter VI) at the tactical and even the operational level for the Egyptian army.

Two of the most important qualities that the chariot possessed were mobility and firepower (two qualities that are also vital for operational art). As a fast moving and well armed fighting platform, it provided superior (tactical level) mobility on the battlefield, and more important, it also provided a degree of operational level mobility and manoeuvrability even though it was ultimately tied to the slower moving infantry formations. That the chariot was able to operate independently and effectively away from the main (infantry) army for short periods of time, was proven quite conclusively by the Hittites at the battle of Qadesh. A detached chariot force routed an entire Egyptian division, and then followed up on this successful action with a less successful attack on the Egyptian Amun camp. A second chariot force, sent by the Hittite king to aid the first, attempted to swing the course of the battle back into their

---

189 Further indication of the value of this weapon may be found in the Amarna letters where as part of the initial opening lines, wellbeing is expressed (from one Superpower to another) to this weapon and its horses usually ahead of the troops and country, see, for example, _EA_ 27-9, W. Moran, _The Amarna Letters_, 86-99; _EA_ 33-5, _ibid._, 104-10; _EA_ 37-9, _ibid._, 110-2. In _EA_ 41 and 42, however, correspondence from the Hittite court, wellbeing is offered first to the troops and then the chariots and horses, _ibid._, 114-6. The Amarna letters likewise include numerous references of chariots being sent as elite gifts, R. Morkot, “War and the Economy”, 175. In addition, Morkot also noted the rapid increase in chariot numbers and production among the Asiatic powers, _ibid._, 173-4; and see further note 190 (below).

190 Initially, numbers may have been small, and until proper workshops were established, chariots were likely acquired via a number of channels including capture, R. Morkot, “War and the Economy”, 173. Following the battle of Megiddo, for example, the Egyptians captured 924 chariots and 2,041 horses, _ibid._, 173. Even though some of the chariots were for “show” (i.e. the two gold chariots), this was nonetheless a substantial number captured.

191 The speed and manoeuvrability of a well trained chariot unit was especially emphasised by: K. Hansen, “Collection in Ancient Egyptian Chariot Horses”, 179.

192 _KRI_ II, 26.1-27.1; and A. H. Gardiner, _Kadesh Inscriptions_, 30. Attacking an enemy force in the middle of the formation while they are on the march was noted by Maurice as a way of doing considerable damage to one’s opponent, _Strategikon_, 93.
favour but to no avail.\textsuperscript{193} This military encounter highlights a number of important points. At the operational level, the chariot was an effective weapon possessing the ability to operate independently from the infantry (out of sight) conducting their own separate operations against vulnerable elements of the enemy. Its mobility also allowed it to conduct sudden surprise assaults and, furthermore, chariots could be quickly detached from the main body of the army in order to deal with unexpected situations. The Qadesh encounter also exposes the limitations of this weapons platform in that once we descend into the tactical level and into a battle of attrition, the chariot loses all of its operational as well as many of its tactical advantages. Against the prepared position of the Amun camp it made little impact and once the Egyptians had recovered from the initial shock, they were able to not only adequately defend themselves, but also drive the enemy vehicles into the Orontes. The Hittite chariots lacked a screen of heavy and light infantry to retreat behind. Although we cannot know the extent in which the Egyptians conducted similar operations with their own chariot units it was, however, entirely within their means and ability to do so. Indeed, the utilisation of detachments consisting solely of chariots in order to achieve select objectives may have been a standard feature of Egyptian military campaigning.\textsuperscript{194} Overall, the adoption and utilisation of the chariot had significant ramifications for how the Egyptians conducted warfare at the tactical and operational levels. Its incorporation into the army, therefore, would have provided another essential prerequisite for the development of an Egyptian operational art.

Other less tangible elements that can have a profound effect on combat power are morale, discipline, and training. The textual accounts, in particular the autobiographies of combat soldiers and unit commanders, present a glossy picture of career success, personal bravery on the battlefield, and devotion to their commanders.\textsuperscript{195} From these accounts we gain the impression that the Egyptian soldier never wavered in his duty and was a proficient, and occasionally innovative, killing

\textsuperscript{193} KRI II, 49.1-52.1; and A. H. Gardiner, Kadesh Inscriptions, 10.

\textsuperscript{194} See Chapter VI: Centres of Gravity.

\textsuperscript{195} For example, Ahmose son of Ebana and Ahmose Pen-Nekhbet (see Chapter IV note 277 for references).
machine in times of war. In addition, the images of military training confirm that by the New Kingdom at least the Egyptian army was a highly professional military force. Military discipline was valued even during the earliest periods of Egyptian warfare. We have seen in Chapter III, for instance, that regulations were put into place against soldiers stealing bread and sandals. To this we can add the mention made of Egyptian soldiers, during the reign of Horemhab, being disciplined after having stolen some animal hides from numerous different places over a period of time. The importance of unit cohesion, which is a vital contributor to combat power, was also apparently recognised by the Egyptian military. This is seen, for example, in the emphasis placed on training (see above), the fact that troops from the same local geographical area likely served together, the use of unit standards (possibly indicating said regional origins), and that the Egyptians ensured certain foreign ethnic groups

196 In the account of Amenemhab, for example, this soldier kills a stallion sent out by the enemy to distract the Egyptian horses, and then proceeds to be the first to breach the walls of the city of Qadesh, Urk IV, 894.5-894.15 and Urk IV, 894.16-895.7 respectively.

197 While evidence for the training regimes of Egyptian soldiers is not substantial, notable pictorial examples include images from the tomb of Tjannuni where we see soldiers (and musicians) in drill formation, see: A. Brack and A. Brack, Das Grab des Tjannuni, pls 8-9 and 32-3. From the tomb of Horemhab, we also find illuminating examples of Egyptian soldiers engaged in the day-to-day tasks involved with running a camp, G. T. Martin, The Memphite Tomb of Horemheb, 43-4 and pls. 32, 34-5 and 95. The Lisht Marine Fragment likewise depicts soldiers engaged in drilling exercises and in this particular example, they are accompanied by a military scribe, B. McDermott, Warfare in Ancient Egypt, 33 fig. 17. Also of interest is a block dated to the New Kingdom (ÄS 6297) in which we see men in soldier attire climbing up scaffolding, D. Wildung (ed.), Fünf Jahre: Neuerwerbungen der Staatlichen Sammlung Ägyptischer Kunst München (Mainz am Rhein, 1980), 30. This may be part of a representation of a building site, or could in fact be a form of military training (a combination of both is also possible). Military training was also it would seem part of the regime of Old Kingdom Egyptian soldiers as depicted in reliefs dated to the reigns of Usrkaf and Sahure, for references, see: J. C. Darnell and C. Manassa, Tutankhamun’s Armies, 60 and note 5. Textual references to the training of Egyptian soldiers that are found in Pap. Anastasi tend to be somewhat biased against the army and as such may not be trustworthy. They note especially the harsh training conditions a soldier must endure including severe blows to his body and face 5,7-9 (R. Caminos, Late Egyptian Miscellanies, 92).


199 For example, strong unit cohesion has long been recognized as one of the key elements which enabled German units to continue fighting effectively during the last stages of the Second World War, N. Ferguson, “Prisoner Taking and Prisoner Killing in the Age of Total War”, in The Barbarization of Warfare, G. Kassimeris (ed.), (New York, 2006), 157.

200 Which would have been important for promoting group solidarity on the battlefield, see: R. O. Faulkner, “Egyptian Military Standards”, JEA 27 (1941), 12-8; and E. Morris, The Architecture of Imperialism, 330.
also served together in independent units rather than being dissipated throughout the army.201

All in all, the interplay of these three key parameters: space, time, and force, played an important part in determining whether it was possible for the Egyptians to have developed a rudimentary form of operational art. Of the three, the factor of space deserves further consideration, and we will next discuss the particular idiosyncrasies of each of Egypt’s three strategic theatres and examine how the Egyptian military coped with and exploited theatre geography in each to achieve strategic success.

**Theatre Geography and Operational Ability**

Geographically, the three strategic theatres in which the Egyptians campaigned were very different from each other with each posing unique challenges with respect to conducting successful military actions. We have, for example, already seen in chapters III and IV the influence that geography can have on logistics and the same is also true with respect to warfare conducted at the operational level. Indeed, while the geographical makeup of a strategic theatre has a considerable effect on logistics, both geography and logistics, in turn, directly impact operational ability. Thus the nature of an Egyptian operational art (if any) will be greatly determined by the geography of the strategic theatre as well as the ability of the logistics infrastructure to supply the army within this environment. Furthermore, we can add the factor of technology to the equation (fig. 5.3). Military technology, as we have noted with the chariot, likewise plays an important part in determining the potential operational abilities of any armed force and this is something that we will reconsider in more detail towards the end of this section.

---

201 This is noted especially in the battle images of Ramesses III: *Medinet Habu* I, pls. 17, 31 and 35; and *Medinet Habu* II, 62. On the importance of communal identity among mercenaries with respect to military cohesion, see: P. Kaplan, “Cross-Cultural Contacts”, 10-6. Cross cultural interaction between the various mercenary groups and with “native” troops could, nonetheless, vary considerably, and take many forms, *ibid.*, 16-23.
Fig. 5.3: The interplay of factors determining operational ability

Being able to penetrate into, and manoeuvre within, a particular strategic theatre, and overcome any geographical hurdles, is of course a vital prerequisite in order to achieve victory. Yet, this is not simply the case of moving an army from point X (home base) to point Y (the battlefield), conducting the battle, and then returning home.\footnote{In other words, the so-called “Classical Military Strategy”, see: D. Pittard, \textit{Thirteenth Century Mongol Warfare}, 2-3.} If this was all that was required, we could quickly eliminate the idea that the Egyptians possessed any concept of (or need for) the principles of operational art. Rather, there should be some clear indication that forces were moved in such a way as to heighten the possibility of military victory prior to the actual tactical battle. Such manoeuvring needs to take into account potential geographical obstacles (rivers, mountainous terrain, narrow valleys, deserts and so forth) and also the possibility of utilising said obstacles to one’s own advantage.\footnote{The immensely long German-Russian frontline during 1941 has traditionally been seen as a major disadvantage for the attacking axis armies. This is not entirely accurate as it was this extended front which provided the Germans with the best opportunity to practice their form of operational art by allowing them to choose when and where to make those initial penetrations which in turn enabled the large infamous encirclements to take place, see, for example, the comments of: R. Stolfi, “Barbarossa Revisited: A Critical Reappraisal of the Opening Stages of the Russo-German Campaign (June-December 1941)”, \textit{JMH 54} (1982), 38-9. It was the breadth of the theatre which proved to be more of an issue, but victory along this axis was also theoretically possible as the Germans did possess the necessary resources to reach Moscow and beyond, \textit{ibid.}, 35-8.} It is with this in mind that we will examine how the Egyptians moved their armies into and within their three strategic theatres.

\textit{Land versus Naval Operations}

Due to the fact that Egypt’s strategic theatres encompassed both major land and water elements, it is not surprising that the Egyptians, even from an early period,
were able to conduct naval as well as land operations often combining both forms of manoeuvre within a single campaign. With respect to naval operations, the Egyptians were early practitioners of what can best be termed “amphibious warfare” where extensive utilisation was made of sea- or riverborne transportation in order to move troops into and within a strategic theatre for the purpose of achieving set strategic, operational, and tactical objectives. This would tend to involve, as we will examine more closely below, transporting troops from an Egyptian port to a foreign locality, or transporting troops along or across major rivers to land troops for the specific purpose of engaging in military activity generally against a land based foe. Amphibious warfare is to be considered separate to the more traditional naval activity of open sea ship-to-ship combat which, being beyond the scope of this study, cannot be considered here. In general, naval operations possess some important advantages over land based operations. For instance, troops and matériel can be moved into (and within) a particular strategic theatre in considerable numbers and sometimes at great speed. This would have bestowed upon the Egyptians a high degree of freedom of

204 For a detailed analysis of what constitutes “amphibious warfare” (and what does not), see D. J. B. Trim and M. C. Fissel, “Amphibious Warfare, 1000-1700: Concepts and Contexts”, in Amphibious Warfare, 1000-1700: Commerce, State Formation and European Expansion, D. J. B. Trim and M. C. Fissel (eds), (Leiden, 2006), 1-50 and especially 7-37. Essentially, this study defines amphibious warfare as “A form of warfare in which land-based and waterborne forces cooperate, on at least one side, whether against a similar conjunction of forces, or against a solely land or water-based enemy” ibid., 27. This definition is useful as it encompasses all forms of “waterborne” operations including riverine which is of particular relevance to our discussion here. Most important, the study also acknowledges the existence of the operational level of war and notes that at each of the three levels (in fact four, as the level of Grand Strategy is also considered), the character of amphibious warfare can vary considerably.

205 That a clear distinction exists between true “naval only” operations and amphibious warfare was noted in: ibid., 7-37. In any case, recorded instances of true “open sea” ship-to-ship combat are fairly uncommon with the most famous Egyptian example being of course the Year 8 sea battle of Ramesses III. The Hittites likewise rarely engaged in naval battles as one would expect from a land power. Two inscriptions from the Hittite text KBo XII 38 are, however, notable in that they record two attempts by the Hittites to subjugate Alashiya (Cyprus). The first attempt was undertaken by Tudhaliya IV possibly with the objective of securing supply routes for grain shipments heading to Hatti (which may have been vital to combat an extended famine). This conquest appears not to have been long lasting (or was only localised) as a second attempt was undertaken by his son Suppiluliuma II who successfully engaged the enemy (their identity is not specifically stated) in three separate naval battles. After the enemy ships had been captured and burnt at sea, the battle continued once the Hittites had reached dry land, A. Bernard Knapp, Prehistoric and Protohistoric Cyprus: Identity, Insularity, and Connectivity (Oxford, 2008), 331-2. Such encounters highlight the difficulties that even a powerful land based empire could have when attempting to fight at sea. This is especially so when one considers the close proximity of Cyprus to the Hittite Empire.

206 T. Barako, The Seaborne Migration of the Philistines (Ph.D. Dissertation, Harvard University: Cambridge MA; 2001), 145-52. Seaborne travel was considerably quicker with ocean going ships under optimal conditions able to cover 100 km or more in one day. Marcianus of Heraclia in his edition of Menippus’ Periplus noted speeds of 130 km per day were possible and that fast ships could even
movement which greatly attributed to their strategic reach into both Asia and Nubia. Available shipping and carrying capacity would have determined how many troops could be transported, but with the technology available at the time, 40 vessels may have been just sufficient to transport around 10,000 soldiers.\textsuperscript{207} This estimate is optimistic and a more realistic figure was likely around 150-200 soldier sailors per vessel (which is still a considerable number).\textsuperscript{208} Another advantage of naval operations was that the troops could be inserted deep into a strategic theatre and in a relatively rested state.\textsuperscript{209} In Asia, for example, troops could be transported to distant Syrian ports while in Nubia, the Nile, to use a well tread cliché, served as a natural highway allowing the Egyptians to transport troops directly from Egypt deep into this area with minimal effort and expense.

There were, however, some very real disadvantages with respect to relying on naval operations. To begin with, there may be only a limited number of suitable ports available for embarking and disembarking troops and supplies. This was a problem particularly with the Asiatic Theatre. The better ports tended to have been located in Syria and while this would have been ideal for operations against northern enemies, the Palestinian coastline to the south was not so well endowed meaning there was no easy sea ingress into this region. Furthermore, it was necessary that the ports to be utilised be either directly controlled or in friendly hands.\textsuperscript{210} Another problem is that

\textsuperscript{207} D. Redford, \textit{The Wars in Syria}, 205.

\textsuperscript{208} See also our comments below. Given the standard size of the ships (utilising Red Sea vessels as a guide: 21-30.5 m long; 5.5 m wide (or wider); and 1.2-1.5 m deep) and also taking into account information from textual sources (the \textit{Shipwrecked Sailor} and the \textit{Great Sphinx stela of Amunhotep II}, where a 200 man boat is mentioned), Spalinger felt that a maximum limit of 200 soldier sailors per vessel was reasonable, \textit{War}, 52-5.

\textsuperscript{209} The gruelling 10 day march across the Sinai, for example, would have been avoided, see also: T. Säve-Söderbergh, \textit{The Navy of the Eighteenth Egyptian Dynasty} (Uppsala, 1946), 33 and 39; and N. Na’amān, “The Hurrians and the End of the Middle Bronze Age in Palestine”, \textit{Levant} 26 (1994), 175-87. The time required to reach Syria by land was also an important consideration. The same situation applied to any equine passengers as it would have been especially advantageous for horses to have been spared the march north.

\textsuperscript{210} This was especially a problem with Palestine which, due to the shoreline geography, possessed only a small number of suitable ports, A. Spalinger, \textit{War}, 52. The largest and arguably best port city in this
even though larger ships would have possessed some facilities for the preparation and cooking of food, there was still the problem of provisioning the soldiers once they had begun to move inland. Military operations that were reliant on ships had the potential to become significantly hampered once the army had disembarked, and unless there was some system of supply in place, the army would not be able to support itself logistically as it moved further away from its river or sea lifeline. While we know that it was possible to transport chariots and horses in small numbers, this may not have been the case for whole chariot units, in addition to the numerous donkeys, oxen and carts, all of which would have been required to support a large army away from its supply base. Indeed, the most pressing problem was likely finding sufficient shipping to transport the army and its baggage in the first place. This situation would have been exasperated with the move to larger armies that were heavily reliant on wheeled vehicles. Finally, there was also the very real danger of unforeseen or unpredictable events such as encountering bad weather, pirates, or hostile fleets (although the Nubian theatre was immune from most of these). As we

area was Ashkelon. This site, situated directly on the water and only 5 km from the main highway, was well supplied with fresh water making it a strategically important centre, L. E. Stager (et al.), *Ashkelon I*, 3.

211 That vessels could be equipped with cooking facilities, such as a kitchen tender where food could be stored and cooked, is noted with the model boat from the Theban tomb of Meketre, see: J. Wells, *War in Ancient Egypt*, 79. Nonetheless, logistical considerations would still have been a major issue for the sea voyage.


213 The transportation of large numbers of horses over extended distances posed many difficulties: sufficient shipping was required (for comparison, crusader vessels could generally carry around 20 horses although this number varied depending on the vessel); the horses needed to be adequately provisioned (although being at rest, they would have required less rations); embarking and disembarking could be an issue unless there were suitable port facilities at both ends, and while amphibious operations with horses could be carried out, specialised (oar powered) vessels were required; and time for the horses to recover from the journey may also have been required, see: R. Gertwagen, “Harbours and facilities along the eastern Mediterranean sea lanes to Outremer”, in *Logistics of Warfare in the Age of the Crusades: Proceedings of a Workshop held at the Centre for Medieval Studies, University of Sydney, 30 September to 4 October 2002.*, J. H. Pryor (ed.), (Aldershot, 2006), 95-101; and J. H. Pryor, “Transportation of horses by sea during the era of the Crusades: eighth century to 1285 AD (Part II:1228-1285)”, *Mariner’s Mirror* 68 (1982), 103-7. Hamblin considers such logistic difficulties would have precluded the Fatimids from engaging in amphibious operations. The transportation by sea of a sizeable cavalry force alone (2,000 horses) would have required 50 vessels (using larger capacity horse transports capable of carrying 40 animals per vessel). Furthermore, additional shipping would have been needed for the remainder of the army, W. J. Hamblin, *The Fatimid Army during the Early Crusades*, 227-8.

214 W. J. Hamblin, *The Fatimid Army during the Early Crusades*, 228-9. The Tale of the Shipwrecked Sailor may include a cautionary tale regarding sea travel. Our hero was the sole survivor of a crew of 120 sailors, M. Lichtheim, *Ancient Egyptian Literature* I, 212. Such a sudden loss of so many skilled
have noted above, the optimum times for sailing to and from Asia were during the
summer to early winter months. Sudden and violent storms from late December to
January would have made sailing extremely hazardous. The loss of just one ship
(from our theoretical fleet of 40 vessels) carrying even only 150 soldiers plus crew as
well as equipment would have been devastating.\footnote{215}

Despite these disadvantages, naval operations played an important part in the
projection of Egyptian military force for a great part of their history. In particular,
from the evidence, we can clearly note that Egyptian naval activity tended to fall
either in open sea or riverine amphibious operations. One of the earliest examples of
the former was the expedition undertaken by Weni during Dynasty VI.\footnote{216} This was
primarily an operation involving the temporary insertion of Egyptian troops into a
specific geographical locality in order to engage some rebels.\footnote{217} The nature of the
attack(s) appears to have been nothing more than a raid or \textit{expedition chevauchée}.
Indeed, at this early period, the Egyptians had neither the inclination nor military
ability to achieve any kind of permanent occupation in Asia. Rather, more emphasis
appears to have been placed in trade interactions. This state of affairs appears to
continue into the Middle Kingdom, although in an inscription dated to the reign of
Amenemhet II, we are provided with a tantalising glimpse of Egyptian land and
seaborne military activity.\footnote{218} The inscription records no fewer than four separate

\footnote{215} If we use the casualty figures from Peter Krentz’s “Casualties in Hoplite Battles”, \textit{Greek, Roman, and Byzantine Studies} 26 (1985), 355 as a guide, winners in combat suffered on average 5% casualties whereas losers suffered on average 14%. A loss of just one vessel and the deaths of say 100 soldiers from a total force of 1,000 would have amounted to a staggering 10%. This was not an insignificant number.

\footnote{216} \textit{Urk} I, 104.12-105.4.

\footnote{217} Aharoni believes the Egyptians may have landed their amphibious force at the Plain of Akko north of the Carmel range (the Nose of the Gazelle’s Head), see: Y. Aharoni, \textit{The Land of the Bible}, 135-7. But see also the alternative suggestion of Sarah Parcak who notes this location may in fact be a mountain near the Red Sea near the El-Markha Plain, “Egypt’s Old Kingdom ‘Empire’ (?)”, 54 and note 28.

\footnote{218} For this inscription, see: S. Farag, “Une Inscription Memphite de la XIIe Dynastie”, \textit{RdE} 32 (1980), 75-82; H. Altenmüller and A. Moussa, “Die Inschrift Amenemhets II. Aus dem Ptah Tempel von Memphis. Ein Vorbericht”, \textit{SAK} 18 (1991), 1-48; S. Cohen, \textit{Canaanites, Chronologies, and
military expeditions of which at least three, if not all four, appear to have been seaborne.\textsuperscript{219} For the first expedition, mention is made of the army being sent to the Lebanese coast (\textit{hnty-š}) and returning in two vessels (\textit{dpt} ships).\textsuperscript{220} Assuming a maximum of 120 soldier sailors per vessel, the entire force would have numbered only 240 (and may have been considerably less).\textsuperscript{221} The second expedition was sent to “hack up” \textit{Twš}, while the third expedition appears to have been a naval raiding expedition directed against the towns of \textit{Twšy} and \textit{Tšsy}. If the latter locality was indeed Cyprus, this would indicate the Egyptian navy had an extensive strategic reach.\textsuperscript{222} This is further confirmed by the recent discovery at Dahshur of a number of fragments from a Mastaba belonging to an official named Khnumhotep.\textsuperscript{223} The fragments indicate that the Egyptians had military and trade interests in Asia extending as far north as Ullaza (\textit{wšlf}).\textsuperscript{224}

For the New Kingdom, seaborne expeditions are (circumstantially) alluded to during the reign of Thutmose III. In addition to his land based activities, this king appears to have shipped his army to Asia on a number of occasions although it must

\textsuperscript{219} Difficulties over one of the toponyms in this text have led to some uncertainty as to the exact number of expeditions, E. S. Marcus, “Amenemhet II and the Sea”, 137-90. For the text, see: J. Malek and S. Quirke, “Memphis, 1991: Epigraphy”, \textit{JEA} 78 (1992), 13-8.

\textsuperscript{220} The number of ships sent has been the subject of some debate with estimates ranging from one vessel to as many as ten: E. S. Marcus, “Amenemhet II and the Sea”, 144 note 15; and H. Goedicke, “Egyptian Military Actions”, 90 and note 11.

\textsuperscript{221} Ten ships on the other hand would have been capable of transporting a force of 1200 troops. See also W. Hamblin, \textit{Warfare in the Ancient Near East}, 399 who adheres to the view that ten vessels took part in this expedition and estimated the force numbered less than 1,000.

\textsuperscript{222} This journey could be made in seven days (one way) in a heavily laden cargo vessel: T. Brako, \textit{The Seaborne Migration}, 148. See, however, the discussion in E. Marcus, “Amenemhet II and the Sea”, 146-8.


\textsuperscript{224} Egyptian influence did not, however, extend to include Byblos (70 km to the south) which appears to have remained independent at this time, J. Allen, “The Historical Inscription of Khnumhotep”, 34-7. The fragments also make brief reference to a land military expedition with the goal of reaching the “battlefield” (\textit{hr pgšt}). This may be a reference to the Asiatic campaign in which Khusobek participated, \textit{ibid.}, 36.
be stressed that this is not specifically stated in his textual accounts. This assumption is based on, among other things, the king’s “sudden appearance” in either Djahy or Retenu from Year 29 onwards, the preparation and provisioning of harbours for the army’s (specifically mentioned) northward and southern journeys, commandeering vessels in foreign ports, and the lack of any indication or mention of a land march to or from Syria via the Sinai and Palestine. As the Asiatic campaigns of Thutmose III from Year 29 were all directed against Syria and (the even more distant) Mitanni, it does make strategic and operational sense that the army was sent by sea to either Byblos or to a more northerly located port, providing of course that there was sufficient shipping available. Byblos would have served as an ideal operational base which may have been supplemented by additional harbour cities (or forward bases) further to the north.

Seaborne activity notably decreases, however, after this period. Säve-Söderbergh believed this to have been due to the decline of the Egyptian navy and the increase in opposition on the open seas. Indeed, their inability, for example, to intercept Sea Peoples’ vessels before they were able to reach Libya and Asia does testify to limitations with respect to their operational “reach”. Yet, it is doubtful whether the Egyptian navy was really that powerful to begin with. Apart from

---

225 The presence (or absence) of the boat determinative is of little assistance in determining the nature of a particular expedition, see: D. Redford, *The Wars in Syria*, 204 note 14; and alternatively, E. Morris, *The Architecture of Imperialism*, 123; and H. Goedicke, “Egyptian Military Actions”, 94.

226 *Urk IV*, 685.3-733.7; E. Morris, *The Architecture of Imperialism*, 122; and T. Säve-Söderbergh, *The Navy of the Eighteenth Egyptian Dynasty*, 34-5. For the provisioning of the harbours see Chapters III and IV (contrary to popular belief, the provisions were likely all obtained locally and not sent from Egypt). Foreign vessels, to be used for the transportation of booty, were captured during his fifth campaign (Year 29). The utilisation of foreign shipping is also mentioned during the campaign of Year 34.

227 The importance of these ports could vary depending on the political situation at the time. During the Amarna period, for example, it appears that the port of Beirut assumed greater importance than Byblos. Beirut may have been the most northernmost port that Egyptian vessels could sail to nonstop. J. C. Darnell and C. Manassa, *Tutankhamun’s Armies*, 164. Other ports in this region at this time were either easily vulnerable to hostile takeover (Ugarit) or were expendable. Geographical factors also made these northern ports not particularly desirable, *ibid.*, 164 and Chapter III.

228 T. Säve-Söderbergh, *The Navy of the Eighteenth Egyptian Dynasty*, 62 and 69-70. It is also possible that Amenhotep II may have utilised naval transportation in part for the return portion of his campaigns of Years 7 and 9 as the final destination of Memphis is mentioned in the textual accounts of both these military actions, and in fact, the Year 9 text specifically mentions the naval dockyard of Peru-nefer, see the comments of: *ibid.*, 38 and W. Helck, *Die Beziehungen Ägyptens*, 160. Furthermore, from the now destroyed temple of Tutankhamun, it appears that the Egyptian army returned to Egypt by ship, and not by land, following their Asiatic campaign, W. R. Johnson, *An Asiatic Battle Scene*, 76-9.
transporting troops, and their use in conducting amphibious assaults, Egyptian vessels are rarely seen in action against enemy vessels. The most notable exception is of course the celebrated naval battle against the Sea Peoples which occurred in Year 8 of the reign of Ramesses III. But even then, the Egyptian vessels are depicted as operating in conjunction with the land forces. No doubt both elements were providing each other with valuable support. At the tactical level, their main offensive weapon, as depicted in the battle scene, was the bow and while it was possible that ramming and boarding could also have been relied upon, these tactics were not without their difficulties. From an operational perspective, naval ships did not have the same impact as the chariot. Unlike the latter for instance, they were not or could not be utilised in order to engage the enemy forces before they could prepare for battle and nor were they truly able to operate independently or separately from the army to achieve strategic level results. It is clear that from Dynasty XIX onwards (and perhaps earlier), the navy took second place to the army. Its decline in importance was likely the result of a number of key factors, and not just an increase in opposition on the high seas. We will examine these factors at the conclusion of this section.

The second type of naval operation commonly conducted by the Egyptians was through their utilisation of rivers. Without doubt, rivers played an important role in war. At the most fundamental level, they could either inhibit military activity or enhance it depending on the circumstances of the conflict, the operational abilities of the opposing armies, and the nature of the river itself. In other words, rivers could be viewed as either boundaries or natural highways. They could, for example, be

229 The Fatimids, for example, actively used their fleet to assist their land armies in Palestine and as such the seaports were of considerable importance. Once they had lost most of these ports their ability to influence events in this region was greatly curtailed, J. C. Darnell and C. Manassa, *Tutankhamun’s Armies*, 163-4.

230 For a useful recent commentary on this battle see: S. Wachsmann, “To the Sea of the Philistines”, 103-43.

231 As part of his defensive measures, Ramesses III set up a stockade of lances on the banks of the canal to prevent the Sea People’s vessels from landing troops on land, A. Spalinger, *War*, 254.

232 Regarding this “boundary” versus “highway” argument, while Clausewitz noted that rivers that ran parallel to the frontline tended to fall into the former category whereas those that ran at right angles fell more into the latter, *On War*, 445-6, this was not always so clear cut. The Romans, for example, tended to view rivers in terms of highways. Rather than setting up bases on or near rivers because of their strategic defensive value, they valued rivers more for the fact it allowed large quantities of supplies to be transported (cheaply) to their distant outposts, J. Roth, *Logistics*, 190 and 196-7. See also the comments of E. Wheeler, “Methodological Limits and the Mirage of Roman Strategy: Part I”, *Journal of Military History* 57 (1993), 24-6; and A. C. Bertrand, “Stumbling through Gaul”, 119. In fact, even
utilised for the transportation of soldiers and materiāl along their course, thus facilitating supply and movement, alternatively it may be found necessary to cross a number of rivers each having only a small number of key crossing points.\textsuperscript{233}

With respect to Egyptian operations in Asia, despite the numerous rivers in this theatre, we have already noted in Chapter III that many of them were generally not navigable for extended stretches, and therefore were unsuitable for military use. As such, the Egyptians may have perceived certain rivers to have been formidable natural barriers that once overcome, was a deed worthy of mention. This is indicated, for example, in such explicit statements as made by Amenhotep II who proudly states crossing the Orontes during his Year 7 campaign.\textsuperscript{234} A greater military achievement, however, was reaching (and crossing) the Euphrates an even more formidable obstacle.\textsuperscript{235} Indeed, on one occasion, the Egyptians appeared to have had to go to extraordinary lengths in order to cross this river. For the campaign in question (Year 33 of Thutmose III), the Egyptian king had boats specially constructed near Byblos which were then pulled overland in ox carts for their use on the Euphrates.\textsuperscript{236}

Clausewitz, who describes the defensive value of rivers in some detail, notes that they are not always the formidable barrier that one may think, \textit{On War}, 433-46 and 532-4.

\textsuperscript{233} The geography of Virginia during the American Civil War, for example, favoured the defender as it featured a number of formidable rivers (Potomac, Rappahannock, Rapidan, Mattaponi, North Anna, Pamunkey, and Chickahominy) which served to separate Washington from Richmond, J. Brauer and H. Van Tuyll, \textit{Castles, Battles, & Bombs}, 161-2. In such situations, this would make certain cities close to fords particularly decisive as was the Asiatic city of Beth Shan. See also Chapter VI: \textit{Decisive Points}.

\textsuperscript{234} \textit{Urk} IV, 1302.7-8 (Memphis).

\textsuperscript{235} This was accomplished by Thutmose I (\textit{Urk} IV, 697.3-5) and Thutmose III (\textit{Urk} IV, 587.13-15 and \textit{Urk} IV, 613.8-11), Both kings left stelae in the region to commemorate their achievements: \textit{Urk} IV, 697.3-5 (for Thutmose I); and \textit{Urk} IV, 697.3-5 and \textit{Urk} IV, 1232.11-12 (for Thutmose III). The Euphrates, following Clausewitz’s argument above, would have been viewed especially as a significant barrier considering the Egyptians would have advanced against it at a right angle. The idea of a river serving as a natural (and almost symbolic) barrier is well established in military lore, see: D. Redford, \textit{The Wars in Syria"}, 106 note 20 for some pertinent examples regarding this point. One of the more famous instances was possibly Caesar crossing the Rhine to prove to the Germans that this river did not mark the limit of Roman power (\textit{populi Romani imperium Rheni finire}), A. C. Bertrand, “Stumbling through Gaul”, 115-6. Indeed, there is no denying that in addition to serving as important arteries of communication, rivers made effective (natural) frontiers and as such could require a degree of fortification differing from what was needed to secure a land frontier, see D. Breeze, “Regiments and Frontiers”, 73-4.

\textsuperscript{236} \textit{Urk} IV, 1232.1-6.
Riverine operations assumed their greatest importance in Nubia as control of the Nile was essential to military success. Even so, we have already noted that travel on the Nile in Nubia was restricted to certain times of the year, with the period when the Nile was at its greatest height the most ideal time to set sail. Riverine operations recommenced in Nubia following the collapse of the Old Kingdom as early as the reign of King Mentuhotep Nebhepetre who sailed upstream possibly as far as Buhen and beyond on a expedition of recruitment and conquest. A more extensive expedition, however, was undertaken during the reign of Amenemhet I, when the official Khnumhotep I sailed with that king and a fleet of twenty ships. That vessels were utilised at all is not our main concern. Rather it is how they were used in military operations that is of most interest. One of the first significant amphibious attacks was that launched by Sesostris I. In this operation, it is quite likely that the fleet broke through into the Dongola reach and traversed much if not all of it (i.e. to the Fourth Cataract) inflicting considerable damage to the riverine communities. A damaged description of the campaign is found on a stela from Buhen along with a reference in the biography of Amenemhet of Beni Hasan. In the latter account, Amenemhet states that “he passed Kush, sailing southwards and reached the end of the earth”. Our first real details concerning Egyptian naval operations in Nubia, however, are found in the informative inscription of the Vizier Intefiker from Wadi el-Girgawi. In this inscription, which recounts the Nubian campaign of Sesostris I, Intefiker recalls the slaying of Nubians by the shore, during the voyage upstream, in addition to engaging in acts of logistic destruction, while sailing downstream. This appears to have been the standard practice for operations in Nubia. Soldiers could be disembarked and

237 The Nubian forts, for example, were all accessible to Egyptian ships, B. Williams, “Serra East”, 445 note 37.

238 D. O’Connor, “The Locations of Yam and Kush”, 48-9; W. Schenkel, Memphis, Heracleopolis, Theben, 274-5; and J. Darnell, “The Rock Inscriptions of Tjhemau”, 33-9. Darnell adds that the enlistment of Nubian troops was vital for further southern expansion, ibid., 39.

239 J. Wells, War in Ancient Egypt, 77-80. Half this number of vessels were utilised for one of the Asiatic campaigns of Amenemhet II.


241 P. Newberry, Beni Hasan I, pl. 8 (“lines” 6-7), and for translation, ibid., 25; and D. O’Connor, “The Locations of Yam and Kush”, 48-9 and note 120.

embarked a number of times (on either side of the Nile) during the course of a single campaign. As we will see in Chapter VI, this appears to have been nothing more than an extension of the type of riverine warfare practiced by the Egyptians during their reunification wars.\textsuperscript{243} The campaigns to expel the Hyksos, for example, were heavily reliant on shipping for not only the transportation of soldiers, but also for launching amphibious operations against their enemies including their shipping.\textsuperscript{244} The Upper Nubians, for their part, appear also to have realised the importance of the Nile River for campaigning in Kush and may have attempted to build up their own fleet to challenge Egyptian supremacy, or at the very least, halt any further southward expansion.\textsuperscript{245}

The reconquest of Nubia during the New Kingdom again relied primarily on amphibious operations yet we are only provided with the bare minimum of details. Kamose, Ahmose, and Thutmose I, all conducted amphibious operations in Nubia. The campaigns of Thutmose I, which effectively destroyed the power of Kerma, are, however, only referred to in general, although some detail is provided with respect to the difficulties associated with passing the cataracts.\textsuperscript{246} It is not until the reign of Thutmose IV that we are provided with greater information concerning operational level activities. This king campaigned at least once against the Nubians in Year 7/8 as recorded in an inscription from Konosso.\textsuperscript{247} This expedition, which was aimed at destroying a rebellion that was forming in the south, was clearly to be an amphibious operation as the king was accompanied by his army including a contingent of chariots.

\textsuperscript{243} Aspects of some of these military operations are covered in Chapter VI: Other Military Commanders.

\textsuperscript{244} Kamose’s fleet flew over the water “like a falcon” when moving against the Hyksos. This has been interpreted as indicating not the disposition of the fleet but rather the speed of their attack. The ships likely sailed in single file with the king’s vessel in the lead taking advantage of the river current, see the discussion of J. Darnell, “Two Sieges”, 91-3.

\textsuperscript{245} As suggested by David O’Connor, “The Locations of Yam and Kush”, 48-9 and note 121. In order to successfully conduct their military campaigns in Nubia, both Sesostris I and Sesostris III depended upon unchallenged control of the river throughout the Dongola reach. The heavily fortified Second Cataract region, on the other hand, would have served to guard against any threat of a Nubian counter offensive.

\textsuperscript{246} \textit{Urk} IV, 8.4-10.

\textsuperscript{247} \textit{Urk} IV, 1545.4-1548.5; and B. Bryan, \textit{The Reign of Thutmose IV}, 332. Another inscription, dated to Year 7 on that same island may refer to a separate expedition undertaken by that king, \textit{Urk} IV, 1555.11-1556.3.
and horses. At some point, the army disembarked and proceeded into the Eastern Desert in order to seek out the enemy who were apparently taking refuge in a valley of sorts. As argued by Bryan, this appears to have been only a minor operation, possibly little more than a police action. It took place somewhere within the borders of Ta-Sety and was likely undertaken in response to the threat posed to Egypt’s gold routes. While the Nubian campaign of Amenhotep III (Year 5) is unfortunately devoid of detailed information, as are the military actions that took place during the reigns of Akhenaten and Tutankhamun, it is clear that amphibious riverine operations continued to be relied upon for the remainder of Dynasty XVIII and also Dynasty XIX. Even with the extension of Egyptian control to Kurgus and the subsequent opening up of numerous alternative land routes, naval operations continued to remain a preferred means of conducting war in this theatre.

An Operational Shift

As we have seen from our discussion above, it is clear that naval operations played a major part in foreign and domestic military activity at the operational level for a considerable period of pharaonic history. The importance of the navy is further reflected in the maritime titles of military personnel as noted in certain early Dynasty XVIII autobiographies of private soldiers. Yet it is also around this time, that we begin to note an increased reliance on land based operations.

Conducting operations that are solely land based solved some of the issues faced by a maritime force, but also posed their own set of unique advantages and disadvantages. On the negative side, it took considerably longer for an army to enter into the theatre and to manoeuvre within it. This was especially the case for land operations conducted in Asia. We have already proven that the speed of the army was

---

248 On this note, one is reminded of the Tutankhamun fragments and the contemporary Luxor Temple Opet reliefs where we see running Egyptian soldiers flanking a barge, W. R. Johnson, An Asiatic Battle Scene, 78-9.

249 B. Bryan, The Reign of Thutmose IV, 335.

250 The fragments from the destroyed temple of Tutankhamun, nevertheless, depicted a great military water procession returning to Egypt which paralleled a similar scene celebrating the army’s return from Asia, W. R. Johnson, An Asiatic Battle Scene, 76-81.

251 See, for example, the account of Ahmose son of Ebana, Urk IV, 1.16.
likely around 4 kph and that a land journey (under optimum conditions) would have taken at least one month to reach, for example, the vicinity of Qadesh. There were also a number of geographical obstacles that impeded land based movement. The mountainous regions, in particular, posed an insoluble problem for the Egyptians as they appeared to have been operationally restricted to the lowland regions. They either did not possess the ability or the inclination to expand their influence into the hill country. As a result, these areas were able to be utilised by potential trouble makers of which the Apiru feature most prominently (see above). As well as the high altitude regions, the desert areas were another problem area for the Egyptians. The combination of these geographical features (hill regions, deserts, natural “chock points” and rivers) ensured that certain localities scattered throughout this strategic theatre would become decisive points of which control over would become a vital prerequisite for military success. The distinct advantages of land based operations, on the other hand, lay in the fact that an army of considerable size could be sent into the strategic theatre provided it was accompanied by either an ample baggage train or had access to sufficient supplies within the theatre. This solved one of the major disadvantages of naval operations with respect to the Asiatic theatre. An army that was not tied exclusively to port cities could penetrate quite deeply into the region.

Prior to the New Kingdom period, however, we possess little information regarding the land based activity of pharaonic armies in Asia. From the evidence we have already looked at, military operations tended to be a predominantly naval affair with troops inserted at specific locations when and where needed. It was only following the expulsion of the Hyksos by Ahmose that this begins to change. The (re)capture of Tjaru, the capture of Gaza, and the complete destruction of the Hyksos following the three year siege of Sharuhen secured for the Egyptians not only the important land bridge to Asia but also a permanent albeit tentative foothold in southern Palestine. Even so, early New Kingdom excursions into Asia still tended to rely on the navy. One of the first major campaigns to deeply penetrate into Asia was conducted by Thutmose I who was able to reach the Euphrates apparently with

\[252\] See our discussion above: Force.

\[253\] For aspects of these military operations, see the Autobiography of Ahmose son of Ebana: Urk IV, 3.2-5.2.
very little difficulty (see Chapter IV). While this king likely relied on shipping to reach Syria, the land portion of this campaign was nonetheless impressive. This is especially so as the Egyptians were campaigning into terra incognita. The utilisation of both types of operations, “land” and “naval”, within a single campaign was theoretically at least, the most ideal way of waging war in this theatre given the nature of its geography and the “northern” disposition of the major hostile forces. In fact, it was not until the reign of Thutmose III that we find our first definitive “true” land campaign. The major rebellion which prompted this military action proved just how tentative Egypt’s foothold was in Asia. Egyptian garrisons were expelled and a not too insignificant portion of Egypt’s Asiatic possessions went over to the rebels. The Egyptian response, which did not include the use of shipping, was likely dictated by the fact that the centre of the rebellion (Megiddo) was located somewhat further south, and thus could be reached more easily by land than via one of the northern Syrian ports. The Egyptians may also have felt it necessary to send a larger than usual force to deal with the rebels. But is it really just coincidence that the first true land campaign took place in these circumstances? Because of this major rebellion, the former provisioning option of relying on the locals to supply the bulk of the Egyptian army’s requirements may now have been impossible. As a result, Thutmose’s army had to supply itself. The victory, and subsequent restoration of Egyptian influence, may have then allowed for a return to the former way of campaigning, although not to the extent that was enjoyed by Thutmose I.

Regardless of the difficulties associated in conducting these purer land offensives, they do, nonetheless, become progressively more common during the course of the New Kingdom. Once the tie to their ships had been severed whether voluntarily or through basic necessity (see our discussion below), the Egyptian army evolved into a considerably different beast than its maritime dependent forbearer. The campaigns of Thutmose III marked in many ways a key transitional phase. This king appears to have effectively utilised both naval and land based operations within the course of his campaigning in order to achieve his military objectives. But even in these campaigns, the naval element was relegated to the transportation of troops and materiāl to and from the strategic theatre. By the reign of Sety I, it appears that all

254 Urk IV, 697.3-5.
255 Urk IV, 647.12-648.7.
campaigns were now being conducted entirely on land and one need, for example, only note the accession of the massive military complex of Tjaru (by Dynasty XIX) over the Dynasty XVIII Egyptian naval base of Peru-nefer to confirm this fact.\textsuperscript{256}

Land based operations within the Nubian theatre, on the other hand, were considerably more difficult to carry out than in Asia, hence the continued reliance noted above on riverine operations. Once the army had disembarked from their vessels and moved any significant distance away from the Nile, their operational ability would have been restricted to suitable desert routes and the availability of sufficient water sources. Yet such excursions were, nonetheless, important for striking at hostile elements away from the river, as well as engaging in more peaceful activities (accessing resources, conducting trade, and circumventing the more dangerous parts of the Nile for example). The use of land routes in Nubia appears to have been more important in the New Kingdom than in the Middle Kingdom.\textsuperscript{257} Whether this was a reflection of the general movement away from sea and riverborne military operations (or at the very least their supplementing) to land based operations, as the capabilities on the Egyptians improved in this area, is difficult to say. The army may have been now in a position to overcome logistical restrictions which could have impeded operations in earlier periods.\textsuperscript{258}

The Libyan theatre, due to its geography, meant that unlike with the other two theatres, naval transportation appears not to have been a factor here at all. That is, we do not possess any evidence that seaborne operations were conducted along the Libyan coast other than with the possible exception of anti piracy sweeps. This theatre, therefore, saw the heaviest and longest reliance on land based operations, and this is confirmed by some of the earliest accounts of Egyptian military incursions into this theatre.\textsuperscript{259} The restrictive nature of this theatre appears to have posed very real

\textsuperscript{256} See also our comments in Chapter IV. It appears that Tell el-Dab’a continued to be occupied at least for the first half of Dynasty XVIII, M. Bietak, “The Center of Hyksos Rule”, 124-5. Following which the site appears to decline in importance before recovering somewhat under Horemhab, M. Bietak, “The Tuthmoside stronghold of Perunefer”, 17.

\textsuperscript{257} See Chapter III: \textit{Nubia}.

\textsuperscript{258} That is not to say the Egyptians were incapable of striking out into the desert in large numbers. Their massive Middle and New Kingdom expeditions into the Wadi Hammamat are a testament to their logistic abilities, see our comments in Chapter III: \textit{Supply Trains}.

\textsuperscript{259} Fragments from the mortuary temple of Sahure, for example, point to Egyptian activity at a very early period within this region in order to exploit the few viable resources, such as cattle, see: A. Spalinger, “Some Notes on the Libyans” 132-6. The expedition of Sesostris I (while he was still
limitations on Egypt’s ability to move military forces into and within this region. In addition, permanent military occupation within this region likewise appears not to have been substantial or prolonged.\textsuperscript{260} By Dynasty XIX, however, there is a notable change in Egyptian involvement with the construction of a series of fortresses along the Mediterranean coast. As possibly also seen with Nubia, whether this may have been in some way linked to a general movement away from naval to land based operations is difficult to say. On the one hand, as Egyptian land operations increased in proficiency, they would have been in a better position to make inroads into previously inaccessible regions such as with their line of fortresses constructed along the coast. This was in itself an unprecedented move. On the other hand, Libya still did not possess any major economic incentives to justify deep campaigning. Rather, the fortresses were likely erected in part to serve as a tripwire against what must have been a noticeable increase of pressure from the west.\textsuperscript{261} The move to a land based army, however, would have placed the Egyptians in a better position to deal with attacks from this vector, when they did come, and it is unlikely the Egyptians would have been as successful as they were if they were still tied to their vessels.\textsuperscript{262} Taken as a whole, the accounts of military campaigning in Libya are notable for their rarity and for the fact that they lack the detail found in the records of Egypt’s military actions in their other two theatres. Indeed it is not until the Year 5 Libyan invasion during the reign of Merenptah that we are provided with our first substantial record although admittedly, most of the action does take place near the Nile.\textsuperscript{263} While it is clear that the military expeditions were undertaken into this region, and that they were most likely all land based, we are provided with virtually no information with respect to detailed operational level manoeuvring. This would seem to indicate a number of

\begin{flushleft}
\textsuperscript{260} As Warburton rightly noted, and with reference to the adventures of Erwin Rommel and T. E. Lawrence, “territorial control in the desert is an illusion”, D. Warburton, \textit{Egypt and the Near East}, 154-5.

\textsuperscript{261} See Chapter IV: \textit{The Logistics Network in Libya}.

\textsuperscript{262} For example, during Merenptah’s Year 5 battle, a heavy reliance was placed on the light infantry (the archers), and the Egyptians were only able to defeat their opponent after a six hour \textit{land} battle, C. Manassa \textit{The Great Karnak Inscription}, 91-4 and 103-7.

\textsuperscript{263} Colleen Manassa has, however, has attempted to reconstruct in detail the Libyan advance on Egypt prior to the actual battle, \textit{ibid.}, 94-103.
\end{flushleft}
important points. First, geographical and spatial factors mitigated against extensive or elaborate campaigning (and thus negated the need for detailed textual descriptions). Second, the lack of indigenous logistic infrastructure likewise impacted greatly on military operations. Third, there was a distinct lack of economic (and ideological) incentive to regularly penetrate into this region (campaigning as a result was therefore rare and irregular). Libya was for most of its history a third rate theatre in the eyes of the Egyptians. It was only with the increased pressures that led to the invasions of Dynasty XIX and XX that its importance was elevated to a point where detailed accounts are finally provided. But as we have already mentioned above, military operations are primarily taking place in and around the Nile rather than in Libya proper. Clearly the activity that was occurring here was not the cause for this operational shift.

Nonetheless, it is clear that from mid Dynasty onwards there is a definite shift in Egyptian operations to land based activity. Why the change? The answer is to be found in the Asiatic theatre. The reason why Egyptian campaigns into Asia were able to rely on shipping initially was most likely due to the smaller size of the expeditions and, once on land, the fact supplies were easily obtained (freely or by force) from the local population. Therefore, campaigns away from the port cities were possible. These military actions, which were little more than raids, however, had no lasting effect and as resistance hardened to these incursions, it became increasingly difficult, if not dangerous, to continue with sending small sized expeditions into this theatre. Furthermore, if there was to be any serious attempt at territorial acquisition, and if Egypt was to confront the military forces of other superpowers in the region on a more or less equal footing, it was necessary for them to send more powerful military forces armed with the latest weaponry.

We have noted already that one of the most measurable indicators of combat power was the chariot. That the chariot had a significant impact on warfare at both the operational and tactical levels is beyond dispute, and in order to compete with opponents armed with this weapon, the Egyptians likewise needed to employ them and this posed certain problems. From a logistical point of view, there was at this

\[\text{264 On the economic aspect, see however, our comments in Chapter IV: The Logistics Network in Libya; in addition to C. Manassa, The Great Karnak Inscription, 85-8.}\]

\[\text{265 For example, the expeditionary force sent by Horemhab to help support a rebellion in Syria against the Hittites. This force was defeated: J. Miller, “The Rebellion of Hatti’s Syrian vassals”, 533-54.}\]
stage no infrastructure or system of supply in place to support a military force that was to be chariot dependent. Egyptian shipping, in particular, may have been sufficient enough to send small numbers of chariots and horses by sea, but not in the quantities needed for a major campaign. Given also the value of this weapon in conjunction with the general weakness of the Egyptian navy, it would not have bided well for a ship to be lost carrying this expensive piece of weaponry (and its horses). The other major factor, however, necessitating a shift away from the navy was the general increase in the size of the infantry component of the army. While military expeditions into Asia during the Middle Kingdom and most of Dynasty XVIII could be transported by ships, a theoretical twenty-fold increase by Dynasty XIX from the earlier Middle Kingdom expeditions simply meant that this was now no longer possible. To transport even just one Egyptian division (excluding its chariots, oxen, and donkeys) may have required 40-50 vessels. In the new strategic environment, battles could only be fought and won on land with armies possessing significant combat power. No longer would intermittent amphibious attacks against coastal targets be sufficient to achieve military success in this region.

One solution to this dilemma may have been for the Egyptians to construct more vessels, yet this may not have been possible for the simple fact that Egypt lacked sufficient indigenous sources of suitable wood.266 This alone may have provided a strong impetus to change from a predominantly naval reliant military to a land based army. Suitable wood had to be obtained from areas that were only at times under nominal Egyptian control.267 Egypt was, therefore, relatively energy starved and heavily dependent upon either “foreign imports” or direct exploitation of this

---

266 On this problem, see especially: R. Said, “The role of the desert”, 18-20. For an excellent overview of the types of wood used in Egypt and their sources, see: R. Gale (et al.), “Wood”, 334-71. Generally, while there were a number of indigenous sources of wood that were utilised for the manufacturing of weapons and in other military related industries (arrow, spear, chariot part and ship building), Egypt was still reliant on foreign imports, primarily from Asia and to a lesser extent, Africa, to meet many of its military as well as non military demands. As Sarah Parcak noted “Ancient economies relied upon the collection and redispersal of natural resources, which forced them to turn to peripheral regions for supplementary resources when their indigenous resources were either low or depleted, “Egypt’s Old Kingdom ‘Empire’ (?)”, 43.

267 In the battle reliefs of Sety I, for example, one scene depicts Lebanese princes preparing timber to be used for the river barge and flagstaffs of Amun, *R IK* IV, 28-34 and pl. 10. An inscription from the reign of Amenhotep III likewise makes reference to the acquisition of cedar wood from the mountains of Retenu (for non military purposes), *Urk* IV, 1652.14-16.
material to meet their military and industrial needs.\textsuperscript{268} The Palermo Stone, for example, notes that even as early as Dynasty III (during the reign of Snefru), 40 ships were used on one occasion to bring timber to Egypt.\textsuperscript{269} Henu, in addition to his exploits in the Wadi Hammamat, also travelled to Syria to procure wood for shipbuilding.\textsuperscript{270} In the Middle Kingdom we gain a clearer indication of the quantity of wood imported into Egypt. From the reign of Amenemhet II and in one delivery alone, two vessels brought in 231 trunks of cedar (\textdegree S).\textsuperscript{271} Whereas from the Dahshur fragments of Khnumhotep, we learn that Egypt was acquiring cedar from as far north as Ullaza.\textsuperscript{272} By the New Kingdom, the transportation of wood alone must have seriously tied up shipping (if Egyptian vessels were indeed utilised in this role) thus exasperating further Egypt’s naval problems. It is especially curious to note that plants and wood products feature prominently in the final columns of the first part (according to Redford) of the Daybook excerpts of Thutmose III.\textsuperscript{273} Wood continues

\textsuperscript{268} Although, demand for wood could outstrip supply, D. Warburton, \textit{Egypt and the Near East}, 20. In fact, Egypt’s situation was not too dissimilar to that faced by other superpowers of more recent times. The Japanese Empire during the 20\textsuperscript{th} century, for example, was dependant on petroleum imports prior to and during the Second World War. In the case of Egypt, Said goes so far as to say that it was a lack of wood which led to an energy crisis which in turn resulted in the fall of Ancient Egypt, R. Said, “The role of the desert”, 7-22.

\textsuperscript{269} E. P. Mellado, “Trade of Metals between Egypt and Other Countries from the Old until the New Kingdom”, \textit{CdE} 81 (2006), 7. The wood, in this case, was cedar which was valued for the construction of ships as well as for doors for important buildings. Cedar of Lebanon (\textit{Cedrus libani}) had straight fine grain which allowed for high quality planks of considerable length to be made and it was likely that this is the wood mentioned in the New Kingdom shipyard records preserved at the British Museum, see R. Gale (\textit{et al.}), “Wood”, 367. The importance of the acquisition of timber may further be noted in that we even have evidence for an official entitled the “Director of the pine expeditions”. E. P. Mellado, “Trade of Metals”, 7. During periods of strife, such expeditions appeared to have come to a halt, which may have led to shortages, \textit{ibid.}, 9.

\textsuperscript{270} For Henu’s Wadi Hammamat expedition, see Chapter III: \textit{Water}. For his Asiatic travels, see: W. C. Hayes, “Career of the Great Steward Henenu under Nebhepetrê Mentuhotpe”, \textit{JEA} 35 (1949), 49.

\textsuperscript{271} On the estimated weight and volume of this cargo along with its potential industrial use in shipbuilding see E. Marcus, “Amenemhet II and the Sea”, 152 and 174 respectively.

\textsuperscript{272} J. Allen, “The Historical Inscription of Khnumhotep”, 33. One of the most important cities for the acquisition of wood was Byblos, located further to the south, see: M. W. Mikesell, “The Deforestation of Mount Lebanon”, \textit{The Geographical Review} 59 (1969), 12; D. Warburton, \textit{Egypt and the Near East}, 54.

\textsuperscript{273} D. Redford, \textit{The Wars in Syria}, 52. In addition, among the acquisitions of Thutmose’s second campaign were plants from Retenu, \textit{ibid.}, 213. Hatshepsut also ensured plant-collecting was undertaken during the expeditions to Punt, D. M. Dixon, “The Transplantation of Punt Incense Trees in Egypt”, \textit{JEA} 55 (1969), 55-65; and Ramesses II likewise possessed a strong botanical interest, J. Renfrew, “Vegetables”, 194-5. Was it possible the Egyptians at times attempted to introduce a species of plant into Egypt so to develop a local source of that wood? This indeed appears to have been the case with the importation of live \textit{ntwy} trees into Egypt by Ramesses III who may also have attempted to grow them (unsuccessfully?) from stem cuttings and seeds, D. M. Dixon, “The Transplantation of Punt
to be mentioned in the Amarna letters. In *EA* 160, Aziru of Amurru sent eight ships to Egypt loaded with wood with the promise of another shipment in *EA* 161. In addition to shipbuilding, however, wood was also required for chariots, weapons, and other numerous logistics functions, and in significant quantities. Most important, large amounts of wood were needed for the furnaces that were used to forge everything from daggers to chariot parts. While one might not go so far to label wood as Egypt’s petroleum, it was undoubtedly a vital resource for its military industrial complex.

A final most important factor to consider was the finicky nature of Egypt’s vassals. Relying on the various city states to ensure the support for the army while it was on campaign held a certain degree of risk. One feels that it was no coincidence that the first major attested, land only campaign, occurred at a time when Egypt had lost much of its support in the region. While vassal states may have been sufficient (and content enough) in supplying the needs of smaller Egyptian forces during the occasional raid, they would have certainly balked at the idea of having to support larger contingents year in year out for extended periods of time. Therefore, even if

---

274 N. Na’aman, “Economic Aspects”, 219. As Warburton noted, wood (and other items) would have been dispatched in order to discourage the Egyptians from moving their troops into the region, *Egypt and the Near East*, 71.

275 See also Chapters III and IV. Some of the timber that was required for chariot manufacture had to be imported from Palestine and Syria, for example, field maple (used for the floor frame), common ash (axle, felloes and part of the floor frame), and elm (yoke, handrail, body, wheel, nave, pieces of pole or axle), see: R. Gale (*et al.*), “Wood”, 336, 341 and 346. The compound bow likewise utilised imported wood such as birch bark, *ibid.*, 336-7. This wood was able to be dried and transported over considerable distances therefore allowing for construction to take place within Egypt rather than having to rely on foreign factories, R. Morkot, “War and the Economy”, 182. Generally, however, Egyptian bows (in particular the earlier self bow) and arrows were made using indigenous wood sources, see the comments of: A. C. Western and W. McLeod, “Woods used in Egyptian Bows and Arrows”, *JEA* 81 (1995), 87-94.

276 R. Said, “The role of the desert”, 18-9. The situation would have become even direr as Egypt entered into the Iron Age. The higher temperatures required for the forging of iron demanded, along with specialised tools and furnaces, even greater quantities of wood, *ibid.*, 18-9. Furthermore, the collapse of direct and indirect Egyptian control in Asia during Dynasty XX was yet another significant blow in that wood now had to be obtained at real financial cost. This was a point not lost on Wenamun, who lost through theft 5 deben of gold and 31 deben of silver which would have been sufficient to purchase 24,600 1/8 wood broad planks: R. Leprohon, “What Wenamun could have Bought”, 171. We can also note the very real “consternation expressed” when this valued resource was not available during periods of internal strife, M. W. Mikesell, “The Deforestation of Mount Lebanon”, 13.
sufficient shipping had been available, there still would have existed the problem of logistically supporting a large army within this strategic theatre without some sort of direct investment.

Therefore, during the course of the New Kingdom, the Egyptians came to realise that they could no longer rely on naval transportation alone to fulfil their military requirements. In order to continue to have a military presence in Asia, and to safeguard their territorial possessions, a large land based army was required. The army, in particular its chariot component, had to be supported by a comprehensive (land based) logistics network, and, as noted in Chapter IV, this is what we see being developed from late Dynasty XVIII onwards. This fundamental shift at the operational level, from naval operations to land-based operations, was largely complete by the beginning of Dynasty XIX, and by then a very different system of support was in place. The logistics network of early Dynasty XIX, for example, reflected a higher level of Egyptian investment than seen at any time previously, or since. This increased financial burden may, however, have become too much for the state to bear as by late Dynasty XIX onwards, the system begins to breakdown. 277 Overall, the operational level changes ultimately proved to be too expensive. The adoption of the chariot was an important catalyst in the change from sea/riverborne operations to land based operations in Asia. It is somewhat ironic, therefore, that the need to logistically support this military vital weapon may in fact have contributed to the collapse of Egypt’s Asiatic empire. 278

Conclusions: The Development of Egyptian Operational Warfare

In this chapter we have examined a number of the key factors that can greatly determine whether or not the application of “operational warfare”, or in other words, the employment of an Egyptian operational art, was possible. With the factor of space,

277 While the possession of resource rich Asiatic territories would have brought some financial benefit, the Egyptians, by increasing their level of investment actually found themselves facing diminishing marginal returns, for this economic concept in war, see: J. Brauer and H. Van Tuyl, Castles, Battles, & Bombs, 24-7, 197-244.

278 It has been suggested that large scale use of chariots in the Aegean disappeared during the Late Bronze Age not because of their being made obsolete due to the advent of new tactics but rather “no states survived capable of assembling the considerable resources necessary to maintain a substantial chariot force”, O. Dickinson, “Robert Drews’s Theories about the Nature of Warfare in the Late Bronze Age”, in Polemos: Le Contexte Guerrier en égéé à l’âge du Bronze: Actes de la 7e Rencontre égéenne internationale Université de Liège, 14-17 avril 1998, R. Laffineur (ed.), (Liège, 1999), 25.
we have seen the very real difficulties that the Egyptians faced with respect to being able to project sufficient enough combat power into each of their three strategic theatres. The massive space of Asia alone theoretically demanded a major investment of force and material yet by the all too common paradoxical nature of war, this space also provided the best incentives for the Egyptians to develop and employ their form of operational art. Libya and Nubia were more restrictive environments. With the former, the geography suited small, fast and highly mobile forces – all three qualities that are of operational importance and most ephemeral with respect to leaving an archaeological footprint. The Nubian theatre, the most restrictive of the three theatres, tended to witness more traditional military operations (reliance placed on the Nile river with short excursions on either shore), but even with this theatre, by the New Kingdom at least, aspects of operational warfare are clearly evident, especially with the utilisation of overland routes (see Chapter III) and the undertaking of deep penetrating campaigns.

With the factor of time, we have seen just how important careful planning was with respect to organising and undertaking a military campaign. There was only a limited “window of opportunity” to launch a campaign and bring it back home before negative seasonal changes impacted on military performance. It was therefore in the best interests of the Egyptians to achieve their objectives (or at least as much as they could) within a very finite period of time. With time, and force, on one’s side, an attritional approach can be adopted, but when working against these two factors, it was better to be flexible, quick, and not eschew high risk manoeuvres. In this respect, an operational approach is of greater value and as the Egyptians were constrained by their limited campaign window this would have provided another incentive to develop a form of operational art.

With the factor of force, we examined the possibility that manpower considerations may have meant that the Egyptians were fielding military units that were numerically inferior to their opponents. While this cannot be proven by examining exact troop numbers at key battles (such data do not exist) we are, nonetheless, provided with less direct indications of possible manpower problems. The continued reliance on foreign troops, especially evident during the reign of Ramesses III, the need to man and administer newly required territorial acquisitions, and Egypt’s own population base as compared with that of its enemies, would seem to indicate that troops to fill the ranks were always in demand. The Egyptians also had to
combat, within their strategic theatres a wide variety of opponents each possessing their own unique fighting characteristics and necessitating an appropriate operational response.

As well as their differing spatial characteristics, the three strategic theatres possessed very different geographical environments with each impacting greatly in the way the Egyptians waged their campaigns at the operational level. While the geography of Asia supported naval operations along the coast, land based operations were, however, vital for deep penetration and long term occupation. Libya, on the other hand, saw only land operations and these were limited at best. In Nubia, naval operations were always of particular importance due to the convenience of the Nile. Operational changes by the New Kingdom, however, meant the Egyptians were able to better overcome the difficulties experienced by their Middle Kingdom counterparts. We note especially the very apparent move from a predominantly “naval” orientated military power to a land based army that took place from Dynasty XVIII onwards. As well as providing us with a very real indication of Egyptian operational level flexibility, this change had significant ramifications for the Egyptian War Machine and its long term ability to wage war.

Overall, it was the combined interplay of all these above factors that determined whether or not the application of operational art was indeed possible. The large campaigning space of Asia, especially in terms of chariot friendly terrain and a geography that was suited for both land and naval operations, combined with a restricted campaign window, limited Egyptian troop numbers, and the need to combat a great variety of opponents, all favoured the use of operational art. Nubia, on the other hand, with its more restrictive space, closer proximity to Egypt, and the fact that disparities in troop numbers would not have been as great (and probably more in favour of the Egyptians) there would have been less incentive to rely on operational art. In other words, campaigning here would have been a more relatively straightforward affair. The enemy were generally militarily inferior thus negating the need for high risk operations. The operationally important chariot would have been of limited use in this theatre and as such its “revolution” had less of an impact here than in Asia. Libya falls some way in between these two extremes. As a campaigning space, it was both immense and restrictive at the same time. It was in close proximity to Egypt yet because of its peculiar geography also very distant. The qualitative nature of the enemy also varied considerably. The Egyptians seemed to have maintained a
quantitative and qualitative edge over their enemies in this theatre for most of the pharaonic age but this theatre was eventually to pose the greatest threat to Egypt’s domestic security.

But while all these factors will serve to greatly determine whether or not the application of operational art was theoretically possible, which in every respect it was according to the evidence we have so far looked at, we must still ascertain whether Egyptian campaigns did indeed conform to what is expected of a military force that was practicing operational art. In other words, was there a conscious awareness that campaigns and even wars could be won through actions conducted at the operational level, rather than placing reliance solely on the outcome of set piece tactical encounters? With this in mind, we will in the following chapter attempt to determine whether the Egyptians did indeed practice a rudimentary form of operational art by subjecting our evidence to five criteria which have been established by the United States Military in order to identify true instances of operational art. The importance of these criteria is twofold. First, they are (at present) endorsed by the United States military and feature prominently in their keystone “operations” doctrine manual. Second, but just as importantly, the applicability of these five criteria is sufficiently broad enough to be utilised in analyses of pre-modern warfare and as such are vital to our discussion here.
CHAPTER VI

The Egyptian Art of War

In the previous chapter, we considered some of the key factors that served to determine the nature of Egyptian warfare at the operational level. Based on this information, it does seem clear that many of the vital requirements existed that would have enabled, rather than hindered, the development and utilisation of a rudimentary form of operational art. This chapter therefore, will further examine Egyptian military capabilities by utilising five useful criteria which were established by the U.S. military to identify instances of true operational art.\(^1\) If Egyptian warfare adheres to these criteria then this would prove quite conclusively that a form of operational art was practiced and that there was a conscious awareness of this concept in waging war. By direct association, it would also indicate that military actions that took place at the operational level should be considered to be of particular importance, possibly more so than military actions that took place at the tactical level.\(^2\)

The first of the five criteria involves the identification and selection of military strategic goals. Although this falls into an area that belongs to the higher levels of war, it is nonetheless important for us to examine (if only briefly) the military and political objectives of select pharaonic campaigns. The second criterion involves establishing military conditions that will help achieve the above mentioned strategic objectives. These include the identification or realisation of decisive points, centres of gravity, an awareness of the principle of continuity and points of culmination, and the need to establish operational (secondary or preliminary) objectives. It is also here that military intelligence plays an important part. The third criterion involves sequential and simultaneous operations. Here we should see evidence for the employment of multiple units in space and time and the ability to focus combat power at key points. We have in Chapters III and IV already established the existence and the conscious undertaking of the fourth criterion, resource allocation (logistics), and therefore only a

---

1 Field Manual FM 100-5 Operations, 6.2-6.3. These criteria are followed by both: D. Pittard, Thirteenth Century Mongol Warfare, 5-7; and M. Carey, Operational Art in Classical Warfare, 10-2.

2 While tactical battles made good subjects for the pictorial accounts due to their visual impact, this was not the case with operational level actions. The latter were better recounted through detailed textual descriptions and therefore not surprisingly consumed more space in those records (often more than the actual battle itself).
brief recap need be provided. The final criterion involves identifying commanders with broad operational vision. That is, commanders who can see beyond the tactical battlefield and who have the ability to conduct military operations over extended space and time utilising the resources at their disposal in order to achieve the desired strategic objectives. In this category we will examine the roles of both Pharaoh as military commander as well as military operations conducted by subordinate, and in particular non-royal, commanders.

Identification of Military Goals

As mentioned above, a detailed analysis of Egyptian military activity at the strategic level is beyond the scope of this study and therefore we must confine ourselves only to matters most relevant to our discussion here. Of particular importance for us is the question of whether or not the Egyptians undertook their campaigns after establishing definite strategic objectives, that is, where each campaign (or series of campaigns) was conducted for a specific purpose rather than being simply random and disjointed military excursions with no clearly defined or apparent end state. In this respect we are not concerned as much with the fact that

---


4 This is very much tied in with the fundamental question of whether Egyptian imperialism was driven more by economic or ideological concerns. Proponents of the former include S. T. Smith, Askut in Nubia, passim; K. Zibelius-Chen, Die ägyptische Expansion nach Nubien, passim, and to a lesser extent, S. Paracak, “Egypt’s Old Kingdom ‘Empire’ (?)”, 43-6 and 56-7 who noted that “Egypt did not focus on resource poor areas unless specific security considerations dictated otherwise”, ibid., 44. Economic exploitation of Nubia, gold especially, it has been argued, drove Egyptian imperialism in the Levant, L. Török, The Kingdom of Kush, 92. On the other hand, scholars such as Barry Kemp note that ideological motivations should not be discounted completely, B. Kemp, “Imperialism and Empire in New Kingdom Egypt”, 7-57. Kemp, in particular, believed the resources of Nubia were consumed internally and the province as a whole was economically unprofitable, ibid., 33 and 56-7. The recent article of Peter Brand, likewise serves as a reminder of the role ideology can play in shaping military strategy, P. Brand, “Ideological Imperatives: Irrational Factors in Egyptian-Hittite Relations under Ramesses II”, in Moving Across Borders: Foreign Relations, Religion and Cultural Interactions in the Ancient Mediterranean, P. Kousoulis and K. Magliveras (ed.), (Leuven, 2007), 15-33. For comparison, one may be inclined to examine the reasons behind Fatimid involvement in Palestine where ideological
military campaigning in itself was a vital prerequisite in order to establish the legitimacy of a particular king, which some may argue was a sufficient strategic objective in its own right, rather our question here is whether the Egyptians conducted their military campaigns with clear (or more importantly far reaching) military specific goals in mind.\(^5\) With respect to the latter point, one could argue that the expulsion of the Hyksos or the systematic conquest and occupation of Nubia during the New Kingdom are ample evidence that the Egyptians were capable of long term strategic planning.\(^6\) Alternatively, one might also consider the amount of time, preparation, and effort required to organise and successfully execute only a single military campaign in order to appreciate the complexities involved in undertaking military expeditions into foreign lands.\(^7\) While this in itself may be considered as proof that campaigns were conducted in order to achieve specific goals, it would, however, be advantageous to examine select military accounts in order to see how the Egyptians themselves justified their campaigns.\(^8\)

---

\(^{5}\) That the king did have a role to fulfil as “defender of the realm” against political (and religious) chaos is beyond dispute as was the fact that war was a divinely sanctioned affair and was, of course, celebrated in the textual accounts, see, for example, the comments of: A. Spalinger, “The Army”, 118 and 123; S. Parcak, “Egypt’s Old Kingdom ‘Empire’ (?)”, 45; J. C. Darnell and C. Manassa, Tutankhamun’s Armies, 58-9; and L. Török, The Kingdom of Kush, 95 (albeit only where political and economic considerations dictated). This role came to be even more pertinent once Egypt went over to the strategic defensive, that is, defending Egypt by the reign of Merenptah took aspects of the penultimate religious struggle against good and evil, see: B. W. B. Garthoff, “Merenptah’s Israel Stela: A curious case of Rites de Passage?”, in Funerary Symbols and Religion, J. H. Kamstra, H. Milde and K. Wagendorp (eds.), (Kampen, 1988), 23-33. For a more complete discussion of the issues of ideology, kingship and legitimacy with respect to military affairs, see: M. Hasel, Domination and Resistance, 17-20. That the cause for war must be “just” is not a recent concept, Strategikon, 84.

\(^{6}\) Both of these military ventures required the campaigning efforts of more than one king and both took decades to achieve. Overall, this tends to point to a deliberate policy, although one must, however, not discount completely the possibility that these were “conquests by accident”, but see our additional comments below. The change of Egyptian attitude towards Nubia as it was progressively conquered was noted by László Török, The Kingdom of Kush, 101.

\(^{7}\) See also Chapter V. The preparations that took place for a campaign could be extensive as seen, for example, in Akhenaten’s military operation against Qadesh (as detailed in the Amarna letters). Ultimately, campaigns were conducted for practical reasons including internal security, to establish colonial outposts, to create buffer zones, and not just for prestige and glory, see: J. C. Darnell and C. Manassa, Tutankhamun’s Armies, 9.

\(^{8}\) See also the study of: José Galán, Victory and Border, who looks explicitly at expressions of imperialism in Dynasty XVIII texts with particular emphasis on the terms nḥt and ṭšā.
objectives are given at all (but not always) is notable, although admittedly, they do tend more often than not to be vague (and even formulaic) rather than specific. The inscription of Weni, for example, states only that: “...His Majesty took action against the Asiatic Sand-dwellers”. While this informs us as to whom the target was, the reason for this military action is not given at this point. This is only provided further into the account: “His Majesty sent me to lead this army five times, to attack the land of the Sand-dwellers as often as they rebelled”. Moving to the first recorded military campaign of Pepinakht, only the following objective is provided: “The Majesty of my lord sent me to hack up (bꜣ) Wawat and Irjet”. Such statements could be considered as being quite terse, but from an Egyptian point of view, they were likely sufficiently informative enough with respect to their stating the purpose of the campaign in question (especially so, if available writing space was scarce). More important was that these campaigns be carried out successfully. For Pepinakht’s second campaign, a clearer objective is given: “(the king) also sent me to pacify these lands...”. With this example, we are provided with a sound, albeit vague, military explanation. It is, however, his third campaign which provides us with the most information with respect to the objective:

“(the King) also sent me to the land of the Easterners, to bring him the sole companion, ship’s captain, and Commander of the Foreigners An-Ankhet...when the Easterners belonging to the Sand-dwellers slew him together with the company of soldiers that was with him...”.

---

9 But see, however, Galán’s comments, *Victory and Border*, 74.


11 *Urk* I, 104.6-7.

12 *Urk* I, 133.9-10. For the complete inscription, see: *Urk* I, 131.15-135.7.

13 As noted in another passage: “My lord trusted me concerning every mission on which he sent me”, *Urk* I, 133.16-134.2.

14 *Urk* I, 134.3-4.

Here we are given the geographical location of the campaign along with its specific (and in this case quite intimate) purpose.\footnote{In order to guard against decomposition, the body or bodies were likely covered with sand for the journey back to Egypt, B. McDermott, \textit{Warfare in Ancient Egypt}, 60.}

The First Intermediate and Middle Kingdom military accounts tend also to vacillate between the specific and the indistinct. The Nubian soldier Tjehemau, for instance, stated that “He, Monthuhotep (II), traversed the entire land, having decided to slaughter the Amu of Djaty”\footnote{J. Darnell, “The Route of Eleventh Dynasty Expansion into Nubia: An Interpretation Based on the Rock Inscriptions of Tjehemau at Abisko”, \textit{ZÄS} 131 (2004), 23.}, while on the other hand Ankhtify “…sailed southward to demolish their fortress with \textit{nh\texttt{tt}} troops of Hefat”\footnote{J. Galán, \textit{Victory and Border}, 20.}. Amenemhet I sent his eldest son (Sesostris) on a military expedition to Libya: “to smite the foreign lands and to punish those of Tjehenu”.\footnote{As recounted in the \textit{Tale of Sinuhe}, see: M. Lichtheim, \textit{Ancient Egyptian Literature} I, 222-33.} The strategic objectives in this case move from the general “foreign lands” to the more specific “Tjehenu”, such a double division of stated objectives is not uncommon. From this same account, we are also provided with possibly a rare insight into Egypt’s overall strategic focus at this time: “he (Sesostris I) will conquer southern lands, while ignoring northern lands”.\footnote{M. Lichtheim, \textit{Ancient Egyptian Literature} I, 226; and S. Cohen, \textit{Canaanites, Chronologies, and Connections}, 39 and note 41.} This passage would seem to indicate the Egyptians were concentrating their military efforts against Nubia while maintaining a defensive, if not non aggressive, posture in the north.\footnote{This would not be the only time the Egyptians concentrated their efforts in the south rather than the north.} Other campaigns unfortunately return to providing only vague accounts as seen with Ameny who, participating in a campaign under the command of Sesostris I: “(I) followed my lord when he sailed up the river to overthrow his enemies in the four (?) foreign lands”.\footnote{P. E. Newberry, \textit{Beni Hasan I}, 25.} Military incursions into Asia, initiated by Amenemhet II, are likewise vague: “Sending of a military expedition into Lebanon (\textit{hnty-š})” and “Sending of a military expedition with the head of the fighting troops of the army to destroy Asia (\textit{sft} \textit{Twr})”.\footnote{E. Marcus, “Amenemhet II and the Sea”, 139.} Although in the case of the latter, with the army’s return to
Egypt, a fuller description may be provided: “[The coming of the $m\tilde{s}\tilde{r}$-army and] the fighting army ($mnf\tilde{t}$), which had been sent to cut up the fortifications of $Tw\tilde{t}$ and to cut up the fortifications of $Ts\tilde{i}t$.”

Alternatively, this passage probably referred to a completely different military campaign which would better explain the differing objectives.

While this brief review of such earlier texts is useful with respect to establishing a precedent of military campaigns being conducted for particular purposes, it does not compare with the greater detail provided in the accounts from Dynasty XVII onwards. The military records of Kamose, detailing his wars against the Hyksos, are in many respects quite unique among the Egyptian military records and as such will be considered in greater detail here. They are especially notable for as taken as a whole, they cover actions at each level of war. Beginning at the highest level, we are provided with an extremely detailed description of the grand strategic situation at the time. Egypt, the reader is informed, is positioned between two potentially hostile foes and the question is posed as to whether to retain this (economically favourable?) status quo or to engage in another (more bellicose) course of action. Following this assessment, the king, having decided upon a military response, then outlays his strategic plans. The primary strategic objective is given as: “I will sail north to engage the Asiatics ($\tilde{s}\tilde{m}w$) and success will come!”

Of the two enemy powers, the Egyptians may have considered the Hyksos to have been the greater threat or alternatively, the better of the two to conquer first due to their geographical position. Indeed, it would have been easier to defend the southern frontier against a Nubian attack while the bulk of the army was engaged in the north rather than vice versa. The strategic objective is further elaborated in the next few lines, as is the operational level means the Egyptians employed (naval vessels) in their attempt to achieve their objective: “…I sailed upstream for my $nht$, to drive the

---

24 E. Marcus, “Amenemhet II and the Sea”, 144. The latter may have been an opportunistic target, see also, ibid., 144 note 14.

25 For a convenient overview of all the records for this period, see: D. Redford, “Textual Sources for the Hyksos Period”, 1-44. For the two key Kamose texts in particular, see: H. S. Smith and A. Smith, “A Reconsideration of the Kamose Texts”, 48-106; L. Habachi, “Preliminary Report on Kamose Stela and Other Inscribed Blocks found Reused in the Foundations of Two Statues at Karnak”, ASAE 53 (1955), 195-202; and L. Habachi, The Second Stela of Kamose, passim.


27 See note 32 below.
Asiatics (*mwa*) through the command of Amun, correct of plans”. For the sake of completion, tactical level actions are also included in this account such as the successful assault of the Hyksos controlled city of Nefrusy along with other military encounters. In short, as we continue to read through Kamose’s war record, we descend through the levels of war from the broad arena of grand strategy down to the intimate confines of the tactical battle.

Unfortunately, a more definite strategic objective for the campaign is not given, although naturally this may have been due to the fact the ideal desired end state was not achieved (Kamose was unable to dislodge the Hyksos completely from the Delta). What is important, however, is that the objectives as stated in the textual accounts (after the fact of course) were accomplished. This is further emphasised at the end of the text with the following passage: “(Kamose)…who subdued the south and drove back the north, who seized the land by main force”. It was left to Kamose’s successor Ahmose to ensure the complete expulsion of the Hyksos, and clearly his campaigns were a continuation of those of his predecessor, thus indicating that obtaining certain strategic objectives could span multiple reigns if required. Following the expulsion, Egyptian strategy was redirected towards the southern front which would tend to exclude the possibility of major Egyptian involvement in Asia at this time.

28 J. Galán, *Victory and Border*, 37; and D. Redford, “Textual Sources”, 14. Note especially in this passage the connection of excellent plans with the god Amun.


30 *Ibid.*., 15. Note especially the reference in this passage to the “south”. It is possible that some sort of preemptive military action took place here prior to the campaign against the Hyksos.

31 This is an important consideration with respect to the concept of whether Leaders could be considered as centres of gravity (see our discussion below).

32 We cannot enter here into a discussion as to who should take responsibility for the Middle Bronze Age destruction levels in Palestine. While the traditional view tended to favour the Egyptians, current opinion, however, has shifted responsibility away from them and onto the actions of other parties. On this point, see most notably the lively exchange between two key proponents of the former viewpoint: W. Dever, “Relations Between Syria-Palestine and Egypt in the ‘Hyksos’ Period”, in *Palestine in the Bronze and Iron Ages*, J. N. Tubb (ed.), (London, 1985), 69-87, W. Dever, “‘Hyksos’, Egyptian Destinations, and the End of the Palestinian Middle Bronze Age”, *Levant* 22 (1990), 75-81, in addition to J. Weinstein, “Egypt and the Middle Bronze IIC/Late Bronze IA Transition in Palestine”, *Levant*, 23 (1991), 105-15; and James Hoffmeier (a proponent of the latter): “Reconsidering Egypt’s Part”, 181-93; J. Hoffmeier, “Some Thoughts on William G. Dever’s ‘‘Hyksos’, Egyptian Destinations, and the End of the Palestinian Middle Bronze Age”, *Levant* 22 (1990), 83-9; and J. Hoffmeier, “James Weinstein’s Egypt and the Middle Bronze IIC/Late Bronze IA Transition: A Rejoiner”, *Levant* 23 (1991), 117-24. Further support for non Egyptian involvement is provided by: N. Na’an, “The Hurrians”, 175-87; and E. Morris, *Architecture of Imperialism*, 35-8. Indeed, as we have noted in
The biography of the soldier/sailor Ahmose son of Ebana is of particular interest to us for two main reasons. First, we are provided with, in one account, the abbreviated records of a number of military campaigns undertaken by more than one king. Second, as this is a private inscription and considering the fact that the individual in question was from the general rank-and-file, one might expect that the stated strategic objectives would differ from the royal accounts. Indeed, his lower rank (at least initially) surely would have excluded Ahmose from being privy to the specific objectives of the campaigns in which he participated. At the very least, it is possible that he would have only known the general area (strategic theatre) where he was expected to fight along with a rough duration of the time he would be away, but little else. Such secrecy was of course to be expected if only for security reasons, but also by not providing specific details of the upcoming military action to the rank-and-file, the negative effects of a campaign that failed to live up to its expectations could be lessened. His military career begins with a brief account of the successful capture of Avaris and then Sharuhun. No campaign objectives are given, rather the emphasis is on tactical and operational actions only. For the Nubian campaign of Ahmose, however, the following objective is stated: “He (King Ahmose) sailed south to Khent-hen-nefer to destroy the Nubian Bowman”. Here at least we are provided with a somewhat specific objective unlike with the Nubian campaign of Amenhotep I, which is more formulaic: “…he sailed south to Kush, to enlarge the borders of Egypt”.

Chapter IV, it would have made little sense for the Egyptians to engage in wholesale destruction in this region. Rather, it was in their interests to maintain the existing infrastructure (if only for logistics reasons). It is not, however, unreasonable to think that the Egyptians took full advantage of the destruction that had been wrought as this would have effectively eliminated potential areas of resistance thus giving them virtually free access to this region. Furthermore, we must also recall that the Egyptians were heavily involved in Nubia during this same period, J. Hoffmeier, “Reconsidering Egypt’s Part”, 184-6; and J. Hoffmeier, “Aspects of Egyptian Foreign Policy”, 122-3. The Nubian polity of Kerma was a threat and its close geographical proximity to Egypt meant that it was vital it be neutralised before Pharaonic armies could be sent deep into Asia. As we have already seen with Sesostris III, this would not be the first time the Egyptians followed a “Nubia First” policy. David O’Connor, especially, commenting on Egypt’s reconquest of Nubia over an 88 year period, noted that the Egyptians on average fought a campaign every 13 years whereas in Asia, during that same period, the average was every 27 years, D. O’Connor, Ancient Nubia: Egypt’s Rival in Africa, 60.


34 With respect to security, Maurice advises that a general, in order to keep his plans from the enemy, should never take into confidence his soldiers, Strategikon 88-9.

35 Urk IV, 5.5.

Following this apparently successful campaign, Ahmose received a promotion and in his account of the Nubian campaign of Thutmose I, more information is provided with respect to the objective: “he (Thutmose I) sailed south to Khent-hen-nefer to crush rebellion throughout the lands, to repel the intruders from the desert region”.\(^{37}\) Two points are worth mentioning here. First, we see again the two-fold division with respect to campaign objectives: a rebellion has taken place which needs to be crushed and desert intruders have infiltrated Egyptian territory. Second, the campaign objectives are more detailed than what we have seen previously, and this may possibly reflect the fact that the campaign was quite successful and therefore ended on a high note.\(^{38}\) It is possible that Ahmose knew more of the objectives prior to the commencement of the campaign due to the fact that as he was now moving up the ranks and was possibly privy to more sensitive campaign information. Keeping this in mind, the objective as stated for the Asiatic campaign of this same king is given as follows “…His Majesty proceeded to Retenu to “wash his heart” throughout the lands”.\(^{39}\) This is somewhat of an unusual “objective” and has been interpreted either as a campaign of revenge or one that had less bellicose intentions in mind.\(^{40}\) In any case, the purpose is vague and what we should make of it is uncertain. We are provided with no help from Ahmose’s companion-in-arms Ahmose Pen-Nekhbet. Indeed, the latter’s accounts are more notable for the fact that no objectives are given at all. Rather, Ahmose Pen-Nekhbet merely states he served under such and such king.\(^{41}\)

As well as Ahmose son of Ebana’s account, Thutmose I’s Year 2 Nubian campaign was also recorded on graffito left at Tangur which give the objective as:

\(^{37}\) Urk IV, 8.5-6. Conflict with this region was a recurring affair, C. Vandersleyen, Les Guerres d’Amosis, 68.

\(^{38}\) That is, the campaign had been completed without major incident. The strategic objectives had been achieved and subsequently, they were now fully known to the participants. The need for secrecy or “blurring” of the official record (by relying on vague descriptions) was therefore unnecessary. A similar case is seen with Thutmose III’s first campaign against Megiddo.

\(^{39}\) Urk IV, 9.8-9.

\(^{40}\) For the latter view, see especially: A. Spalinger, War, 51.

\(^{41}\) Urk IV, 32.1-39.7. His accounts are not too dissimilar to the initial military actions of Ahmose son of Ebana around Avaris where as stated above, no campaign objectives are given. Did Ahmose Pen-Nekhbet’s lower rank exclude him from knowing this information?
“…Southward sailing of His Majesty in order to overthrow wretched Kush…”

The conclusion of the campaign, recorded by Prince Tuer in an inscription on Sehel Island, reaffirms the Tangur graffito: “…coming back from overthrowing the doomed Kush.”

While both accounts are again typically vague they do, however, nicely compliment, and more importantly, not contradict each other. The first provides us with the intended objective, whereas the second serves to inform us of its successful outcome. A military campaign that took place during the reign of Thutmose II, on the other hand, is notable for the fact that the king does not take part: “His Majesty dispatched numerous troops to Nubia, on his first campaign of victory, in order to overthrow those who disobeyed His Majesty and other lands who troubled the Lord of the Two Lands”. The text goes on to recount the punishment inflicted on the rebels.

The Year 22/23 campaign of Thutmose III, directed against the city of Megiddo, is of particular interest as the strategic objective is stated quite clearly at the beginning of the account. Following the formulaic and somewhat damaged opening, in which we are informed that the king passed the fortress of “[…]

Tjaru on the first campaign of victory […]

the borders of Egypt,” the text proceeds to provide greater detail with respect to the current strategic situation. The reader is informed that a general revolt has taken place (of which the specific geographical extent is only partly given) resulting in, among other things, the expulsion of at least one Egyptian garrison. The strategic objective is further reiterated upon following the king’s departure from Gaza “…to overthrow that vile enemy and to extend the boundaries of Egypt, as his father [Amun-re] has commanded a nḥt”.

In this case, we are also provided with an additional aspect of the strategic level command process in that we are informed that it is ultimately the god Amun who directs or commands the king to


43 Urk IV, 89.6-8.

44 Urk IV, 140.3-17.

45 Urk IV, 647.13-648.1; “Going forth from Memphis to smite the doomed Retenu on the first occasion of victory”, Armant stela (Urk IV, 1246.14-17); and “[…] Retenu to subdue the northern foreign lands, on his first expedition of victory (a mention of Amun follows)” seventh pylon of Karnak (Urk IV, 184.4-9).

46 Urk IV, 648.12-649.1; and J. Galán, Victory and Border, 59.
conquer his enemies. The king therefore is merely fulfilling (albeit in the best manner that he sees fit) the strategic orders of this deity.⁴⁷

Upon descending into the operational level, we are provided with even more specific information regarding the dispositions of the enemy. We are, for example, informed that it was the leader of Qadesh who instigated the revolt and that he had gathered his allies around the city of Megiddo.⁴⁸ Furthermore, additional and more precise information regarding the extent of the revolt is also provided along with a possible mention of Mitannian involvement.⁴⁹ Prior to the commencement of the campaign, it is possible that this information was not known. Indeed, the fact that Megiddo was to be the marshalling point for the rebels may only have become certain as the campaign unfolded. In any case we are again provided with a military account in which we descend through the levels of war moving from the general to the specific. Finally, near the end of the account we are provided with a passage that effectively marks the successful conclusion to the first campaign: “after the return of my majesty from subduing Retenu, on the first campaign of victory”.⁵⁰

As for the stated strategic level objectives of the later campaigns of this king, we are not as fortunate with respect to being provided with such detail as the first. In fact the majority of the remaining campaigns only indicate that Thutmose was either in Djahy or Retenu without giving any reason for why the campaigns were launched in the first place.⁵¹ What we should make of this is uncertain although admittedly, there are significant gaps in the record. There may have been the need to economise on available wall space, and as such only a snapshot of (operational) objectives achieved during these campaigns is given.⁵² Only the campaigns conducted in Years 29 and 39 come close to providing what we could consider as being a strategic objective. For Year 29 it is stated that “…His Majesty was in Djahy, destroying (ṣḳṣḳ)

⁴⁷ Therefore, while the strategic objective may be preordained, the king was still the commander on the ground and as such, it was he who was responsible for ensuring that strategic success was obtained.

⁴⁸ Urk IV, 649,3-6.

⁴⁹ Urk IV, 649,7-9; and D. Redford, The Wars in Syria, 14-6.

⁵⁰ Urk IV, 745,11-14.

⁵¹ Even the use of these terms is ambiguous, see: A. Spalinger, War, 131.

⁵² See the comments of: D. Redford, The Wars in Syria, 57-9.
the foreign lands which had rebelled against him, on his fifth campaign of victory”.

This was a legitimate reason to launch a campaign and it is possible that the king was continuing to inflict punishment on those who rebelled against him at the beginning of his reign. A quite different objective is given for Year 39: “Now His Majesty was in the land of Retenu on the fourteenth victorious campaign, after coming [from overthrowing the] doomed Shasu”. While this seems to be a rather “low level” objective, it is possible that they may have been causing problems by threatening Egyptian lines of communications, as noted in Chapter V. Although lost in the annals, details of Thutmose III’s Year 25 campaign which include an objective are, however, found in another source. The text of his “Botanical Garden” states that “…His Majesty journeyed to Upper Retenu to overthrow the [rebellious] foreign lands…” This would have been either his second or third campaign. The remaining campaigns, even those that we know were especially important (Years 30 and 33), unfortunately do not provide us with much in the way of clearly mentioned strategic objectives. This should not be taken as an indication that these campaigns were pointless or unimportant military excursions, clearly those of Years 30 and 33 were not. On the contrary, the Egyptians faced a strategically unfavourable geographical situation with respect to Asia, and responding to hostile actions (such as rebellions)

53 Urk IV, 685.4-6; and D. Redford, The Wars in Syria, 62-8.

54 Urk IV, 721.10-12; and D. Redford, The Wars in Syria, 90-3.

55 Thutmose III may have been keen to ensure the Shasu were in no position to interfere with more ambitious campaigns planned for the future. The reliefs of Sety I show just how dangerous these elements could be, RIK IV, pl. 3.

56 D. Redford, The Wars in Syria, 213.

57 Although the fact that Thutmose III had time to engage in an elephant hunt during at least one of the campaigns (Urk IV, 1233.13-16), as did Thutmose I (Urk IV, 103.6-105.8), does give the impression of a Gentleman’s outing rather than a serious military operation (on another occasion, he even collected plants!). One must not, however, underestimate the value of these hunting expeditions (also recorded in the Armant stela (Urk IV, 1245.12-1246.4) as a source for military training especially if they were conducted in regions where hostile encounters regularly took place. These excursions would have provided the army with important manoeuvring and communication practice as it did, for example, with the Mongols conducting their massed hunt (nerge) where the hunters would spread out over several miles forming a circle which would then be gradually contracted trapping their prey within, T. May, The Mongol Art of War, 46. A not too dissimilar example of this is seen on the Hunter Palette where at least 19 Egyptian hunters converge on an assortment of prey, see: G. Gilbert, Weapons, 85 and 84-6 for the early relationship between hunting and warfare. On the importance of hunting for military training purposes in general, see especially Maurice’s Strategikon which contains a sizeable section on the subject, 165-9.
could take a considerable amount of time. Conducting regular “sorties” on the other hand (showing the flag) ensured that the Egyptians maintained a strong military presence in the region even if no immediate military action was required. Hostile intentions could therefore be pre-empted before they reached a critical point. We must also recall, that at this time, there appears little in the way of a permanent Egyptian presence in this region.

The three military campaigns of Amenhotep II also vary greatly in detail. For the first (Takhsy) campaign, the objectives (found at the end of this rather terse account) are given as follows: “…having overthrown all his enemies and extending the borders of Egypt on the first campaign of victory”. Here again we are provided with the twofold division of campaign objectives both of which fall into the formulaic. Whether or not the reliance on such set phrases was an indication that some sort of military reversal had taken place is difficult to say, nor can we determine any significance in the fact that these objectives are given at end of the account and not at the beginning. The second campaign of Amenhotep II is considerably more detailed: “…His Majesty proceeded to Retenu on his first campaign of victory to broaden his borders and to give property to those who were loyal to him”. The double strategic objective is retained. The primary strategic objective was likely the more specific (to reward the loyal), while the secondary objective, the more formulaic of the two, is provided first. The third campaign also provides a very specific objective: “…His Majesty proceeded to Retenu on his second campaign of victory, against the town of Aphek”. The singling out of this town as the sole strategic objective may indicate the possibility it was involved in a plot to spur a rebellion akin to the role played by the ruler of Qadesh and the city of Megiddo. This may also explain why this military action was needed outside the standard campaigning season.

---

58 This was of course the problem faced by the Fatimids, see Chapter V: Time.

59 That the Egyptians considered some of these campaigns more important than others, however, may be seen in the amount of wall space devoted to each, as covered by D. Redford, The Wars in Syria, 61-2.

60 The passage continues by detailing the fate of seven chiefs from the region of Takhsy, Urk IV, 1296.13-1297.6.

61 Urk IV, 1301.15-16.

62 Urk IV, 1305.14-16. This city was located in the Sharon Plain and at the foot of the springs of the Yarkon River which was the only true river in Canaan leading to the Mediterranean Sea. It was also only a few days march north along the Via Maris from Gaza.
As Egypt’s empire reached its zenith during the course of Dynasty XVIII, it
not only came into contact with other major superpowers but also, within its borders,
now found itself encompassing numerous and diverse peoples who were at times less
than enthusiastic at being under Egyptian rule. Therefore, it is not too surprising that
we begin to find an increase in military objectives that are more defensive in nature.
This is seen, for instance, in some of the above Asiatic campaigns of Thutmose III
and in Egypt’s other strategic theatres. The Nubian campaign of Thutmose IV, for
example, as recorded on the Konosso stela, was undertaken in response to an earlier
enemy attack: “…in order to overthrow him who attacked him in $t3$-sty”.63 The text is
also of particular note in that Thutmose IV actively seeks out the advice of Amun as
to which route the army should take. Only after receiving this information does the
king set out.64

This more defensive orientated posture is also found in the account of the Year
8 (?) Nubian war of Sety I.65 The text is of particular importance to us as it provides a
great deal of information regarding the very deliberate strategic level planning
conducted by that king in response to a rebellion in Nubia. Sety, we are informed, was
in Egypt when the situation was brought to his attention:

“Now His Majesty was in the city-quarter of Thebes … (some)one came to
report to His Majesty the enemies in (of) the land of Irem have plotted
rebellion”.66

It is, however, the following passage that is of particular import: “Then His
Majesty held back (from) action against them, to learn their plans thoroughly”.67 Such
an expression of sound military wisdom is somewhat unique especially as it occurs in

63 Urk IV, 1546.7.
64 Urk IV, 1545.16-1546.6.
65 For the complete translation, see: RITA I, 85-7; and B. G. Davies, Egyptian Historical Inscriptions of
the Nineteenth Dynasty (Jonsered, 1997), 47-54.
66 KRI VII, 9.11; and RITA I, 86.
67 KRI VII, 9.11; and RITA I, 86. The mentioning of plans in relation to military contexts is found in
some of our earliest texts: “…by means of my $nht$ bow and my excellent plans” (Tomb of Ankhtify),
see: J. Galán, Victory and Border, 23.
place of the standard “rage episode”. Whether this may be a reflection on the importance that this king placed on the procurement of accurate military intelligence is difficult to say. Such intelligence was of course a vital prerequisite for establishing an appropriate strategic response, and only by learning the extent of his opponent’s ambitions could Sety formulate his own military reaction, as is indicated with the next section: “Then His Majesty laid plans against them and decreed a slaughter against them, so that he might strike down opposition wherever it was”. Plans are drawn up, the objective is stated, and the geographical extent of the campaign is defined. Only after all of this has taken place is the army (consisting of both infantry and chariotry) dispatched. The setting of a specific (and realistic) strategic objective allows for the establishment of the necessary parameters of a campaign. This in turn, will increase the possibility of a harmonious relationship between the three levels of war.

For the Year 5 Qadesh campaign of Ramesses II, it is not too surprising that the textual accounts do not provide a clear strategic objective. No doubt this was partly due to the fact that it was abruptly curtailed. Instead, we are only given the barest minimum of information: “Year 5, Third month of šmw, Day 9…His Majesty was in Djahi on his second campaign of Victory”. One month earlier, the army had left Egypt: “His Majesty journeyed northward, his infantry and his chariotry with him, having made a good start with the march in Year 5, Second month of šmw, Day 9”. An objective for this campaign, however, is not given.

The stating of specific strategic objectives becomes less common in the accounts of Ramesses II’s successors. We are, for example, given no indication as to why Merenptah undertook his one and only Asiatic campaign. The Israel stela provides us only with the happy end result, although we must not discount the possibility that a fuller narration of this campaign may have existed elsewhere. Naturally this state of affairs may have been, in part, a reflection of the fact that Egypt had effectively moved over to the strategic defensive in all three of its theatres. With respect to the Libyan invasion, the Egyptian strategic goal was clearly the expulsion

---

68 Further into the account, there is a longer more sober passage where the king expresses his indignation over the actions of Irem.

69 KRI VII, 10.14; and RITA I, 86.


71 KRI II, 12.1-10 (“Poem”); and RITA II, 3.
of the intruders. There was to be no peace and nor was any accommodation to be sought with the Libyans invaders and their allies, the Sea Peoples. This is despite the fact they were evidently suffering from the hardships of famine which prompted the invasion. The Great Karnak Inscription makes it quite clear that they had descended upon Egypt to “seek the necessities of their mouths”.\textsuperscript{72} The incursion is announced, prior to this revelation, to the king via the standard \textit{lw.tw} formula again being used to indicate the beginning of the Egypt’s formal (now defensive) military response.\textsuperscript{73} The king next proceeds to describe the problems caused by the intruders and how terrible it is for Egypt to be plundered and laid waste by its enemies.\textsuperscript{74} Such a passage, which does not occur in earlier \textit{lw.tw} accounts, has certain parallels with the episode found in Kamose’s stela in which that king’s courtiers suggest a continuance in peaceful relations with the Hyksos. Could a similar strategic discussion have occurred here? That is, was there an attempt to persuade the king to reach a peaceful outcome with the Libyans? Merenptah’s subsequent and long justification (?) as to why this was not possible, at least under his rule, does seem to fit such a scenario. Indeed, at the end of the inscription, the courtiers extol the victories of the king, including his strategic plans, by almost contrasting the new strategic situation to what it was prior.\textsuperscript{75} Whether this could be seen as a form of eating humble pie is difficult to say. The Nubian rebellion is also announced to the king via the \textit{lw.tw} formula but in this instance there is no mention of an immediate strategic response due to the fact the Egyptians were at this time about to engage the Libyans in battle. The extant texts only refer to the successful aftermath of the much later conducted campaign with particular focus on the harsh treatment meted out on the rebels.\textsuperscript{76}

With the three invasion attempts that took place during the reign of Ramesses III, the primary strategic objective in each instance was again the defence of Egypt. The Year 5 inscription which recounts the first of the two Libyan invasions notes that

\textsuperscript{72} C. Manassa, \textit{The Great Karnak Inscription}, 34; and \textit{KRI} IV, 4.14-15.

\textsuperscript{73} For the restoration of the formula, see: A. Spalinger, \textit{Aspects}, 14-5; and C. Manassa, \textit{The Great Karnak Inscription}, 23.

\textsuperscript{74} C. Manassa, \textit{The Great Karnak Inscription}, 28-9; and \textit{KRI} IV, 4.5-12.

\textsuperscript{75} C. Manassa, \textit{The Great Karnak Inscription}, 71-3; and \textit{KRI} IV, 11.5-12.6.

\textsuperscript{76} The account of the Nubian revolt is found on four (parallel) stelae located at Amada, Amara West, Wadi es-Seboua, and Aksha, \textit{KRI} IV, 33.1-37.15. Of the four, the Amada stela is the most complete: \textit{KRI} IV, 1.12.7. See also Chapter V note 136.
the king was prepared to attack anyone “...who had violated his frontier. His Majesty thus went forth against them, like a flame...”. 77 No compromise was to be entered into. The Year 8 inscription, which is a somewhat more sober account, includes a fascinating passage noting the trail of destruction inflicted by the Sea Peoples in their advance towards Egypt. 78 Ramesses III, in response, prepares the frontier to receive the invasion. Of particular interest, there is a further mention of the king personally supervising the preparation of the border defences. 79 The Year 11 invasion attempt, instigated by the Meshwesh, specifically mentions the strategic goal of the invaders: to settle in Egypt. 80 Their penetrations into Egyptian territory were, however, successfully countered by the king. The strategic response of the Egyptians in each of these cases is generally consistent in that the enemy was to be confronted (not negotiated with) and repelled. While this is what one would expect from a determined defender, we do, however, notice the effectiveness of Egypt’s response did vary somewhat with each encounter. Against the Libyan incursions, and we will include the Year 5 invasion during the reign of Merenptah in this discussion, the enemy had already penetrated Egypt’s frontiers. In the case of Merenptah especially, the enemy was able to penetrate deep into the Nile Delta before being expelled. Only against the Year 8 Sea Peoples’ invasion was there an attempt to meet the enemy at the frontier region at a specific pre determined point. One suspects the Egyptians via their Asiatic intelligence network had a better indication of where and when the main enemy blow would fall. They would also have had far more time to prepare their defences. This may not have been the case when confronting the Libyans who may have been able to take advantage of Egypt’s more exposed weaker frontier bypassing the western defences utilising operationally indirect methods.

To conclude, it does seem quite clear that the Egyptians on occasion recorded specific strategic goals for their military campaigns. This alone provides us with a

77 KRI V, 23.6-7; and RITA V, 21. Just prior to this passage, mention is made of smashing the enemy’s plans: KRI V, 22.14-15. The difficulty with this account, however, is separating out the historically useful information. Even so, one should not deny the fact that this was a historical account, although some have discounted this, see, for example: L. H. Lesko, “The Wars of Ramses III”, 83-6 and our comments in Chapter II note 201.

78 KRI V, 39.14-40.5; and RITA V, 34. Mention is especially made of their extensive alliance and also the confidence in their own military planning. See also the comments of: A. Spalinger, War, 250.

79 KRI V, 40.6-40.15; and RITA V, 34.

80 KRI V, 60.9-10; and RITA V, 48.
reasonably clear indication of their ability to execute campaigns which had a desired and militarily achievable end state in mind rather than the king merely fulfilling the ideological role of protector of country. Admittedly, however, other commonly stated objectives are vague: “in order to widen the boundaries of Egypt”, for example. It is uncertain whether such statements, when employed, reflected some sort of military reversal, or were simply relied upon where the stating of more specific objectives was unnecessary or impossible. But even with such vague expressions, one could still be inclined to argue that extending one’s borders was a desirable strategic objective in its own right. Furthermore, and with respect to widening borders, we must also consider military objectives that were only achieved through the combined campaigning efforts of more than one king. The expulsion of the Hyksos and the conquest of Nubia were in all intents and purposes clear cut examples of long term territorial acquisition through systematic conquest. While certain objectives could be achieved in just one campaign by one king alone, these military actions required multiple campaigns over a number of years by a number of kings. Therefore, one king alone may not have been in a position to claim responsibility for the overall military success. In this respect, even campaigns that were labelled with vague objectives may still have contributed towards the overall victory. What is important to note is that the objectives chosen appeared to be specific and rational, that is, they were (theoretically at least) achievable objectives given the resources (means) and abilities (ways) available to the Egyptian army. Naturally, we must be careful of the fact that certain strategic objectives as coveted by the Egyptians that were not obtained through campaigning may have resulted in those objectives being altered after the fact in the official accounts so to hide embarrassing failures. There will, on the other hand, always be clear indications that a campaign was particularly successful with perhaps the booty

81 As reported, for example, by Ahmose son of Ebana with respect to Amenhotep I’s campaign against Kush: Urk IV, 7.1-2.

82 The capture of a single city as opposed to say the expulsion of the Hyksos: both could be considered strategic objectives, yet the latter was a more difficult objective to achieve.

83 The idea that the Egyptians blundered their way into creating an empire through the individual campaigning efforts of certain kings cannot really be entertained. This has been argued with respect to the Roman Empire in that it was acquired without any concept of central strategic planning, but see: E. Wheeler, “Methodological Limits and the Mirage of Roman Strategy: Part I”, 7-41; and “Methodological Limits and the Mirage of Roman Strategy: Part II”, Journal of Military History 57 (1993), 215-40, who successfully counters such arguments. The same holds true for the Egyptians. Given the level of sophistication in their other human endeavours (trade, commerce, construction, and industry) it seems absurd to believe their level of military thinking was that restricted.
lists being the most obvious indicator, the more extensive the list, the greater the victory. This last point is important. The booty lists likely marked for the Egyptians both the physical and psychological conclusion of a campaign. All the objectives had been achieved, order had been restored, and the war successfully terminated.84

Establishing Military Conditions

In order to achieve a desired strategic objective, it is imperative that a number of operational level conditions be identified and met. This is vital as to ensure that there is agreement between the chosen strategic goals and the operational capabilities of the army.85 These conditions address some of the fundamental elements of operational art, and while the terminology employed is relatively recent, the concepts they cover are, nonetheless, relevant to our discussion here and applicable to the military capabilities of an ancient army. If the Egyptians did indeed possess in some form an awareness of these concepts with respect to conducting their military operations then this would further support the idea for the existence of an Egyptian operational art.

84 The role of booty lists may be seen as just one indicator of bringing a conflict to its full and definite conclusion. See, for example, the extensive booty lists that accompanied the conclusion of Amenhotep II’s military campaigning: Urk IV, 1305.5-11 and 1308.16-1309.10 (Memphis); and Urk IV, 1314.10-12 and 1315.13-18 (Karnak). See also the comments of P. Der Manuelian, Studies in the Reign of Amenophis II, 76-7 and most recently E. Morris, The Architecture of Imperialism, 130-1. The importance of having a recognisable end point for a military conflict cannot be emphasised enough. Campaigns and especially wars should ideally be able to be brought either to their natural conclusion (see, in particular: E. Luttwak, Strategy, 59-66 on the consequences of this not happening) or there should be some system in place to ensure the conflict can be terminated if those objectives cannot be achieved. Terminating a conflict, however, can be a tricky affair as noted, for example, with the Egypto-Hittite conflict, P. Brand, “Ideological Imperatives”, 15-33. Overall, this is one area of military studies that has often been overlooked, but see, however: M. Handel, Masters of War, 195-213; and T. Massoud, “War Termination”, Journal of Peace Research 33 (1996), 103-9.

85 In other words, it was important the chosen strategic objective could be achieved through the operational and tactical means of the army.
Decisive Points

Decisive points, which are not to be confused with centres of gravity (see our discussion below), are certain geographical features, urban localities, which often tended to dominate important communications routes, or other essential components generally belonging to the enemy that assume significant military importance during the course of a campaign.\textsuperscript{86} Generally, the utilisation, capture, or destruction of a decisive point is a vital prerequisite to achieve victory. Indeed, depending on the proposed military action in question, it may even be necessary to gain control over, or eliminate, a number of such points in order to obtain the primary objective of a campaign (which could also be a decisive point in its own right). For the defender, it was equally vital that these points be safeguarded against enemy interference or capture. Therefore it is not uncommon for them to be well protected. Fortresses, for example, may be sited at or near important geographical locations whereas communications nodes tended to be controlled by towns or cities which were often well protected.\textsuperscript{87} These locations also made for suitable rendezvous points for bringing together divergent forces. In the case of the Egyptians, we should ideally see some indication that their military operations were conducted with some realisation of the importance of such points and this does indeed appear to be the case. In examining their logistics networks in Chapter IV, for example, we have already noted the importance placed on the acquisition of key bases or cities throughout the regions they campaigned. An extension of such planning from the realm of logistic necessity to purer military affairs is therefore not a considerable leap.

In Asia, key geographical locations, in particular the “bottlenecks”, were recognised and regularly protected or exploited (see also Chapters III and IV). The strategic fortress of Tjaru protected one such key decisive (bottleneck) point in the Eastern Delta where two bodies of water served to constrict access into and out of this

\textsuperscript{86} As defined by the United States Army Manual “Operations”. We have, in Chapter IV, already examined some key localities which can be classed as decisive points within Egypt’s three strategic theatres. Decisive points existed of course within the Nile Valley itself, such as the region of el-Hiba, the junction of Upper and Lower Egypt, R. Morkot, “Tradition, Innovation, and Researching the Past”, 142.

\textsuperscript{87} The Romans, for example, who attempted to maintain regular spacing for their forts, would alter this system, in particular, adding additional fortresses where necessary to ensure control over specific points such as road junctions and mountain passes, D. Breeze, “Regiments and Frontiers”, 73.
part of the Nile Delta. At the other end of the “Ways of Horus”, Gaza, the site of a New Kingdom administration centre performed a similar function at the eastern end of the Sinai Peninsula. Egypt’s other known htm fortresses were also located to take advantage of their natural environments. Further within this theatre, the city of Beth Shan protected three fords across the River Jordan and as such the city hosted at times an Egyptian garrison and fortress. The Egyptian fortress located at Tell Sa’idiyeh was constructed east of the River Jordan and also protected an important ford for that river. The Aruna pass was another important geographical bottleneck which was protected by Yehem on one side and Megiddo on the other. During the Year 22/23 campaign of Thutmose III, the Egyptian army made use of this pass but only because they had control over the former city. As well as geographical features, major land and sea communication routes were also important, especially where they intersected. The Asiatic port cities provided ingress and egress to the theatre and dominated their respective sections of the Via Maris. This made control of them, either by military or diplomatic means, essential for any sort of campaigning in this region, a point not lost on the Egyptians who actively incorporated these port cities into their military planning. Major inland towns and cities which dominated the land routes of this theatre were also high valued targets. For example, the centre of Kumidi, located in

---

88 The htm fortress of Wadi Hammamat, for example, guarded the entrance to Egypt via that geographical feature. Tjeku likewise guarded the important Wadi Tumilat which offered passage from the Delta to the Sinai, E. Morris, The Architecture of Imperialism, 137.

89 See, for example, the comments of: D. Warburton, Egypt and the Near East, 83 and 85.


91 The importance of the port cities of Akko and Ashkelon has already been touched upon. Sumer was likewise a vital harbour city and Egyptian Base. This city was first brought into the empire during the reign of Thutmose III (Urk IV, 689.13), and subsequently became the northernmost coastal outpost of Egyptian power, E. Morris, The Architecture of Imperialism, 224. It possessed an excellent harbour, and its location at the mouth of the Eleutheros River, allowed easy access through the Lebanese mountain range and into the vicinity of the city of Qadesh as well as access to Syria’s southern main highway, the Beqa Valley, ibid., 224-5. From Sumer, one was able to launch military strikes against both Qadesh and Ullaza. This last city, first garrisoned by Thutmose III (Urk IV, 1237.9-17), was also an important fortress-town. Although its exact location is uncertain, it is possible it was situated at the mouth of the Nahal Barid on the Lebanese coast, ibid., 252. If this was the case then this city would have provided the Egyptians with a working harbour and a convenient route inland through the mountains, in addition to being an important base for launching or supporting operations against Qadesh, ibid., 252. Indeed, if one was able to gain possession of Ullaza and Sumer, in addition to Kumidi and Shabtuna, then this city could be threatened from multiple directions.

92 The cities of Aphek, Gezer, Lachish, Megiddo, and Tell el-Ajjul, for example, were all of strategic value in the fact they were situated on major communications routes. Aphek was located in the Sharon Plain and at the foot of the springs of the important Yarkon River, ibid., 371. Gezer and Lachish were important communications links between the hill country and the coastal road. The latter, in fact, along
the Lebanese Beqa and near the headwaters of the Litani River was ideally situated to monitor two important military and trade routes. The first ran north-south along the Beqa Valley, and the other ran east-west between Sidon and Damascus. Furthermore, this city also protected a bottleneck in that it effectively blocked the passage through the narrow plain between the Lebanon and the Anti-Lebanon mountain ranges. In order to advance north to Qadesh, armies would have needed to pass through this city which was, in effect, the last town of any note before reaching that aforementioned ultimate prize.

Qadesh was, without doubt, one of the most important decisive points in this theatre. This city effectively controlled both the militarily vital east-west transit corridor to the Mediterranean coast via the Eleutheros Valley and it also lay on the main northern route into Syria from the Beqa Valley. Therefore it is none too surprising the city was subjected to pressures (both militarily and diplomatically) from multiple directions. The Egyptians alone conducted no less than five and possibly six assaults against this city within a relatively short space of time: Thutmose III (twice); Akhenaten; Tutankhamun; Sety I; and Ramesses II. Not all of these attacks were successful. As the Egyptian empire reached its zenith and moved over to the defensive, these decisive points had to be protected from enemy interference and, as such, they either needed to be fortified or at least possess a garrison. The Amarna letters make clear just how easily an important location could be lost.

with Gaza and Tell el-Hesi guarded the three main roads leading to Egypt, ibid., 39-40 and 254. Tell el-Ajjul was situated at the eastern end of the “Ways of Horus”, and at the head of the *Via Maris* as well as the main north-south highway in southern Canaan. As noted by Ellen Morris, from this location a garrison had the potential to interfere with almost all land traffic between Egypt and Canaan, ibid., 29 and 52.


94 Ibid., 355.

95 Ibid., 355.

96 For Thutmose’s actions against Qadesh, see: *Urk IV*, 689.1-19; 892.6-892.15; 894.5-895.7; and D. Redford, *Wars in Syria*, 217-9. For the campaigns of Akhenaten and Tutankhamun, see: J. C. Darnell and C. Manassa, *Tutankhamun’s Armies*, 172-8 and 178-84 respectively. For Sety I’s successful action, see: *RIK IV*, pls. 22-6; and for Ramesses II’s famous battle, *KRI II*, 3.1-147.16 (in addition to our references in Chapter I note 8. While it may be tempting to view the Egyptian struggle to dominate Qadesh in a similar light as what occurred around the city of Verdun during World War I, the practical military reasons for possessing this city far outweighed any ideological considerations.

97 Warburton, for instance, claims that Sety I was able to establish a three tiered “defensive perimeter” against external threats: Amurru formed the outermost layer; the two key sites of Beth Shan and Tell el-Shihab, the second layer; and the Sinai fortresses, the last line of defence, D. Warburton, *Egypt and
Naturally, not all cities, towns, or geographical features were decisive points. Whereas some locations had significant strategic valuable and needed to be held at all costs, other territorial acquisitions that were of lesser value (and maybe even of some liability) could be sacrificed when required. Akhenaten, it has been argued, was content to “lose” Egypt’s northern most possessions to the growing power of Amurru as it suited his need that a robust buffer state develop between Egyptian and Hittite possessions. From the perspective of the Egyptians, they may have considered that none of the cities lost, in this instance, were truly “decisive”, as they were either of little military or economic value in the current political situation. This may not have been the viewpoint shared by those who took control of the cities from the Egyptians.98

In Nubia the most important geographical decisive points were the Nile cataracts which acted as natural barriers to riverine movement both to the north and south. It is therefore not too surprisingly that we find extensive fortifications constructed around and near them. The cataracts also served as convenient, and clearly defined, “boundaries”. Other decisive points were established at certain other geographically notable locations or where land routes intersected with the Nile.99 These too, often necessitated a fortress for their protection.100 Again, the importance of these decisive points was recognised by the Egyptians, and military planners were obliged to factor them into their campaigning.

The Near East, 86-7. While this is may not be entirely accurate, it would seem to indicate a certain awareness on the part of the Egyptians that particular locations were perceived of as being of more value (militarily) than other locations.

98 With respect to the more northern port cities, it has been argued that they were, in fact, of little strategic importance, and could be sacrificed, if the situated wanted it: J. C. Darnell and C. Manassa, Tutankhamun’s Armies, 156-72 and especially 163-4. Even though they were (operationally) decisive points, there may have been greater (strategic) concerns that had to be considered. Compare those timeless disparate strategies: holding land or territory at all cost, no matter if it was of dubious value; versus (the more sensible course of action?) of surrendering land when and where required, i.e. trading space for time.

99 Abu Hamad, for example, was located on a point on the great bend of the Nile. At this site, evidence has been recently discovered of New Kingdom gold-processing on the eastern side of the island of Mograt (situated within this bend). As such, this location may have warranted a (as yet undiscovered) military installation, W. V. Davies, “Kurgus 2000: The Egyptian Inscriptions”, 57. Kerma, likewise, occupied a key geographical position, especially with respect to trade as it served as a crossroads for not only north-south river transport but also for travel between the Eastern and Western Deserts, C. Bonnet, “Upper Nubia from 3000 to 1000 BC”, 114. As well as controlling commerce, its location was also excellent for agriculture and cattle raising, S. Lupo, “The Inscription of Amenemhet II”, 49.

100 As one would expect to see with Napata and Kurgus, E. Morris, The Architecture of Imperialism, 71.
Libya, for its part, is once again the most unique of Egypt’s three theatres in that it possessed few decisive points. The oases in this theatre certainly qualified as such in that they were not only the most conspicuous geographical feature but also served as important communication junctions (see Chapter III). The extent in which they factored in Egyptian military planning, however, is difficult to say. Visible Egyptian military involvement is clearly seen in the string of fortresses extending out from the Western Delta (Chapter IV) but these did not control decisive points. Rather they were sited artificially to facilitate land communication back to the Delta. Only the last fortress in this string can be said to exert influence over a geographic point of some importance. Some indication of Egyptian control, in the form of isolated outposts deep into the Western Desert, is also evident, which would seem to indicate that even as early as the Old Kingdom, there was an awareness of the need to control certain key locations. Control, however, proved ephemeral in this theatre.

Centres of Gravity

The Clausewitzian concept of centre of gravity has been and continues to be the subject of a great deal of discussion and debate. Essentially, a centre of gravity, as it is generally understood today, is an identifiable element that provides a system with a source of power to act. As centres of gravity exist in any sort of military

---

101 Zawyet Umm El-Rakham with respect to Bates’ Island, see Chapter IV: *The Logistics Network in Libya*.

102 The Abu Ballas site, for example, see Chapter III: *Libya*.

103 For an overview of the problems associated with interpreting this concept, see: J. Schneider and L. Izzo, “Clausewitz’s Elusive Center of Gravity”, *Parameters* 17 (1987), 46-57; J. Strange and R. Iron, “Center of Gravity. What Clausewitz Really Meant”, *JFQ* 35 (2004), 20-7; and D. Eikmeier, “Center of Gravity Analysis”, *Military Review* July-August (2004), 2-5. Further adding to these difficulties is that the English concept of Clausewitz’s Centre of Gravity (Schwerpunkt) as represented in Western military doctrine (which in turn has evolved considerably) may not accurately reflect its original meaning, and possibly encompass elements that Clausewitz himself would not have recognised. In fact, it is now quite different from the current German concept of Schwerpunkt (which still remains close to Clausewitz’s original concept) that the two should be treated separately, M. Vego, “Clausewitz’s Schwerpunkt: Mistranslated from German - Misunderstood in English”, *Military Review* January-February (2007), 101-9.

104 As redefined by D. Eikmeier, “Center of Gravity Analysis”, 2. The army, for example, was a clear physical centre of gravity and this is clearly stated by Clausewitz. There is, however, more ambiguity regarding moral centres of gravity with one point of contention being whether or not leaders could be seen as such. On that note, compare especially the arguments of J. Strange and R. Iron, “Center of Gravity” 20-7; and D. Eikmeier, “Center of Gravity Analysis”, 2-5.
engagement and hostile interaction, identifying and eliminating those of one’s enemy usually results in a more decisive military victory than would otherwise be achieved by simply targeting random elements of their war machine.\textsuperscript{105} Furthermore, as centres of gravity can be attacked indirectly as well as directly, it was possible for a weaker military force to neutralise or even defeat a stronger enemy and thus avoid a war of direct confrontation and attrition. Centres of gravity are to be found at all three levels of war as will be discussed below,\textsuperscript{106} yet it is at the operational level that they can assume particular importance. Therefore, planning at this level of war must take into account what one’s own operational centres of gravity are with respect to those of the enemy. As centres of gravity can change during the course of a single campaign, and even a battle, this is no easy task.

We will in this section examine potential centres of gravity in Egypt’s military interactions with their enemies, and attempt to ascertain how the Egyptians attacked those (either directly or indirectly) of their enemies. In order to correctly identify whether a particular military component could be a centre of gravity, however, is not a simple affair, especially if one attempts to follow Western military definitions. Therefore we will need to examine the unique characteristics of each key component in order to determine how it functions in war. For a component to be centre of gravity, first and foremost, it must be able to project physical force or power (or more arguably, project moral force).\textsuperscript{107} If it does not, it cannot be considered a centre of gravity. Next, it should possess some form of critical capacity, that is, it should do something which makes it militarily vital (in other words, what source of power does it provide?). Third, a centre of gravity usually possesses critical requirements that are necessary for it to perform its function, and finally, centres of gravity may have unique vulnerabilities which, if exploited, could allow for them to be easily neutralised.\textsuperscript{108} Targeting an enemy’s centre of gravity is where operational art comes into prominence. This is especially so when an attempt is made to target its critical requirements and vulnerabilities.

\textsuperscript{105} M. Vego, \textit{Operational Warfare}, 309.

\textsuperscript{106} \textit{Ibid.}, 310-3; and D. Eikmeier, “Center of Gravity Analysis”, 4-5.

\textsuperscript{107} Sea ports, logistics resources, lines of communications and so forth are not centres of gravity as they do not project power, see D. Eikmeier, “Center of Gravity Analysis”, 5.

\textsuperscript{108} \textit{Ibid.}, 2-3.
Beginning with the tactical level, we can identify at least three potential centres of gravity that could occur during a battle. The first of these is the real power generated by the chariot units (table 6.1). The importance of this weapon on the battlefield has already been established in Chapters I and V and it should therefore come as no surprise that both Egyptian and enemy chariots feature prominently in the pictorial records as well as in the textual accounts. If an army is dependent on this arm for offensive operations, then the loss of this centre of gravity can have significant repercussions at the tactical level. During the battle of Qadesh, chariots were the main offensive element of the Hittite attack subjecting the Egyptians to two massed attacks (the first supposedly involving 2,500 chariots, the second 1,000). After both attacks had been defeated, the Hittites had lost their main striking force – their centre of gravity had been defeated (rather directly as well). The Egyptians appeared to have targeted the enemy chariots with their own thus directly employing their centre of gravity against that of their enemy. This is made even more explicit during the following day where the mass of Hittite infantry (which had not yet taken part in the fighting) was unable to decisively defeat the Egyptians on the battlefield. In this battle, therefore, the Hittite infantry proved not to be a centre of gravity.

<table>
<thead>
<tr>
<th>Projects Force:</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Capacity:</td>
<td>Battlefield manoeuvrability; firepower; speed; and ability to pursue broken enemy formations</td>
</tr>
<tr>
<td>Critical Requirements:</td>
<td>Training; specialised weaponry and materials; sufficient ammunition</td>
</tr>
<tr>
<td>Critical Vulnerabilities:</td>
<td>Need to be protected from enemy infantry and chariots; inhibited by unsuitable terrain</td>
</tr>
</tbody>
</table>

Table 6.1: Chariot as Tactical Centre of Gravity

109 For tactical and operational analyses of this weapon, see Chapter I: Chariot Warfare and Chapter V: Force respectively.

110 KRI II, 31.1-9 and 45.6-10 and KRI II, 51.12-16 respectively.

111 The Libyan army which invaded Egypt during the reign of Merenptah consisted of infantry only (possibly equipped with spears, small shields, and long bladed swords), C. Manassa, The Great Karnak Inscription of Merneptah, 25. The absence of a chariot force may have contributed to their defeat.
The next potential centre of gravity that could develop during the course of a battle was the power concentrated in the archer units (table 6.2). From some of the earliest recorded images of war, it is clear that the archer assumed a prominent place in the tactical battle (see Chapter I) and even his weapon became synonymous with military might. Simple and self bows, while possessing only weak penetrating power and limited range, were still effective against the “soft targets” of unarmoured and occasionally shieldless troops. The destructiveness of this weapon, however, increased considerably with the introduction of the compound bow, and it was the combination of this weapon with the chariot that was to produce a truly effective weapon of war. On the offensive, archers, as we have noted in Chapter I, were of value for “softening up” a target prior to the main infantry attack, and were used also for subduing the defenders of a fortress or city while at the same time providing covering fire for the assault troops. They were likewise equally effective on the defensive in breaking up enemy attacks, and were the preferred weapon of choice for defending a city or fortress that was under attack (see Chapter II). As well as a mainstay weapon in their arsenal, the fact that the Egyptians even went so far as to employ foreign bowmen (Nubians were well recognised for their archery prowess) further testifies to the high value the Egyptians attached to this weapon. Again, this centre of gravity was attacked directly by the Egyptians either with their own archers, or with their infantry and chariots.
Archers

<table>
<thead>
<tr>
<th>Projects Force:</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Capacity:</td>
<td>Ability to inflict devastating firepower from a “stand off” location</td>
</tr>
<tr>
<td>Critical Requirements:</td>
<td>Training; specialised weaponry and materials; sufficient ammunition</td>
</tr>
<tr>
<td>Critical Vulnerabilities:</td>
<td>Need to be protected from enemy infantry and chariots</td>
</tr>
</tbody>
</table>

Table 6.2: Archers as Tactical Centre of Gravity

The final key potential centre of gravity at this level of war was the standard infantry unit (table 6.3). The infantry formed the bulk of the army and was the core element of the combined arms division. Infantry were able to be utilised in both open battles and for assaults against fortified targets and therefore, they possessed more versatility than either of the above mentioned components. However, this versatility came at a price in that unlike the specialised archer and chariot units, infantry formations possessed neither the manoeuvrability of the latter nor the ability of the former to rely on “stand off” firepower. For armies that were operationally inclined, infantry often did not tend to serve as a centre of gravity but rather supported the activities of the other above mentioned components. If, however, the battle were to dissolve into an attritional slugfest, only then would the infantry become a true centre of gravity.

Infantry

<table>
<thead>
<tr>
<th>Projects force:</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Capacity:</td>
<td>Ability to fight tactical battles; engage in siege warfare; occupy and defend territory</td>
</tr>
<tr>
<td>Critical Requirements:</td>
<td>Leadership; weapons; logistics; fortifications</td>
</tr>
<tr>
<td>Critical Vulnerabilities:</td>
<td>Surprise attacks; limited firepower range; slow; minimum manoeuvrability; logistic dependencies</td>
</tr>
</tbody>
</table>

Table 6.3: Infantry as Tactical Centre of Gravity

The idea that a military commander (or a national leader) could be considered as a centre of gravity is debatable. On the one hand, a single individual alone cannot project real military force and thus can never be a true physical centre of

---

115 See especially D. Eikmeier, “Center of Gravity Analysis”, 2-5 who is against the view that individuals (at any level) can be centres of gravity.
gravity, and this point is succinctly made by Clausewitz. On the other hand, it has been argued that certain individuals in unique circumstances may become what has been termed a “moral centre of gravity”. The interplay of these two divergent views can best be illustrated with the following example. If we consider the case of Ramesses II at the battle of Qadesh, he could very well be seen as moral centre of gravity at the tactical level for the army. His boastings of charging into enemy formations alone should be seen in this respect. He was, quite clearly at that instant in time, the core of Egyptian resistance. But this centric importance is not carried on to the higher levels of war. At the operational level, his premature death (prior to the battle) would have been a devastating emotional loss to God and Country but the army would have likely returned to Egypt (in good order and not having yet suffered a military setback). At the strategic level, the death of this king, again a tragic affair, would naturally have had some short term negative effects, but the state would have survived, a new leader would ascend the throne, and Egyptian military activity abroad would most likely have continued (see our discussion below). It is clear that the Egyptians did consider enemy leaders as the nexus of resistance at the tactical level of war. This is especially evident in the numerous battle images where the foreign chieftain is often depicted being personally despatched by the Egyptian king. In addition, we can also refer to certain texts where once the enemy leader is killed, enemy resistance suddenly collapses, a clear indication that the leader was a key component of the enemy resistance. Yet as we will examine below, the idea that a leader can be a centre of gravity weakens considerably as we ascend through the levels of war, and even at the tactical level, the argument is not particularly strong.

116 Clausewitz states that with the “great captains” Alexander, Gustavus, Adolphus, Charles XII, and Frederick the Great, the centre of gravity was their army: On War, 596.

117 As argued by: J. Schneider and L. Izzo, “Clausewitz’s Elusive Center of Gravity”, 46-57; and M. Handel, Masters of War, 59-60. Indeed, at the tactical level, two separate 4th century B.C. Greek battles appear to lend support to this fact. The death of Kleombrotos at the battle of Leuktra and that of Epameinondas at Mantinea led to a collapse of effort in their respective armies: V. Hanson, “Epameinondas, the Battle of Leukra (371 B.C.), and the ‘Revolution’ in Greek Battle Tactics”, CA 4 (1988), 200-1.

118 Thus conforming perfectly to Clausewitz’s idea of a centre of gravity being “ein Zentrum der Kraft und Bewegung”. For the problems of this passage as translated in the Howard and Paret edition, see: J. Strange and R. Iron, “Center of Gravity”, 21-4.

119 J. Wells, War in Ancient Egypt, 242-3.

120 With respect to Imperial Rome and the presence of the emperor himself on the battlefield, Josh Levithan posed that important question: “when the fighting started, where should the emperor stand?”,
It may be also argued that other prominent military components at the tactical level should be considered to be centres of gravity such as, for example, the walls of a major city. The depiction of the walled city was indeed an enduring feature in Egyptian art, as was the assault to overcome this formidable barrier. This state of affairs continued even when the walls may no longer have been physically present, yet they were still represented due to their strong symbolic power. That the Egyptians recognised the importance of city walls as an enabler of resistance is beyond dispute. A well fortified city could be utilised as a secure base in which to launch attacks both against the Egyptians or their allies. In order to overcome this defensive feature, walls could be assaulted by a number of means, and either during the assault process or afterwards it appears that the Egyptians would specifically target the gate area for destruction. This of course had two immediate consequences. First, it increased the vulnerability of that city to future attack and second, by removing this fortification point, the city would have been less prone to undertake aggressive actions against their neighbours. Impressive as they were, however, city gates and walls were not centres of gravity. They cannot project power alone. Rather, they were a critical requirement in the projection of power by other military units.

As one can see, there were a number of potential centres of gravities at the tactical level. The Egyptians clearly recognised these important elements within their own military structure and this is evident from the prominent place they assumed in both their pictorial and textual accounts. They also recognised those of their enemies especially with respect to the chariots and archers of their opponents. These are, for example, prominently featured being chased down and destroyed by the Egyptians.

J. Levithan, “Emperors, Sieges, and International Exposure”, in Beyond the Battlefields: New Perspectives on Warfare and Society in the Graeco-Roman World, E. Bragg, L. I. Hau and E. Macaulay-Lewis (eds.), (Newcastle, 2008), 26-7. As with the Egyptian king, the emperor was not easily replaced, and while the risk of exposure to real combat did have its benefits “getting shot at was terrific public relations”, ibid., 28, reality dictated that risk on the battlefield be minimised.

121 See Chapter II; and S. Heinz, Die Feldzugsdarstellungen, passim.


123 As we have already covered in Chapter II.

As we move into the operational level of war, we can recognise at least two centres of gravity. The first of these was the standard combined arms field division which was the most powerful military force for land combat (table 6.4). It enabled the achievement of set objectives (with or without actual combat), and by the New Kingdom at least, a number of such divisions could be fielded by the Egyptians simultaneously. This was without doubt the most recognisable physical centre of gravity that either the Egyptians or their enemies possessed at the operational level. Given this importance, it therefore comes as no surprise that we find numerous references in the pictorial and textual accounts to military encounters between such forces. A popular subject for depiction, in particular, was the complete destruction of the combined armed forces of the enemy.\(^\text{125}\)

<table>
<thead>
<tr>
<th>Combined Arms Infantry division</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projects force:</td>
</tr>
<tr>
<td>Critical Capacity:</td>
</tr>
<tr>
<td>Critical Requirements:</td>
</tr>
<tr>
<td>Critical Vulnerabilities:</td>
</tr>
</tbody>
</table>

Table 6.4: Combined Arms Infantry division as Operational Centre of Gravity

As at the tactical level, the chariot also made a not too insignificant impact at the operational level due to its ability to operate independently from the main army in considerable numbers while projecting considerable firepower. While a formation of chariots did not have the same combat firepower as a complete combined arms division, it did, nonetheless, combine manoeuvrability with (“stand off”) firepower, allowing it to engage in operations over an extended geographical area. The ability to engage the enemy indirectly, especially by making heavy use of the element of surprise, further added to its operational importance.

\(^{125}\) Surprisingly, the Egyptian accounts also make reference to the destruction of one of their own divisions (Pre at Qadesh): KRI II, 26.7-27.11.
Independent Chariot Formation

<table>
<thead>
<tr>
<th>Projects force:</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Capacity:</td>
<td>Means to achieve military success at the operational level combining manoeuvrability, surprise and firepower</td>
</tr>
<tr>
<td>Critical Requirements:</td>
<td>Intelligence; leadership; suitable training; doctrine</td>
</tr>
<tr>
<td>Critical Vulnerabilities:</td>
<td>Lack of infantry support; vulnerable to attritional encounters; limited application; logistic dependencies</td>
</tr>
</tbody>
</table>

Table 6.5: Independent Chariot Formation as Operational Centre of Gravity

As we begin our ascent to the strategic level, a comment must be made with respect to military alliances. Clausewitz noted that a centre of gravity could exist in alliances where a common interest was shared. Attacking this common interest could, therefore, bring about victory.\(^{126}\) It is worth noting that during their military campaigning in Asia, the Egyptians recognised the importance of having vassal or allied states in this region which allowed for greater operational flexibility (see Chapters III, IV and V). Vassals and allies provided supplies, secure bases, troops (on occasion), and most importantly, intelligence. It was even possible for superpowers to use their allies as proxies to attack other superpowers.\(^{127}\) Indeed, such alliances had the potential to seriously impact (for better or for worse) the ability of superpowers to project military power. One such case in point was the growth of Amurru sandwiched between Egyptian and Hittite dominions which, given its strategic position, was able to play both superpowers off against the other. With the realisation of the importance of such alliances for the projection of military might, it should therefore come as no surprise that the superpowers deliberately made attempts to undermine those of their opponents. However, no matter how important these vassals were, their allegiance at this level (that is client and subject) cannot always be considered a true centre of gravity. As the relationship tended not to be one of equals, but rather that of a smaller state relying on the military support of the larger, the real centre of gravity therefore becomes the armed forces of the client state.

\(^{126}\) Clausewitz, *On War*, 596.

\(^{127}\) As Mitanni may have attempted to do with Qadesh, that is, formulate a “Kadesh-lead, Mitannian-backed” rebellion within Egypt’s Asiatic sphere of interest, D. Redford, *The Wars in Syria*, 193.
Military Alliances with Vassal States and Minor Powers

<table>
<thead>
<tr>
<th>Projects Force:</th>
<th>Debatable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Capacity:</td>
<td>To expand the influence of their Client States.</td>
</tr>
<tr>
<td>Critical Requirements:</td>
<td>Promise of protection (from their clients); some form of official recognition</td>
</tr>
<tr>
<td>Critical Vulnerabilities:</td>
<td>Insufficient protection from the client state; exposed geographical location; dubious loyalties; potential to become dangerous liabilities</td>
</tr>
</tbody>
</table>

Table 6.6: Military Alliances as a possible Centre of Gravity

In the absence of an alliance among equals, there is generally only one true physical centre of gravity at the strategic level, the military forces of the nation. This was the case for the Egyptians as well (table 6.7).

<table>
<thead>
<tr>
<th>Projects Force:</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Capacity:</td>
<td>Ability to engage in offensive and defensive actions; occupy foreign territory; carry out strategic policy</td>
</tr>
<tr>
<td>Critical Requirements:</td>
<td>Men; material; a logistics network; bureaucratic organisation; doctrine; military industrial complex</td>
</tr>
<tr>
<td>Critical Vulnerabilities:</td>
<td>Manpower requirements; logistic dependencies; danger of strategic overextension</td>
</tr>
</tbody>
</table>

Table 6.7: The Armed Forces as a Strategic Centre of Gravity

As we have ascended the three levels of war, the potential centres of gravity have become fewer but more powerful, and returning to the point made earlier with respect to the importance of centres of gravity at the operational level, we can now see the desirability of attacking those of one’s enemies at this level. They were accessible, either directly or indirectly, and by destroying them, there could be huge strategic consequences as is noted during the battle of Qadesh where one (Hittite) centre of gravity destroyed another (the Egyptian Pre division).

The question of whether leaders could be centres of gravity must be continued here. The death (untimely or not) of a particular leader need not result in a sudden change in strategic or grand strategic planning (or for that matter heighten or lessen the chance for an overall victory, or a complete military collapse). Although the passing of a leader may be seen as an opportunity for rebellion, this in itself is not reason enough to prove that the recently deceased was a centre of gravity. In most
instances, rebellions are successfully put down by the successor. Even royal deaths
that occurred during national struggles were survivable. The premature death of
Seqenenre and the eventual death of Kamose did not halt Egyptian efforts to expel the
Hyksos from the Nile Valley, thus ultimately these two individuals were not strategic
moral centres of gravity but merely tools fulfilling Egyptian policy. Their deaths
may have ended the particular campaign which they were commanding, but the
overall strategy remained unchanged. Following the death of Kamose (either by
military action or natural causes – this does not actually matter), his successor,
Ahmose, was eventually able to expel the Hyksos. If he had not accomplished this
then it is likely one of his successors would have, and so on. The downplaying of the
role of the superpower or city state leader who stands aloof of the battle is reflected
somewhat in the Egyptian war reliefs. At Qadesh, for example, the Hittite king does
not take part in the battle and is depicted among the mass of his army in direct
contrast to Ramesses II whom we find in the thick of the action, fighting against what
the Egyptians perceived as the real centre of gravity – the Hittite chariots. The
Egyptian king would not have directly participated either, had the circumstances been
different. Leaders of city states, as befits their position, are likewise often not shown
taking part in the fighting but rather, in the face of an Egyptian onslaught, are seen
attempting to seek religious salvation (from an even higher centre of gravity!).

Occasionally, however, a leader could bring about considerable changes in
foreign policy. Thutmose III, for example, instigated a more aggressive policy
towards Asia than either his predecessor or successor. Major policy changes could
even occur within particular reigns. Ramesses II ended decades of conflict with the
Hittites with the signing of a peace treaty. While such sudden and abrupt changes in
internal and external policies are notable and can have far ranging effects this does not

128 The death of Franklin D. Roosevelt in office did not lead to a collapse of the American military
effort during World War II. This was the hope expressed by Hitler and his entourage who saw in the
American President’s death a potential parallel with the death of the Czarina Elisabeth which saved
Frederick the Great from military defeat during the Seven Years War, I. Kershaw, Hitler. 1936-1945

129 J. C. Darnell and C. Manassa, Tutankhamun’s Armies, 13.


131 See Chapter II: Ritual and the Fall of the City.

necessarily mean that the instigator should be considered a strategic centre of gravity. What we do tend to note, however, is that certain individuals can become vital for very finite periods of time and in particular circumstances, especially in that without their efforts, complete military disaster could result. From a purely military point of view one may gain an indication of the importance of a certain leader by the percentage of their reign devoted to warfare, although this can be difficult to establish due to fragmentary evidence and uncertainty over lengths of reigns. The analysis of Gregory Mumford which examines the frequency of military campaigns in Asia with respect to length of reign indicates that Thutmose III stood out above the norm while other rulers also had slightly more active military careers than others. Yet overall, most of the frequencies fall into a similar range. This would seem to indicate that there was a relative continuity with respect to military endeavours for certain periods.

For their part, the Egyptians did recognise certain individual kings as being more notable than others. Those, for example, who instigated particularly powerful dynasties following periods of turmoil are especially marked out for distinction. Again, it may be tempting to see these individuals as being true centres of gravity, in that their untimely deaths may have sent the country back into turmoil, although this was probably unlikely, and these individuals did eventually die anyway. For example, in the *Tale of Sinuhe*, the main protagonist flees Egypt following the death of Amenemhet I as he feared the state was going to be plunged back into chaos. This,

---

133 Clear instances where one individual made significant contributions to military success include: Alexander the Great (of particular note, his death saw the fragmentation and ultimately disintegration of his “empire”); Napoleon Bonaparte; Adolph Hitler; Abraham Lincoln; Winston Churchill (during his first crucial years of as Prime Minister, but less so as the war continued). None of these individuals, however, were true “centres of gravity”.


135 G. Mumford, “Egypt’s New Kingdom Levantine Empire”, 169. Campaigns from the reigns of Ahmose to Hatshepsut averaged 0.03 per year. From Thutmose III to Thutmose IV (a period of 68 years), the average increases to 0.31. From Amenhotep III to Horemhab (58 years), the average drops down to 0.05. From Ramesses I to the first half of Ramesses II’s reign, a 49 year period, the average increases to 0.22 (In his first 33 years alone, campaigns for Ramesses II averaged 0.24 per year (*ibid.*, 198)). For the remainder of Ramesses II’s reign and to the end of the Dynasty (60 years) there was a noticeable slackening of effort with only 0.02 campaigns per year.

136 The “King Lists”, for example, clearly indicate those rulers that held a particular importance to the Egyptians (while omitting the more contentious monarchs), see: D. Redford, *Pharaonic king-lists, annals and day-books: a contribution to the study of the Egyptian sense of history* (Mississauga, 1986), passim.

435
however, did not come about. A successor came to the throne, order was retained, and Egyptian imperial expansion continued. Amenemhet I was not a centre of gravity and his death paved the way for a more militarily active ruler (who in turn was also not a centre of gravity). Indeed, circumstances which produced leaders of such vital necessity to a state’s existence were avoided as they tended to bring the whole system down with them upon their demise.\textsuperscript{137} It was therefore not in the best interests of the state to allow one individual to become so vital to its existence. For their part, the Egyptian state generally possessed a sufficient level of bureaucracy to ensure that a legitimate (if not competent) successor was able to ascend the throne upon the death of the preceding ruler. This allowed for a line of continuity that was, theoretically at least, unbreakable.

It must be stressed that this in no way should undermine the importance of a state leader and they did (and currently do) remain desired targets for enemy attack. In fact, a superpower leader tended to be insulated by so many layers of protection that it proved difficult if not impossible for them to be killed. This was not the case for a lowly battlefield commander, and nor for leaders of city states, individual cities or towns and tribes. They were both more vulnerable to attack and also had greater potential of bringing down their entire system either with their deaths or their unadvised actions. City state leaders could engage in major shifts in policy. Unlike the foreign policies of superpower states which tended to be rational (and thus predictable), their policies, on the other hand, were centred around self interest and could therefore be quite unpredictable. Alliances were swapped or broken at a moment’s notice and sporadic rebellions were undertaken to take advantage of prevailing circumstances. What is important to note is that the policies of these princelets were often very personal tending to be tied very closely to the individual rather than the city’s elite or its population as a whole. Therefore, once the troublesome ruler had been eliminated or neutralised, this usually marked an end to the threat.\textsuperscript{138} The Egyptians often accomplished this through outright military conquest of the city followed by the installation of a new ruler who was more positive

\textsuperscript{137} As stated above, Alexander the Great was one case in point.

\textsuperscript{138} This was, however, not always the case, especially with enemies at the lower end of the technological scale, seen most notably with the continued problem with rebellions in Kush during the New Kingdom where an enemy leader could be captured or killed only to be replaced by another, C. Vandersleyen, \textit{Les Guerres d’Amosis}, 68.
to his vassal status. Yet this was a time and resource consuming method which could involve costly assaults and the possibility of a siege. An alternative method employed by the Egyptians to forestall later trouble was to neutralise this potential source of trouble indirectly by targeting the offspring of the ruler. By removing their children as hostages, the Egyptians were able to gain a certain degree of leverage over the leaders of these city states thus discouraging them from engaging in any troublemaking ventures.

That the Egyptians appreciated the importance of the leader at the tactical level is beyond dispute, and the same held true at the operational level. At the strategic level (and the level of Grand Strategy), the leader was again unquestionably the most important person in the state. We can, therefore, consider the pharaonic leader (or leaders of other powers (both minor and major)) in terms of Clausewitz’s concept of centre of gravity, but not as a centre of gravity itself. Rather, the leader served as a critical requirement (and in some cases a vulnerability, if not liability) to the real physical centre of gravity, the armed forces of the state itself. This is, therefore, what made them a desired military target to be neutralised, either indirectly (by taking their children as hostages) or directly (an arrow through the head).

**Culmination and the Principle of Continuity**

Unlike with the concept of centre of gravity, the Clausewitzian concepts of the culminating point (*Kulminationspunkt*) and principle of continuity are less ambiguous in meaning, and have particular relevance for our discussion here. The point of culmination was reached when the attacker’s strength was no longer greater than the defender, and any further offensive effort would only result in increasing weakness.

---

139 Although these appointments were not always successful and could result in a certain degree of conflict within the city, S. I. Groll, “The Egyptian Administrative System”, 234-42.

140 J. Hoffmeier, “Aspects of Egyptian Foreign Policy”, 134-5 and especially 138. This policy was not just restricted to Asia, but also employed in Nubia, C. Vandersleyen, *Les Guerres d’Amosis*, 68.

141 As noted, for example, in: *Urk* IV, 1102.11-1103.2 and with respect to Nubia, *Urk* IV, 140.12-14 and *Urk* IV, 172.8. The chief heirs of Canaanite vassal princes brought back to Egypt as hostages would be raised in the Egyptian court and then sent back to Canaan to take their fathers’ thrones, as in *EA* 296, W. Moran, *The Amarna Letters*, 338-9; and R.T. Sparks, “Canaan in Egypt”, 46-7.

142 For a discussion of these concepts, see: M. Handel, *Masters of War*, 165-94. For the concept of the culminating point alone, see: M. Vego, *Operational Warfare*, 341-70.
and heighten the possibility of a sudden reversal leading to complete and utter defeat. The principle of continuity, on the other hand, stresses the need (somewhat paradoxically) to maintain the pursuit and not allow your opponent the opportunity to recover.

That there was an awareness of the latter concept in ancient warfare is beyond doubt.\footnote{For example, it was originally thought that the Greeks had “rules” in place for limiting the pursuit of a defeated enemy. In actual fact, the Greeks would often pursue their opponent for as long as was practically possible, although there was an awareness that such actions could lead to disaster, see: P. Krentz, “Fighting by the Rules: The Invention of the Hoplite Agôn”, Hesperia 71 (2002), 30-1. Interestingly, it was the Spartans who tended not to pursue their opponents and this does tend to fit the notion they were not as operationally minded as others, see M. Handel, Masters of War, 167-8.} In the case of the Egyptians, the principle of continuity at the tactical level is no better illustrated than in the battle reliefs where we see Egyptian chariots pursuing defeated and shattered foes across the battlefield. Failure to take advantage of the principle of continuity, is likewise evident, as noted at the battle of Megiddo. There the Egyptian soldiers, instead of maintaining pressure on their opponents, broke off the pursuit to engage in a bit of plundering. The fleeing enemy soldiers were able to retreat safely into the city. The concept of the principle of continuity, however, becomes more important at the operational level, and it is clear the Egyptians were capable of pursuing their foes at this level.\footnote{For example, Ramesses III, following his Year 11 battle against the Libyans, pursued his enemy for eight \textit{itrw} or approximately 84 km, \textit{KRI} V, 43.10; and \textit{RITA} V, 36. This is not an insignificant distance and the pursuit must have spanned at least three days.} Indeed, the chariot was an ideal weapons platform for such actions as its greater speed and manoeuvrability would have allowed the Egyptians to maintain the pursuit, at least against an enemy retreating on foot, for as long as required.\footnote{A retreating force that is of similar composition to the advancing force, however, is usually able to outrun their pursuers, A. Jones, The Art of War, 667-8.} The Hittites, on the other hand, during the battle of Qadesh immediately followed up their successful action against the Pre Division with an attack against the main Egyptian attack. But in doing so, they exceeded their operational point of culmination, Clausewitz’s second concept.

At the strategic level, the point of culmination is possibly the most difficult to identify during the course of a campaign and even a war.\footnote{M. Vego, Operational Warfare, 341-2 and 351-2.} Generally, it occurs only once, if at all. Ideally, all effort was undertaken in order to ensure that this point was not reached and exceeded. In Chapter V we have already examined the conscious
preparation and careful planning of campaigns in which the Egyptians undertook. Their military successes can be seen as a reflection of this. We know, for example, that the Egyptians never reached their culminating point during their war of liberation against the Hyksos and nor did they in their campaigns against Kerma during the New Kingdom. Both strategic objectives were achieved. This was not the case in their struggles against other major powers. Egyptian and Hittite fortunes varied over the period of their military interaction but neither succumbed completely to the other at the strategic level. Expanding our perspective even further, is it possible to identify a point of culmination with respect to Egypt’s military activity in each of their three strategic theatres over an extended period of time? With Asia, Egyptian influence reached its greatest extent during the reign of Thutmose III, and after that, Egyptian influence was never as great and slowly declined, therefore some may argue that this king had reached (but not exceeded) his culminating point. On the other hand, one may suggest Ramesses II’s battle of Qadesh represented such a point. From that moment on, there was a definite decline in the extent of military campaigning. A more possible candidate, however, may have been the policy changes that took place during the reign of Horemhab where Egypt began to invest more heavily in Asia. This, as we have seen in Chapter V, placed a significant burden on the state which may have contributed to Egypt’s growing weakness in this theatre.

In the strategic theatre of Nubia during the New Kingdom, the point of culmination was never really exceeded. The main opponent Kerma was defeated and only sporadic rebellions had to be dealt with thereafter. As we have noted in Chapter V, the Egyptian army campaigned in this theatre as far as was physically possible. There was no need to advance any further. As for Libya, ascertaining whether there was an identifiable culmination point may be impossible. The Egyptians never attempted to acquire a serious presence in this theatre and the greatest military extension of New Kingdom control only occurred during the reign of Ramesses II. There may have been a realisation that any attempts to extend control further would have required a significant investment of resources which may not have been possible due to commitments in Asia. The establishment of the chain of fortresses extending out to Zawyet Umm El-Rakham may be where the culmination point was exceeded. Control of these fortresses was maintained only for a short period of time and was quickly lost shortly thereafter.
At the operational level the situation becomes a bit clearer. The Egyptians appeared to have had some idea of the limitations of their military forces and a realisation of just how far and long it was possible to continue a campaign. In the previous chapter we examined the furthest extent of Egypt’s military campaigns in each of their three theatres. In Nubia, the operational limit appears to have been Kurgus. While an advance further past this point was certainly possible, it would have resulted in a weakening of effort. In Asia, the Euphrates likely marked a similar limit. Advancing beyond this point, while possible, invited potential disaster. Libya is once again our unique theatre. Egyptian penetration into this region was at times deep but these instances were all too ephemeral. While these geographical points may have marked the absolute limits of Egyptian campaigning, it was still quite possible for one to exceed the operational point of culmination long beforehand. Ramesses II did so by rushing forward to seize Qadesh. By allowing the army to become strung out, his actions made it susceptible to surprise attack. Some also believe that Amenhotep II in his first official (actually his second) campaign may have suffered a military reversal by advancing too far north. Unfortunately, such reverses tended not to be broadcasted so we do not know how often they occurred. Naturally, there is also the possibility that these instances were rare thus reflecting careful campaign planning rather than deliberate cover-ups.

The point of culmination, at this level, could be exceeded a number of times (but only once at the tactical level).\textsuperscript{147} The Hittites successfully pursued the fleeing Pre division but exceeded their point of culmination with their attack on the Amun camp. The Egyptians aided by the arrival of the Na’arn division were able to hold the assault. The Hittites tried to recover by sending the second chariot force but this was countered by the arrival of the Ptah division, their second force therefore exceeding their culminating point. They were defeated and driven into the Orontes. The Egyptians, for their part, held their ground against both assaults and launched six attacks of their own (the first five attacks possibly having exceeded their culminating points).

\textsuperscript{147} M. Vego, \textit{Operational Warfare}, 348-51.
Intelligence gathering was perhaps one of the most important requirements for being able to conduct successful military operations.\(^{148}\) As such, it was generally acquired through numerous ways and means and for a number of different purposes.\(^{149}\) Donald Engels, for example, noted that military intelligence fell into two broad categories: strategic; and tactical.\(^{150}\) Expanding on this point further we must now add operational level intelligence.\(^{151}\) This three way division of intelligence acquisition is evident in the Egyptian records. Strategic level intelligence was acquired primarily through the reports of vassal states, Egyptian fortresses, and other stations, merchants, and even from spies or scouts which were employed in all three strategic theatres.\(^{152}\) The information provided by the last two groups, however, was also of use at the operational and even the tactical levels.

Strategic intelligence could provide a long term picture of the strategic situation and more important, any sudden and unexpected threats such as rebellions could be quickly reported back to the king. It was this information that could determine whether or not a campaign was required. As we have noted above, Sety I

---

\(^{148}\) See, especially: M. Vego, *Operational Warfare*, 203-20. Basically, in order to conduct any campaign, one needed intelligence as noted, for example, in: D. Engels, “Alexander’s Intelligence System”, 328.

\(^{149}\) It has been suggested that the Execration Texts, dated to the reign of Sesostris I, can be seen as a form of intelligence gathering. These texts, the purpose of which was essentially to curse Egypt’s enemies, do reflect Egyptian geographical knowledge at this period, J. Gee, “Overlooked Evidence”, 25. Expanding on this further, the execration texts dated to the Middle Kingdom, as a whole, and with respect to Asia “clearly demonstrate that the Egyptians possessed a detailed and well-informed knowledge of the geography, demography, and politics of Canaan”, S. Cohen, *Canaanites, Chronologies, and Connections*, 47-8. From these lists, it is evident that the data must have been obtained through frequent contact with these regions, *ibid.*, 49. On that note, the New Kingdom topographical lists likewise reflected Egyptian knowledge of the geography of distant lands, K. A. Kitchen, “Egyptian New-Kingdom Topographical Lists”, 132.

\(^{150}\) D. Engels, “Alexander’s Intelligence System”, 327. Strategic intelligence was of particular importance to Julius Caesar whose campaigns were often conducted in *terrae incognitae*, see: A. C. Bertrand, “Stumbling Through Gaul”, 111-7. But see also the comments of E. Wheeler, “Methodological Limits and the Mirage of Roman Strategy: Part II”, 235-8.

\(^{151}\) When Engels wrote his article, this term was not yet in common usage, see our comments in the Introduction. On this three-way split in intelligence, see especially: M. Vego, *Operational Warfare*, 205.

\(^{152}\) See especially: J. C. Darnell and C. Manassa, *Tutankhamun’s Armies*, 69-70. There is a certain interdependence of all three types of Intelligence. That gathered at one level can be of use at another level: M. Vego, *Operational Warfare*, 206-7. Spies were of particular importance in that they could be utilised at every level of war. See also the comments of: A. Malamat, “Israelite Conduct of War”, 41-3.
was informed that a rebellion had taken place in Nubia but waited until additional information had been received before deciding upon an appropriate response. Such examples are generally introduced by the *iw.tw* (as covered above) formula. It is interesting to note that the *iw.tw* formula is utilised four times in the records of Sety I but only once by Ramesses II.\(^{153}\) Another notable example is that of Amenhotep III who was informed of a potential rebellion in Nubia “One came to inform his majesty that the enemy of the doomed Kush was planning to rebel”.\(^{154}\) One key source of such intelligence were reports from Egyptian fortresses stationed at the frontiers and abroad. This type of intelligence gathering conducted is no better illustrated than with the Semna dispatches which recorded the movements of various peoples around Egypt’s southern frontier region including interactions with Nubian traders, desert dwellers, and certain groups attempting to enter into Egypt.\(^{155}\) The fact that these dispatches were recorded on a papyrus found at Thebes indicates that even though the events recorded appear trivial they were considered important enough for this information to be sent back to Egypt. Indeed, the dispatches serve to illustrate the degree of control the Egyptians maintained at this frontier region, in that access was strictly controlled. This may have been the case for the other frontier regions as well.\(^{156}\) From a military point of view, this policy would have effectively denied...

---

153 For complete references, see Table 1 in: M. Hasel, Domination and Resistance, 24.

154 *Urk IV*, 1666.17-18.

155 See: C. Vogel, Ägyptische Festungen, 78-87; P. Smither, “The Semnah Despatches”, 3-10; P. L. Shinnie, Ancient Nubia, 73; B. Williams, “Serra East”, 436 note 6; and, in particular, the comments of J. C. Darnell and C. Manassa, Tutankhamun’s Armies, 115-7 on this “frontier surveillance system”. The intelligence was acquired both actively (that is, via patrols, often accompanied by dogs, sent out from the fortress) and passively (certain groups would present themselves to the fortress for whatever reason). In addition to the Nubian theatre, the Egyptians likewise utilised scouts in both the Asiatic and Libyan theatres. In the former, scouts, who were termed *mhr*, accumulated extensive information about the region including geographical features, locations of towns and cities, local topography, road networks or in other words, everything that was vital for the planning of a military campaign, H. Fischer-Elfert, Die satirische Streitschrift, 244-6; J. C. Darnell and C. Manassa, Tutankhamun’s Armies, 69; and J. Zorn, “L.Ü.PA-MA-HA-A in EA 162:74 and the Role of the MHR in Egypt and Ugarit”, JNES 50 (1991), 134-5. In the latter theatre, Libyan scouts, Tjukten, assisted Egyptian expeditions, *ibid.*, 69. Within Egypt, on the other hand, *mtr.w* scouts appear to have provided intelligence with respect to both Libyan and Shasu incursions, C. Manassa The Great Karnak Inscription, 93.

156 As noted by Cohen, “the impression is that admission is an exception rather than the rule”, Canaanites, Chronologies, and Connections, 40. Cohen further notes that even Sinuhe, upon his return to Egypt, was detained at the border fortress while he awaited clearance from the palace to re-enter Egypt, *ibid*. 40.
potential enemies the ability to gather their own intelligence further downstream.\textsuperscript{157}
In addition to reports received from Egyptian fortresses, Egypt’s vassals provided a wealth of information regarding the political situation in their regions as noted, for example, in the Amarna letters, where the loss of cities to hostile forces, the movements of armies, and shifts in alliances were all reported back to Pharaoh.\textsuperscript{158}
Strategic intelligence also kept Ramesses III well informed of the progress of the Sea People invaders as they advanced towards Egypt and as such he had sufficient time to organise his frontier defences. Naturally, this also worked in reverse in that the movements of Egyptian armies would also have been readily reported back to their enemies. As noted in Chapter III, the Asiatic theatre, in particular, with its few major thoroughfares made it difficult to achieve strategic surprise.\textsuperscript{159}

Operational and tactical level intelligence, on the other hand, was confined more to the actual campaign itself. Intelligence was mostly acquired in order to learn the dispositions of any hostile forces and to guard against surprise attacks.\textsuperscript{160} The main sources were either the use of inhabitants and spies of the region in which the army was planning to pass through as well as information provided by the army’s

\textsuperscript{157} The Semna boundary stelae of Sesostris III likewise make it clear that foreigners were not permitted to travel downstream beyond certain key points, see the comments of: S. Cohen, \textit{Canaanites, Chronologies, and Connections}, 41.

\textsuperscript{158} While not all of the letters were concerned with matters of intelligence, they did constitute a regular source of information on affairs in Asia, see: M. Liverani, “A Seasonal Pattern for the Amarna Letters”, in \textit{Lingering Over Words: Studies in Ancient Near Eastern Literature in Honor of William L. Moran}, T. Abusch, J. Huehnergard and P. Steinkeller (eds.), (Atlanta, 1990), 337-48. This is especially so for as Liverani correctly noted, the letters did not reflect a major “one off” catastrophe but rather recorded the normal state of affairs (see also our comments on Chapter V note 4). In this respect, they are not too dissimilar to the Semna dispatches in which information of a repetitive, albeit in this case quite dramatic, nature is reported back to Egypt on a continuous basis. Another point to consider was that control was maintained by an imperial bureaucracy. The Egyptians had agents on the scene, plus scribes and messengers and officials. The latter at least were expected to possess detailed knowledge of the region, if we are to believe, for example, Pap. Anastasi I: J. C. Darnell and C. Manassa, \textit{Tutankhamun’s Armies}, 143; and A. Spalinger, \textit{War}, 268-9. The Amarna letter messengers themselves were also an important source of intelligence as they were able to provide their own personal observations about the areas they travelled through as did the government agents within the region. In \textit{EA} 296, for example, the sender of that letter, Yahtiru, requested the Egyptian king question his commissioner in order to confirm that the cities of Azzatu and Yapu were being protected, M. W. Sever, “Reconsidering the Egyptian Empire”, 130.

\textsuperscript{159} The Fatimid armies likewise faced the same problem, their preparations and subsequent march from Cairo to Asia would have been reported to the Franks. Furthermore, the fact that Ashkelon served as their key forward operational base further eliminated the element of surprise, W. J. Hamblin, \textit{The Fatimid Army during the Early Crusades}, 227. Hamblin also correctly discounts the use of amphibious operations to achieve strategic surprise due to logistic difficulties.

\textsuperscript{160} M. Vego, \textit{Operational Warfare}, 203-20.
scouts.\textsuperscript{161} The latter often appear riding on horseback, although foot scouts could also be employed (Semna dispatches).\textsuperscript{162} Examples of operational intelligence gathering are seen in the Kamose stela. A passage states that Medjay were tasked to seek out Asiatics (\textit{sttyw}) in order to destroy their abodes. This has been interpreted as meaning a contingent was sent out to scan the desert for enemies ahead of the main army which was travelling via the Nile.\textsuperscript{163} The unidentified Second Intermediate Theban king in the inscription uncovered at Wadi el-Hôl mentions how tirelessly he worked to ensure his desert watchmen were well trained.\textsuperscript{164} In his Year 5 campaign, Ramesses II was falsely informed of the whereabouts of the Hittite army by two Bedouin which had disastrous consequences for the Egyptian army.\textsuperscript{165} Unlike strategic intelligence, information gathered at the operational level generally had only a limited period of usefulness as it would soon be out of date. Therefore, there was a need to ensure a continuous flow of information for the entire duration of the campaign. Tactical level intelligence was even more restricted both in time and space. The greatest importance here was leaning the immediate dispositions of the enemy and to guard against any unwanted surprises. Here again, the use of spies, as well as effective reconnaissance, was important.\textsuperscript{166}

\textsuperscript{161} For example, \textit{hjptiw} scouts were employed by the Egyptians at the battle of Qadesh, C. Manassa \textit{The Great Karnak Inscription}, 93. Maurice’s \textit{Strategikon} also acknowledges the importance of local inhabitants as a source of information especially if it can be collaborated by other sources. He warns, however, against receiving information from deserters, \textit{ibid.}, 97. On the importance of scouts in particular, see: \textit{ibid.}, 65-6 and 103.

\textsuperscript{162} For horse mounted scouts, see our comments in Chapter I: Scouting.


\textsuperscript{164} D. Darnell and J. Darnell, “Exploring the ‘Narrow Doors’”, 24. Watch towers, dating to the Second Intermediate Period, were also set up in this region along the Amat Tal Road, \textit{ibid.}, 25.

\textsuperscript{165} KRI II, 103.12-108.10. It has been argued that there was, in fact, no element of deceit with respect to this incident with Hans Goedicke going so far as to make the following statement: “The notion of surprise as a legitimate strategic move is not an ancient Near Eastern concept”, “The ‘Battle of Kadesh’ A Reassessment”, in \textit{Perspectives on the Battle of Kadesh}, H. Goedicke (ed.), (Baltimore, 1985), 90. This is, however, a rather erroneous statement that underestimates, if not completely misreads, the abilities of the ancient Near Eastern armies. In fact, falling prey to false or incorrect information was a common occurrence at this time, see, for example: A. Malamat, “Israelite Conduct of War”, 42-3.

\textsuperscript{166} The Hittite king, for example, sent out scouts to reconnoitre the Egyptian camp of which two were captured, KRI II, 109.7-112.8. The need for proper reconnaissance of a battlefield is part of the sound advice given in Maurice’s \textit{Strategikon}, 30 and 74-5.
While not specifically associated with the realm of military affairs, the Turin Map Papyrus of the gold mines of Wadi Hammamat is nevertheless of interest as it provides us with a valuable insight into Egyptian cognitive and spatial thinking. The map (which possibly dates to the reign of Ramesses IV) must first be rotated 180° in order to correspond to our modern conceptions of north and south. From a geographical and spatial point of view, it is surprisingly accurate. Not only does it indicate the all important gold bearing areas and key points of interest, but goes as far as to identify the conditions of the main roads. As an intelligence or reference tool, this map, and others like it, must have been of considerable value. At the very least, in terms of logistics, it clearly indicates the two main routes that could be taken from the region of Coptos to reach the Red Sea port of sww. Whether this proved to be a superior method of mapping geography to the itinerary system which was employed in military planning is another question entirely.

**Sequential and Simultaneous Operations**

Sequential and simultaneous operations are two vital components of operational art that can occur during certain phases of a campaign. These phases are generally periods of time where the army is engaged in a specific activity which, upon completion, will allow for the commencement of the next phase. In both the Egyptian texts and the battle reliefs we do see the deliberate division of activities into such phases. The battle reliefs, for example, are often demarcated into clear episodes detailing aspects (in a snapshot fashion) of the March, the Battle, and the Return. The texts also exhibit such a division but differ from the reliefs in that they are

---

167 For recent analysis and commentary, see: L. Bradbury, “Reflections”, 145-56. Bradbury commented especially that “the major topographical landmarks noted on the Turin Map correspond exactly when the ancient map is tested against the physical aspects of the Eastern Desert”, *ibid.*, 151.

168 The upper of the two main routes (Wadi Hammamat) is clearly depicted as being free of stones, whereas the northern (lower) road representing the Wadi Hamama route is not, see L. Bradbury, “Reflections”, 147 fig. 7 and 148-50 (on this subject, one must recall our comments regarding the impact of weather on road networks in Chapter V note 41). Bradbury believed that this second (stony) road was in fact the dominant feature of the map, *ibid.*, 152.


171 We may also add the Preparation and Presentation scenes as two additional phases of a campaign.
generally more informative regarding the pre and post battle activities. It is these phases, however, that we must examine in greater detail in order to find evidence for sequential and simultaneous operations.

Simultaneous Operations

The ability to conduct simultaneous operations, that is, to manoeuvre multiple field units over an extended geographical area (out of site from each other) in order to achieve either independent operational and tactical objectives or with the purpose of converging at a particular decisive point is one of the most important aspects of operational warfare. The presence or absence of such operations is a major consideration in our attempt to ascertain the existence of an Egyptian operational art. Unlike with the so-called “Classical Battle” where the army is moved from one point to another en mass, simultaneous military operations allows for greater operational flexibility.172 It also allows for an increased opportunity of achieving ultimate strategic level success (providing the strategic ends are obtainable with the available means and ways). Simultaneous movement of forces, however, is determined not only by the ability of the commander and the army, but also by geography. Restricted geographical space provides less opportunity for such manoeuvring.173 Therefore, from our analysis of space and geography in Chapter V, we should expect that our best chances of discovering evidence for simultaneous operations should come from the Asiatic theatre and this indeed appears to be the case, even at a very early period.

During the Old Kingdom we find that the Egyptians were quite capable of conducting simultaneous operations (on both land and water) within this strategic theatre. From the account of Weni, we learn that this commander divided his army into two parts when combating unruly elements “at the nose of Gazelle’s head”.174

172 That is, the use of separate formations can ease logistic demands, make better use of limited time, and assist in overcoming geographical hurdles. On the other hand, as simultaneous operations involves the splitting of forces, there is an increased danger of grief coming to part of the force, as what happened with Ramesses II at Qadesh. To provide another example, in one military encounter, a Muslim army split its force into two groups. One group remained to besiege a city whereas the other (50,000 strong) set off to engage in some pillaging. This second group suffered a surprise attack whereas the first experienced supply difficulties with the onset of winter and was forced to abandon the siege (at great hardship to the men), H. Kennedy, The Armies of the Caliphs, 107.

173 As noted in Chapter V: Space.

174 Urk I, 104.12-105.4. See also Chapter V note 217.
One detachment travelled via ship and was landed to the north of the land of the sand-dwellers “in the back of the height of the mountain range” while the second detachment advanced north by road. The enemy was caught between the two forces and slaughtered to a man. This type of double envelopment is an important feature of operational art.\textsuperscript{175} The Kamose stela likewise makes reference to detachments being sent out on missions away from the main force. The Egyptian king, for instance, sent off “mighty battalions (\textit{nht} troop) of Medjay” while he remained to lay siege to Nefrusy.\textsuperscript{176} In a second passage, we are informed that Kamose “dispatched a \textit{nht} troop, which went overland to destroy (\textit{hbi}) the Bahariya Oasis (Djesdjes)”.\textsuperscript{177}

Most of our evidence for simultaneous operations, however, is found in the New Kingdom, which no doubt reflects the maturing of Egyptian military doctrine during this period. Thutmose III, for example, must have split his forces after placing the city of Megiddo under siege. A detachment would have had to remain behind to enforce the blockade while the king with the rest of the army continued with the campaign. In the accounts of the military campaigns of Amenhotep II, it appears this king split his forces on a number of occasions. For example, while he was resting in the area of \textit{tirh3} during his Year 7 campaign, other elements of the army were plundering the villages of \textit{MnDtw}.\textsuperscript{178} Whereas in a second incident, the king mentions that he alone without his army (but most likely with some kind of military detachment) engaged in a minor operation against the town of Hashabu.\textsuperscript{179} The Year 9 campaign also includes two indirect references to the splitting of forces. In the first, Amenhotep II, as he creates his “fiery holocaust”, states that the army was not with him,\textsuperscript{180} and in the second, a detachment of the army attacked and plundered the city of Anuharta while the king was engaged in other affairs.\textsuperscript{181} During the supposed campaign of Akhenaten against the Hittites, it appears that the Egyptians split their

\textsuperscript{175} M. Vego, \textit{Operational Warfare}, 324-34.

\textsuperscript{176} D. Redford, “Historical Records”, 14. See also our comments above (note 172).

\textsuperscript{177} While the king was in Sako: \textit{ibid.}, 15; and J. Galán, \textit{Victory and Border}, 37. For Kamose’s military operations (or rather single operation) against this oasis, see especially: F. Colin, “Kamose et les Hyksos dans l’oasis de Djesdjes”, 35-45.

\textsuperscript{178} \textit{Urk} IV, 1303.15 (Memphis); and J. Wells, \textit{War in Ancient Egypt}, 149-50.

\textsuperscript{179} \textit{Urk} IV, 1304.10 (Memphis).

\textsuperscript{180} \textit{Urk} IV, 1307.10-17 (Memphis).

\textsuperscript{181} \textit{Urk} IV, 1308.5 (Memphis).
forces into two main parts as suggested by reports in the Amarna letters. One contingent was likely sent by ship, and after leaving the naval port of Peru-nefer, it would have advanced along the coast via Tyre, Sidon, and Beirut.\(^{182}\) The second (land) contingent would have departed Egypt from Tjaru advancing across the Sinai, through Gaza, before then moving north via inland routes possibly passing through Jerusalem and Kumidi (and maybe Damascus).\(^{183}\) At some point the two forces converged in order to undertake their assault on the city of Qadesh.\(^{184}\)

During the first campaign of Sety I in Asia, the Egyptian king was forced to deal with the threat posed by the ruler of Hammath (fig. 6.1).\(^{185}\) This individual had gathered together a large force and had formed an alliance with the city of Pahil. He had already captured the important Egyptian controlled town of Beth Shan and together with his new ally, was laying siege to another Egyptian protectorate: Rehob. Sety I, once he had reached the area of operations, decided the best strategy was to attack three separate targets simultaneously. By this stage in its development, the Egyptian army was a professional military force with distinct chariot, heavy infantry, and light infantry arms. It was also organised into units or divisions which could function independently from each other. In order to deal with this particular threat, Sety had three divisions (named after three of the principal Egyptian gods) at his disposal. He dispatched his “Amun” division against Hammath,\(^{186}\) his “Seth” division against Yenoam, which was also showing signs of resistance, while his “Re” division was sent to liberate Beth Shan.\(^{187}\) The starting point for the Egyptians was likely a location east of the city of Megiddo (which the Egyptians would have needed to pass through).\(^{188}\)

---

\(^{182}\) J. C. Darnell and C. Manassa, *Tutankhamun’s Armies*, 174.

\(^{183}\) J. Wells, *War in Ancient Egypt*, 153.


\(^{186}\) Whether or not the king was always attached to the “Amun” division is an open question.

\(^{187}\) On the possibility that the king remained with the fourth division Ptah, see: J. Wells, *War in Ancient Egypt*, 155-6.

\(^{188}\) See, however, the study of Agnès Degrève who has Tell esh-Shihab as the starting point for this operation, “La Campagne asiatique de l’an 1 de Séthy Ier”, 58-9 and 63.
All four affected cities were located in close proximity to each other: from Hammath to Beth Shan the distance was 14.5 km; Rehob to Beth Shan 5.6 km; and Yenoam to Beth Shan 21 km. The Egyptian divisions to the extreme north and south were thus going to be separated by a total distance of approximately 35.5 km. In addition, with the main enemy force currently besieging Rehob, the king’s division at Hammath would be somewhat isolated from the rest of the army. Nevertheless, we are informed that the Egyptians were successful and all three targets were captured in a single day.\textsuperscript{189} It is not known if there was a subsequent operation against Pahil. Overall, while the suppression of this rebellion was only one part of a larger campaign, success here was vital in order to ensure the campaign was able to continue. One may also infer, from the topographical list accompanying the reliefs, which may or may not refer to an itinerary for the campaign, that the army was again

\textsuperscript{189} Admittedly, the motif of a “true sovereign (who) could win his war in a day” is well established, see: D. Stuart, “The Sovereign’s Day of Conquest”, 159-64. Nonetheless, there is no reason to doubt the veracity of Sety’s account. The distances involved in this operation were not excessive, and the objectives could have been achieved within a single day.
divided. As with the case of the Akhenaten campaign, one part of the army appears to have advanced north along the coast reaching Ullaza whereas a separate detachment advanced eastwards to the city of Damascus. In the second Beth Shan stela, Sety again engages in simultaneous operations. After being informed of rebellious activity, he quickly sends off a detachment from his numerous infantry and chariotry to deal with the threat, allowing the main army to continue with its task.

Ramesses II divided up his army into four divisions of 5,000 men each (Amun, Re, Ptah, Seth), plus there was an additional fifth combat unit (Na’arn). This last “division” was apparently sent along a different route than the main army. As we have seen with Sety I, this practice was not necessarily required for logistics reasons, but rather it enabled the army to accomplish more objectives than would otherwise have been possible. In other words, it bestowed upon the army a degree of operational flexibility. Indeed, this flexibility allowed Ramesses (acting on false intelligence) to press ahead with his Amun division in the vain hope of capturing Qadesh without being encumbered by the rest of the army. As for the Hittites, they too had separated their forces. While the main part of the army was stationed behind Qadesh, a sizable chariot force was sent south across the Orontes. Therefore prior to the actual battle, there were five separate military units moving into their respective positions (fig. 6.2).

---

190 The idea that certain topographical lists served as itineraries for military campaigns was investigated by Helck, see, for example, his: Die Beziehungen Ägyptens, 107-67. Kitchen, however, considered some of Helck’s proposals “too eccentric and bizarre”, “Egyptian New-Kingdom Topographical Lists”, 133. Yet, some of the difficulties arising when trying to equate these lists with the actual marching order of the army may be solved by allowing for the fact that they recorded the itineraries of separate divisions or units of the advancing army.


192 On the size of the standard Egyptian division, see: RITANC II, 39-40; A. Spalinger, War, 150 and 155-6; as well as our comments in Chapter V note 99. The ethnic identification and composition of the “fifth division” has been the subject of much debate (even though the unit is clearly depicted as consisting of Egyptian infantry and chariotry), see, for example, the articles of: A. Schulman: “The N’rm at the Battle of Kadesh”, JARCE 1 (1962), 47-53; A. Schulman, “The N’rm at Kadesh once again”, 7-19; and A. Rainey, “Reflections on the Battle of Qadesh”, UF 5 (1973), 280-2 who argue that the soldiers of this unit are Egyptian. This differs from O. Zuhdi, “Bentishina and the N’rm Division”, JSSEA 8 (1978), 141-2 who believed them to be from Amurru, and H. Goedicke, “Considerations on the Battle of Kadesh”, JEA 52 (1966), 79-80 who identified the soldiers as Apiru. The issue of identification, however, needs not concern us here. What is important is that this unit was clearly a separate military force operating away from the main army.

193 It is more than likely this division advanced along the Via Maris, and then through the Eleutheros Valley with orders to rendezvous with the main army at a prearranged location, RITANC II, 37-8.
Fig. 6.2: Pre-battle manoeuvring at Qadesh. Of the seven separate military formations shown above, two had completed their movements (the Amun division and the main Hittite force), four were still moving to reach their assigned positions (the remaining Egyptian divisions) while only one formation was manoeuvring into an attack position (the Hittite chariot force). It was this last unit which was to inflict the first and most decisive blow.

If the Na‘arn division was indeed engaging in its own series of military operations along the coast, then this campaign consisted of two separate but still quite simultaneous sets of operations. The bulk of the army, consisting of the bulk of the operational centre of gravity (the four divisions), was clearly expected to be for the
Egyptians their main Schwerpunkt. The Na‘arn division, on the other hand, engaging in secondary operations along the coast, was likely expected to fulfil no more than a supporting role, with the intention of rendezvousing with the army at a specific (decisive) point. As war is often associated with ironic paradoxes, it does not come as too much of a surprise that this military unit ended up becoming an important Schwerpunkt in its own right.

Evidence for simultaneous operations during the reign of Merenptah is unfortunately circumstantial at best. In the Karnak reliefs, which depict this king’s one and only Asiatic campaign, Shasu Bedouin are shown among the prisoners taken, yet Merenptah is not depicted engaging them personally in combat. This has led some to hypothesize that the Shasu were attacked by a detachment from the army under the command of a subordinate, possibly the crown prince Sety-merenptah. One possible reconstruction is that Merenptah, after having secured the coastal areas with the capture of the city of Ashkelon, moved inland towards Gezer, but at some point prior to reaching the city, a detachment under the command of the crown prince was sent off to engage the Shasu in order to protect the king’s flank. Merenptah was then free to take Gezer and subsequently Yenoam (Sety-merenptah is absent in the Gezer battle scene whereas Khaemwaset features prominently, which would tend to argue the latter prince was not involved in the Shasu operation). Following these successful actions, the two forces may have then have reunited for the final assault on “Israel” or may even have attempted a pincer movement with the king attacking from the north and the crown prince from the south. Ramesses III also engaged in simultaneous actions to combat the Sea Peoples invasion of Year 8. An Egyptian naval contingent was tasked with combating the vessels of the Sea Peoples whereas the army confronted their land forces. Out of interest, if we look even further forward in time, the Pharaoh Shishak, during his campaign against Israel, also split his army. While the bulk of his forces proceeded north along the Via Maris a smaller

194 W. Wreszinski, Atlas II, pl. 58b.
detachment was sent into the Negev in order to secure his rear from semi-nomadic trouble makers.196

The idea that the Egyptians were capable of employing multiple units which were able to rendezvous at prearranged locations at some time in the future should not come as too much of a surprise. Kitchen pointed out that the Egyptians knew this region “like the back of their hand”.197 Through their previous military campaigning, peaceful expeditions, trading ventures, and diplomatic missions they would have had an extremely accurate idea of the time needed to reach certain geographical points.

Simultaneous Operations: A Wider (Strategic) Perspective

As well as undertaking simultaneous operations within a particular campaign, the Egyptians also had the ability to conduct simultaneous campaigns or expeditions (albeit minor ones) independently within a particular strategic theatre. An inscription from the reign of Amenemhet II records military related activity over the space of a year and during this brief timeframe, the Egyptians were conducting possibly up to four separate military actions in Asia by both sea and by land. These actions do seem to be independent of each other and thus were not part of a larger military campaign. The account indicates a number of important points. First, the military were able to conduct multiple (minor) campaigns with independent objectives. Second, small Egyptian units were capable of accomplishing set (albeit minor) strategic objectives without the need to send the entire army. Third, there appears to have been a fair degree of flexibility in the deployment of these forces. That is, certain armies that were sent off returned within a year while others remained abroad for longer periods of time. The culmination of these (mini) campaigns must have had some impact at the strategic level, yet did these mini campaigns continue into the New Kingdom? That is, were the official royal led campaigns just one level of the military activity that took place within Egypt’s strategic theatres, which were in turn supplemented by additional minor operations?


197 Personal communication (2004).
Perhaps the most well known example of a planned simultaneous strategic level military action was the incident that occurred during the reign of Kamose. At that time the Hyksos were in control of Lower Egypt and the Nubians under their Kushite ruler were a potential danger in the south. From the Carnarvon Tablet we learn that the Apophis, the Hyksos ruler, attempted to send a message to the ruler of Kush in order to persuade him to enter into an alliance and engage in a combined attack against Kamose. The details of the plan called for Apophis to keep the Egyptians distracted in the north while the Nubians invaded from the south:

“Come north! Do not hold back! See, he is here with me… I will not give him a way out until you arrive! Then we shall divide the towns of Egypt, and [Khen]-hen-nofer shall be in joy”.

The Egyptians, however, utilising their interior lines of operations, captured the messenger and probably took measures to ensure no further contact took place between the north and the south. Thus, by neutralising any threat in the south, the Egyptians were able to concentrate the bulk of their forces in the north against the Hyksos. This allowed Kamose’s successor Ahmose, to conduct his campaign which ended in the complete expulsion of the Hyksos from Egypt. Such stratagems were not unique. Kitchen for example, suggested the possibility of a combined attack by Egypt under Siamun and Israel under Solomon against the Philistine “pentapolis”. The former attacked from the south penetrating as far north as Gezer while the latter in the meantime may have distracted the enemy by launching a “feint” attack. The ability to coordinate disparate forces indicates an extremely high level of military capability.

---


199 D. Redford, “Textual Sources”, 14-5.


201 Other examples of simultaneous operations at the strategic level are less clear. For example, Agnès Degrève, in her analysis of the Karnak military scenes of Sety I, argued that a separate operation was conducted against Libya at the same time as the king was leading a major campaign against Qadesh. “La Campagne asiatique de l’an 1 de Séthy Ier”, 52-5. Degrève believes that Sety, even though he is depicted in the Libyan battle scenes, did not personally take part in the operation, and this is evident by the fact he is armed with a sickle-shaped (khepesh) sword rather than with more traditional weaponry. A king armed in such a fashion, she argues, indicates his absence for that particular military action, a fact which appears to be supported by two other examples: a battle scene dated to Ramesses II at Beit el Wali and one dated to Ramesses III at Medinet Habu, *ibid.*, 52-5.
Sequential Operations

Closely related to simultaneous operations were those conducted sequentially. The purpose of utilising sequential operations was to allow for a major campaign to be divided up into manageable parts. Each operation would be tasked with obtaining a specific (operational) objective which, once achieved, would allow for the commencement of the next part of the campaign.²⁰² This would continue until the primary strategic objective, the ultimate goal, had been accomplished. Following the end of each such operation there should be some indication of an operational “pause”. This was an indeterminate period of time which allowed the army the opportunity to rest, regroup, and prepare for the next stage of the campaign. Dividing a major campaign in such a fashion was necessary in order not to dilute military power through overextension and exhaustion and thus increasing the chance of a catastrophic military reversal. In other words, operational pauses lessened the possibility of overshooting the point of culmination. Generally, each operation must be successfully concluded before the next step is commenced as a negative outcome could undermine the entire campaign and bring about its premature conclusion.²⁰³

Possibly one of our earliest examples of sequential operations within a campaign can be found in the Hound stela of Antef II. In the text, we are informed that Antef II, in his initial advance north, was forced to outflank Thinis in the eighth nome of Upper Egypt capturing only the hinterland in its northern part. Despite this setback he continued his advance north against the tenth nome of Upper Egypt and was able to establish his border there. He then returned south successfully capturing Thinis which had now been completely outflanked and isolated (table 6.8).²⁰⁴ This military action is clearly bipartite in nature. Success with the first operation (establishing the border and isolating his opponent) laid the foundation for success in

²⁰² M. Vego, Operational Warfare, 331-41.

²⁰³ M. Vego, Operational Warfare, 340-1.

²⁰⁴ J. Darnell, “The Message of King Wahankh Antef II”, 107. This technique, described rather aptly as “leapfrogging” by Warburton, appears to have been commonly employed during this period, Egypt and the Near East, 155-6. From an operational perspective, Antef’s action shares certain similarities with Ulysses S. Grant’s assault against the city of Vicksburg during the American civil war, see especially: J. Glatthaar, “Grant at Vicksburg: A lesson in Operational Art”, in With My Face to the Enemy: Perspectives on the Civil War, R. Cowley (ed.), (New York, 2001), 298-306.
the second operation (the complete conquest of the eighth nome). The end result was a strategic level victory.

<table>
<thead>
<tr>
<th>Operation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Operation:</td>
<td>Advance north capturing the tenth nome of Upper Egypt</td>
</tr>
<tr>
<td>2nd Operation:</td>
<td>Return south to capture bypassed eighth nome of Upper Egypt</td>
</tr>
</tbody>
</table>

Table 6.8: Sequential Operations – Antef II

It is, however, only with the more verbose records of the New Kingdom military campaigns that we are provided with greater detail regarding sequential operations. With the Megiddo campaign of Thutmose III, for example, we can clearly identify key sequential episodes in this campaign. Beginning at the point where the army enters into the strategic theatre passing through Gaza (and thus effectively entering into hostile territory), the first operation encompasses the army’s movements from this point until it reaches Yehem (table 6.9). While no major combat had yet taken place, reaching this forward base was a vital prerequisite with respect to the next phase of the campaign. The second operation was primarily based on plans laid down at Yehem following the war council and involved penetrating the Aruna pass. This was also successfully completed setting the stage for the next part of the campaign. The third operation encompassed the battle which ended successfully. At this point the Egyptians were on their way to achieving their strategic objective. Unfortunately, due to the failure of the Egyptian troops to attack the city immediately, a siege was required (our fourth operation). Despite this setback, additional (simultaneous) operations may also have been undertaken, while the siege was taking place, by part of the army following the battle. This was, however, only possible due to the military success of the third operation.
## Thutmose III (Year 22/23 Campaign)

<table>
<thead>
<tr>
<th>Operation</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Operation:</td>
<td>Army reaches Yehem[^205]</td>
</tr>
<tr>
<td>2nd Operation:</td>
<td>Operational Plans are set down[^206]</td>
</tr>
<tr>
<td>3rd Operation:</td>
<td>Operations are set down</td>
</tr>
<tr>
<td>4th Operation:</td>
<td>Siege of Megiddo[^210]</td>
</tr>
</tbody>
</table>

[^205]: Urk IV, 649.3.
[^206]: Urk IV, 649.3-651.17. See also the comments of: D. Redford, *The Wars in Syria*, 18-21.
[^207]: Urk IV, 652.1-655.9.
[^208]: Urk IV, 655.12-656.15.
[^209]: Urk IV, 657.2-660.1.
[^210]: Urk IV, 660.4-662.6
[^211]: Urk IV, 664.17-667.8
[^212]: Urk IV, 1287.12-1299.12.

---

Table 6.9: Sequential Operations – Thutmose III

As one can see from the above table, the successful conclusion of each operation enabled for the commencement of the next stage of the campaign, and by identifying such sequential actions, we may be able to ascertain just how successful a particular military campaign was. That is, being able to identify a number of clear sequential operations may serve to indicate a particularly successful campaign, whereas a campaign that clearly has missing, few, of no indications of sequential actions may possibly indicate a reverse was suffered, or at the very least we are dealing with only a minor military operation.

The Year 3 Takshy campaign of Amenhotep II may fall into this category[^212]. The military action is tersely described. There is no indication of sequential operations but only a mere summary of events. The harsh punishment inflicted upon the captured enemy leaders therefore may have been in retaliation for a possible...
military reversal.\textsuperscript{213} Such a reverse may explain the temporal gap between this campaign and the next as well as the introduction of a new numbering system. The first (auspicious) campaign was a failure so the numbering system was restarted with a new campaign. Indeed, from an operational perspective the second Year 7 (numbered first) campaign appears to have been a more successful action and we are able to identify multiple sequential (and simultaneous) operations (table 6.10).\textsuperscript{214} Again, ignoring the initial march north as well as the return journey to Memphis (which took place following the pause at Sjbyn), this campaign is clearly divided into key operational episodes. Four of the five operations do end with a clear “pause”, that is, the army arrived at a town that was either allied to or on friendly terms with the Egyptians. What is curious about this account, however, is that it is during the second operation that the king turns south. All the subsequent operations took place during the return journey.\textsuperscript{215} It has been suggested that Amenhotep II met with some kind of reversal at this point in the campaign necessitating a quick about face.\textsuperscript{216} Yet one would not expect the king to remain on campaign if this had been the case. Rather, the army would have quickly returned to Egypt. As an alternative explanation, there may not have been any notable action to report (or if a setback had been suffered, it was only minor).\textsuperscript{217} The king was clearly able to continue conducting operations and fulfilling part of his explicitly stated strategic objective.

\textsuperscript{213} Six of them were hanged from the walls of Thebes together with their hands and the seventh was hanged on the walls of Napata, \textit{Urk IV}. 1297.9-16. For this king’s treatment of prisoners, see: P. Der Manuelian, \textit{Studies}, 52-3 and 72-3.

\textsuperscript{214} \textit{Urk IV}, 1301.3-1305.11 (Memphis); \textit{Urk IV}, 1310.2-1314.12 (Karnak); and P. Der Manuelian, \textit{Studies}, 56-68.

\textsuperscript{215} There is a two week gap between the king crossing the Orontes and his arrival at Niya, P. Der Manuelian, \textit{Studies}, 62.

\textsuperscript{216} It has been suggested that this king (following in the footsteps of his father) was attempting to reach, and cross, the Euphrates, W. Helck, \textit{Die Beziehungen Ägyptens}, 158.

\textsuperscript{217} See also the comments of: P. Der Manuelian, \textit{Studies}, 62.
Table 6.10: Sequential Operations (I) – Amenhotep II

The Year 9 campaign can likewise be divided up into separate episodes, but in this case, the stated strategic objective was actually achieved in the first operation and we are not provided with any detail regarding Egyptian actions prior to this. It is possible that capturing this city proved to be a relatively simple affair. The campaign continues with three additional operations expanding on the success of the first operation.

218 Urk IV, 1302.1 (Memphis); and Urk IV, 1310.11 (Karnak).

219 Urk IV, 1302.7 (Memphis).

220 Urk IV, 1302.8-1303.3 (Memphis); and Urk IV, 1311.3-13 (Karnak). For the differences between the two texts at this juncture, see: P. Der Manuelian, Studies, 60-1.

221 Urk IV, 1303.5 (Memphis); and Urk IV, 1312.3 (Karnak).

222 Urk IV, 1303.9 (Memphis); and Urk IV, 1312.7-10 (Karnak).

223 Urk IV, 1303.10 (Memphis); and Urk IV, 1312.17 (Karnak).

224 Urk IV, 1303.15 (Memphis).

225 Urk IV, 1303.16 (Memphis) and Urk IV, 1303.18 (Memphis) respectively.

226 Urk IV, 1303.19 (Memphis).

227 Urk IV, 1304.10 (Memphis).

228 Urk IV, 1305.1 (Memphis).

229 Urk IV, 1305.13-1309.20 (Memphis); Urk IV, 1314.14-1316.5 (Karnak); and P. Der Manuelian, Studies, 68-78.
The account of the Year 5 campaign of Ramesses II (our only certain record of an Egyptian campaign that ended prematurely) can also be divided into a number of operations leading up to the main battle. In each case, a specific geographical point was successfully reached. Yet, the campaign, in its fourth act, begins to unravel. Upon receiving the false information, the king commences with the fourth operation which ends with a tactical draw outside the city of Qadesh. This operation was not successful, the point of culmination had been reached and exceeded, and subsequently the campaign had to be concluded.

231 Urk IV, 1305.17 (Memphis); and Urk IV, 1314.17 (Karnak).
232 Urk IV, 1305.18 (Memphis) and Urk IV, 1306.1 (Memphis); Urk IV, 1315.1 (Karnak) respectively.
233 Urk IV, 1307.4 (Memphis) and Urk IV, 1307.5 (Memphis).
234 Urk IV, 1308.5 (Memphis).
235 One may be inclined to add to this discussion the battle scenes of Sety I and the possibility that they represent one campaign only (with the exception of the Libyan excursion) as proposed by Agnès Degrève, “La Campagne asiatique de l’an 1 de Séthy Ier”, 52-64. If her argument is accepted, the Sety reliefs provide us with our best illustrated example of sequential operations within a major campaign, with the ultimate objective in this case being the capture of the city of Qadesh, *ibid.* 62-4. Each register would therefore represent a key episode in that campaign where success or failure would determine the next step. Yet the conclusions of Degrève need to be subjected to further analysis before we can accept the tantalising idea of major military campaign to mark the rebirth of the Egyptian state under the god Amun following the chaos of the Amarna period, *ibid.* 62-4. At the very least, the bottom and middle left registers likely do indicate some sequential action but in a wider strategic sense, A. Spalinger, *War*, 193.
236 It is interesting to note that Helck believed the Hittites were attempting to undertake their own sequential operations against the Egyptian army at Qadesh. He believed they utilised the bulk of their
**Ramesses II (Year 5 Campaign)**

<table>
<thead>
<tr>
<th>Primary Operations:</th>
</tr>
</thead>
</table>
| **1st Operation**   | Arrival at the town of Ramessemeramun  
| **Pause**           |   
| **2nd Operation:**  | Arrival at the Hill Country south of Qadesh  
| **Pause**           |   
| **3rd Operation:**  | Arrival in the region south of Shabtuna  
| **False intelligence received** |   
| **Pause**           |   
| **4th Operation:**  | Arrival at Qadesh  
|                     | Open Battle leads to tactical draw  

| Secondary Operations: | Advance of Na’arn division along the coastal road |

Table 6.12: Sequential Operations – Ramesses II

Here we have an example of the repercussions resulting from an operational error. As a result, the Egyptians suffered considerable loses forcing them to abort the campaign in its entirety. There is no indication that further military activity was undertaken, rather, the king and the army quickly returned to Egypt. If the Egyptians had been successful, it is possible that additional operations had been or would have been planned following the capture of Qadesh. At the very least, if the tactical damage suffered had not been too severe, the campaign may have been able to continue as with what may have happened during the Year 7 campaign of Amenhotep II. The Egyptians did, however, achieve enough tactical level success at least to avoid a complete battlefield defeat, yet this was offset by their failure at the operational level.

---

237 *KRI* II, 14.1-10 (“Poem”).


239 *KRI* II, 15.6-15 (“Poem”); and *KRI* II, 103.6-10 (“Bulletin”).

240 *KRI* II, 103.11-108.10 (“Bulletin”).

(only their secondary operations involving the division of Na’arn could be considered to have been completely successful).

By the reign of Merenptah, we are beginning to see quite clearly the declining strategic reach of the Egyptian military. The Asiatic campaign of this king was a very localised affair centred around the capture of three Palestinian cities and an open battle with some Israelite hill dwellers (table 6.13).

<table>
<thead>
<tr>
<th>Merenptah (Asiatic Campaign)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary Operations:</strong></td>
</tr>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; Operation:</td>
</tr>
<tr>
<td>Assault of Ashkelon&lt;sup&gt;242&lt;/sup&gt;</td>
</tr>
<tr>
<td>Pause?</td>
</tr>
<tr>
<td><strong>Secondary Operations:</strong></td>
</tr>
</tbody>
</table>

Table 6.13: Sequential Operations – Merenptah

As Egypt moved over to the defensive, identifying instances of sequential operations becomes more difficult. Neither the Year 5 Libyan war of Merenptah, or the defensive wars of Ramesses III can be easily divided into distinct components. This is not to say they did not exist, rather, the nature of the military activity engaged in, which tended to be conducted within or near the borders of Egypt, precluded the need for multi operational manoeuvring.

---


<sup>244</sup> *Ibid.*, pl. 57.

<sup>245</sup> F. Yurko, “Merenptah’s Canaanite Campaign”, 193 fig. 5, scene 4.
Resource Allocation

We have in Chapters III and IV already dealt extensively with the subject of logistics and proved quite conclusively that the Egyptians placed great importance on resource allocation at not only the operational level but at all three levels of war. Probably the most pertinent example of the Egyptians’ awareness of the relationship between logistics, military technology, and operational ability is the major institutional and doctrinal changes they instigated after the adoption of the chariot and a larger land army. It is a case in point that when any new piece of military hardware is integrated into an existing military system there can be unforeseen consequences. Sometimes the integration can be quite seamless occurring with little difficulty and opposition, but in more extreme instances it can result in fundamental and irreversible changes in the way that system conducts war. With respect to the chariot, at the operational level, there is no doubt that this vehicle changed the way the Egyptians fought. The chariot combined both mobility and firepower in one package, qualities that were important for a military force that was becoming more reliant on employing aspects of operational art in the execution of their campaigns. The adoption of the chariot also necessitated a fundamental shift away for the Egyptian military from being a naval-focused power to its development as a true land power. This in turn allowed for ever larger armies to be fielded albeit at increasing cost. From a logistics (resource allocation) perspective however, the chariot required the creation of a whole industry centred on its construction and maintenance, and in order to successfully employ this weapon within a strategic theatre, it was equally necessary that a logistics network be established consisting of fortified centres at key decisive points and dedicated supply bases where existing infrastructure was lacking. Maintaining such a sophisticated logistics system proved to be an expensive undertaking and one the Egyptians apparently were unable to maintain indefinitely. Therefore, as noted in Chapter V, the chariot proved to be a vital piece a military hardware on the field, the subsequent ongoing operational and logistics costs of possessing this weapon may have been ultimately too much for the state to bear.
Command at the Operational Level

In this final section we will examine the role of the commander at the operational level and as a potential practitioner of operational art.\textsuperscript{246} Indeed, one of the defining characteristics of operational art is that it can reflect the personal talents or flair (or lack thereof) of the military commander in question.\textsuperscript{247} Therefore, by examining the actions of both royal and non-royal Egyptian military leaders at this level we may gain a better insight as to their abilities as field commanders. This is something that can be quite difficult to ascertain at the other levels of war. For instance, at the tactical level, the military commander’s responsibilities and opportunity to influence the course of events, after having decided upon the all important pre battle dispositions, were actually quite limited.\textsuperscript{248} Their physical presence on (or near) the battlefield meant they would most certainly have served as a critical requirement for the centre of gravity that was the army, but it was the actions of the army itself that were of greater importance. It was the latter that would directly strike and kill the enemy and subsequently achieve victory. At the strategic level, on the other hand, military objectives were decided upon based on a number of factors, and while the pharaoh would have been central to this decision making process, pharaoh’s desires were still subject to certain limitations that would have among other things guarded against the undertaking of unrealistic or strategically dubious military adventures.\textsuperscript{249} It is to the operational level, therefore, that we must turn as it is here

\textsuperscript{246} This section offers a somewhat different view on command in the ancient world than what is presented in Van Creveld’s rather pessimistically labelled chapter “The Stone Age of Command” in Command in War (Cambridge, 1985), 17-57. While much of what Van Creveld writes is correct, in particular, where he addresses the issues of communications and intelligence and their limitations, \textit{ibid.}, 20-4, he does dismiss, rather offhandedly one feels, the idea that simultaneous movement of military forces was not an important factor in early warfare, \textit{ibid.}, 25-6. This may have been in part due to the fact that operational studies (and indeed the very acceptance of “operational art”) at the time his book was published were still few in number. His analysis, therefore, remains focused at the tactical and strategic levels only, see especially: \textit{ibid.}, 41-57.

\textsuperscript{247} For example, such notable military commanders as Napoleon Bonaparte, William Tecumseh Sherman, Douglas McArthur, Erwin Rommel (to name a few) all were brilliant practitioners of operational art and this is reflected in their many stunning military successes. However, most of these individuals fared less well at the strategic level.

\textsuperscript{248} Tactical level decisions are only briefly commented on, if at all, which is to be expected. Once battle is joined, the military commander would have had little control over the outcome. In this respect, Van Creveld in entirely correct, Command in War, 41-7. For a more popular analysis see also: J. Keegan, \textit{The Mask of Command}, passim.

\textsuperscript{249} See our comments above.
the actions of the commander can most directly impact the course of a particular campaign.

Pharaoh as Commander

The interplay that exists between the strategic, operational, and tactical levels becomes very apparent when examining the accounts of some of the more detailed pharaonic campaigns. Furthermore, we see quite clearly how decisions made at the operational level alone can have serious repercussions at the other two levels of war. The Year 22/23 campaign of Thutmose III serves to highlight this state of affairs quite adequately. At the strategic level, the choice of objective was clear and valid. The enemy coalition that was forming up around the city of Megiddo was a very real threat which had to be eliminated. One must note, nonetheless, that regardless of who the reigning monarch was, it was more than likely troops would have been sent into Asia in order to deal with this situation. Upon descending into the operational level, we are, however, in a better position to scrutinize the actions of the commander who, in spite of being endowed with near godly status (and occasional flashes of strategic brilliance), was also quite susceptible to human errors of judgement. One of the most important episodes (if not the key episode) that occurred during this campaign was the war council held at Yehem. 250 This is important for us for a number of reasons. First, this was an operational level meeting, not strategic (the campaign was underway and the objectives had already been decided upon), and not tactical (no fighting was involved). Second, that such a meeting occurred at all indicates quite conclusively that the Egyptian army possessed a certain degree of operational flexibility (the route that the army was to take, for example, was not set in stone). Finally, and most important for our discussion here, it was at this council that the decision was made by Thutmose III to march his army through the Aruna pass in order to reach Megiddo. 251


251 A similar situation (but with a rather different outcome) was faced by the Muslim governor Junayd in 731. A major rebellion in Transoxania had effectively cut off Samarqand requiring Junayd to lead an army in an attempt to relieve the city. The army reached the city of Kish (modern Shahr-i Sabz) some 70 km from the now beleaguered Samarqand without incident and set up camp there. Junayd then had to decide between two routes to take to continue his advance. One was flat but longer, whereas the other was shorter and more direct, but meant traversing the 2000 m Tashtakaracha pass. Unlike with the Egyptian episode, Junayd was advised that the longer route was the more dangerous of the two as the enemy could fire the tall grass and trees. As a result, the Muslim governor decided upon the shorter
the more direct (and lightly defended) route to the city but it was also the most difficult in terms of unfavourable geography (the route was very narrow) and was ideal terrain for staging an ambush. In other words, it was the more risky of all the approaches to Megiddo, something that was stressed by the king’s advisors who appealed to him to consider a safer alternative. Thutmose, however, was not to be deterred and was ultimately proven correct. At the operational level, he was able to outmanoeuvre his opponents, avoid for a time their main centres of strength, and optimally concentrate his forces at the key geographical point (establishing his *schwerpunkt*) in order to achieve the best position possible for the decisive tactical encounter. This was, in short, a clear cut example of the employment of operational art. That Thutmose himself considered this episode to be the most important part of the campaign (serving also no doubt to highlight his (perceived) brilliance as a field commander) may be very well reflected in the overall emphasis placed on the pre battle manoeuvring of his army as reported in the Annals. This is especially so when one considers the amount of wall space devoted to this episode compared with the actual battle itself. It almost seems as if the latter was a foregone conclusion, as the real success had already been achieved at the operational level. Clearly with this campaign operational level decisions (and success) were an important prerequisite for further success at the tactical level, and this in turn guaranteed ultimate victory at the strategic level. In short, the relationship between all three levels of war was harmonious.

As a digression, studies have compared the Thutmose III incident in which that king consults with his staff about which option is best to follow to a similar earlier recorded episode that occurred during the reign of Kamose. The *Königsnovelle* motif (and not genre) of where the king argues strongly for one course of (risky) action while his close advisors argue for another (safer) alternative is of

---

252 This is an excellent example of the military paradox “the best road is often the worse road”, see: E. Luttwak, *Strategy*, 3-15.

course well known, and has been the subject of numerous studies. But from a military point of view, one key difference here is that the Thutmose III incident occurred at the operational level. This was not the case for Kamose. His dilemma was centred around whether an attempt should be made to expel the Hyksos intruders from the northern part of the country (the riskier option) or continue the current status quo (the safer alternative). This was not a decision made at the operational level but one made at the highest level of statecraft – grand strategy.

Another account which provides us with great detail with respect to the operational level activities of the army is the Year 5 Qadesh campaign of Ramesses II. As with the Thutmose III military adventure, the objectives, which more than likely included the city of Qadesh, appear to have been rational and achievable (although admittedly the scope of the originally planned campaign is unknown). Qadesh occupied a key strategic location (or decisive point, as noted above). For the Egyptians it was prime gateway to northern Syria. Its capture or at very least subjugation was vital for further northern penetration and/or more permanent territorial expansion. While it was theoretically possible to bypass this city via Amurru, a hostile Qadesh would still pose a significant threat to Egypt’s lines of communications. The capture of this city was also within the military means of the Egyptians to accomplish. In every respect, it was a sound and valid military target.

The campaign, however, almost ended in complete disaster for the Egyptians. The problem was not with its strategic scope nor did fault lay with the tactical abilities of the Egyptian army, rather it was failure at the operational level that was to blame. Ramesses II, acting on false intelligence provided by Shasu Bedouin (a dubious source to begin with), decided to hasten his advance in order to seize what he believed to be a relatively unprotected city. Ironically in doing so, he displayed a very identifiable flash of “operational art” brilliance in terms of altering his military

---

254 For the key publications, see: P. Lundh, *Actor and Event*, 9-10.

255 Neither the “Bulletin” nor the “Poem” specify that Qadesh was the strategic objective of this campaign, and it is possible that its capture may have been a prerequisite for an advance further to the north against a more ambitious goal.

256 A. Santosuosso, “Kadesh Revisited”, 434. Santosuosso rightly criticises Helck’s suggestion that Ramesses intended to bypass this city, *ibid.*, 434. For Helck’s argument, see his: *Die Beziehungen Ägyptiens*, 214-5.

257 As they had done, or attempted to do, on a number of occasions previously, see note 96 above.
planning at a moment’s notice to take advantage of unexpected or unplanned for developments. Furthermore he, like Thutmose III, was engaging in a higher risk course of action which in turn offered an equally high payoff. If the intelligence received had indeed been genuine, in that the enemy army was nowhere near Qadesh, Ramesses II would most likely have been able to isolate and then capture the city with minimal effort. Unfortunately, this was not the case and the Egyptians found themselves completely outmanoeuvred at the operational level. Fortunately, the Egyptians redeemed themselves at the tactical level performing exceptionally well especially considering they had suffered considerable loses and at one stage were fighting with only a fraction of their total combat power. In addition, by remaining on the battlefield and through his displays of personal bravery, Ramesses II provided his army with much needed moral support.\textsuperscript{258} Without this focal point of resistance, it is doubtful that the Egyptian troops would have rallied.

The limited success that was achieved at the tactical level, however, could not overcome Ramesses II’s errors at the operational level. The result was failure at the strategic level for not only was the primary strategic objective(s) not achieved, whatever this was, but the Egyptians suffered further loss of territory following their withdrawal. This example exhibits another important feature of the operational level in that the higher the emphasis placed on conducting military operations at this level, the greater the risk of failure. A low risk alternative, for example, would have been for Ramesses II to maintain the cohesion of his army and advance on Qadesh at a slower pace. By reducing the importance of the operational level and placing more weight on winning set piece tactical encounters, risk is lowered but much more time and force is required to achieve the strategic objective.\textsuperscript{259}

These two accounts are by no means unique, and instances of operational level decision making are evident in numerous other inscriptions especially where the Egyptians had to respond to unexpected enemy activity during the course of a

\textsuperscript{258} There is no reason to doubt this. Ramesses II probably did have the opportunity to flee the battlefield but chose not to.

\textsuperscript{259} Such a more cautious approach, however, would not have sat well with such a young commander hoping to make a name for himself. Whether there exists some correlation between age and ability at the operational level is difficult to say with any certainty. For sure, Alcibiades advocated high risk ventures as did Alexander who was certainly not advanced in years. On the other hand, Erwin Rommel and Erich Manstein, who were both more mature, proved themselves to be successful operational commanders, as did Thutmose III.
campaign. One such example is found on the First Beth Shan stela of Sety I. The stela provides the exact date as to when the king was informed of the enemy activity (Year 1, Third month of $\text{smw}$, Day 10) which, as we have already seen, involved the aggressive actions of the ruler of the town of Hammath. In the Second Beth Shan stela, we are again provided with a similar situation. The king (while on campaign) is informed that two groups of trouble makers (the Apiru of the mountain of Yarmutu and the Tararu) were attacking the Asiatics of Ruhma. This incident likely also took place during the king’s Year 1 campaign. The detachment sent off in the last incident may have belonged to one of the divisions mentioned in the First Beth Shan stela. This is indicated possibly by the fact the text mentions that the king ordered a detachment of his ample infantry and chariotry to turn back against the land of Djahy. Their target appears to have been a day’s march (c. 24 km) away or less as the detachment returned after only two days.

Other Military Commanders

At the operational level, we should also expect to see some indication of the increased importance or prominence of subordinate commanders. There are two primary reasons for this. First, from the New Kingdom onwards, the Egyptian army regularly began to engage in simultaneous actions, a key element of operational art. Therefore, as the Egyptian army evolved into a true multi-division combat force, the king even though now often accompanying the army on campaign was no longer able to retain personal and direct control of the entire army. Instead, reliance was placed on (trusted) subordinate commanders who were able to operate independently but still within the established parameters of the campaign. The second main reason why subordinate commanders come to prominence was the need to deal with military situations that did not necessarily require the presence of the king. The nature of these

---

260 KRI I, 16.8-14.

261 The date on the stela has been lost.

262 That is, the presence of royal or non royal military officers who were in command of independent military formations but were, however, still ultimately subject to the authority of the (absent) king. One may, for example, look at the military campaign that took place in Nubia during the reign of Sesostris I in Year 18. This action was conducted on behalf of that king and was most notably accompanied by not one but two generals (see below), the governor Ameni of the Antelope nome, and another official with the title “overseer of the double granary”: W. Grajetzki, Court Officials, 104-5. It is possible that the troops utilised for this action were drawn primarily from provincial places, ibid., 104-5.
threats generally involved rebellions or sudden enemy raids or attacks against Egyptian possessions of which there was a long established precedent. No doubt some of these threats may have been deemed minor, and thus did not require the presence of the monarch for that reason. Alternatively, the king may have been unable to personally take part due to health (or age) restrictions, or they may have been needing to deal with more pressing affairs of the state. Another explanation for the king’s absence from such actions was the need for an immediate military response to a potentially dangerous situation. Instead of awaiting the arrival of the king, his army, and entourage, during which time the situation may have deteriorated even further, responsibility instead fell to local commanders to restore order. Certain competent individuals who had the power and expertise to undertake military operations would have been stationed at key points around Egypt’s frontiers and were thus effectively responsible for the defence of their respective territories. The cities in which these “operational commanders” resided would most likely have served as their operational base for any ensuing military action. As with prominent independent military commanders who appear during periods of internal strife, these individuals are important to our discussion as their military activities (albeit the accounts do vary greatly in usefulness) provide us with a valuable insight into warfare at the operational level. Indeed, this last point must be emphasised. The military victories of these lieutenants, while impressive, at least from their point of view, did not always make an impact at the strategic level.

During the Old Kingdom, non royal military commanders featured prominently due to the fact that they were tasked by the king to undertake all forms of military activity. Of these commanders, perhaps the most well known was Weni and we have seen already that even at this early period, the Egyptians were practicing elements of operational art. Another commander of particular note was

263 Some Nubian fortresses were, by the late Middle Kingdom, commanded by mr m3r wr (great overseer of troops) a title also employed by generals who actively campaigned in this region, W. Grajetzki, Court Officials, 104-5. Furthermore, Alan Schulman states that while Pharaoh can delegate control to local commanders when necessary, in order to deal with minor actions, these subordinates can also be tasked with more important affairs such as was the case with General Djhuty when he masterminded the taking of Joppa: A. Schulman, “The Nubian War of Akhenaton”, in L’Égyptologie en 1979: Axes priorities de recherches (Paris, 1982), 299.

264 See our discussion above: Simultaneous Operations.
This individual conducted at least three separate military campaigns that we know of, but unfortunately little in the way of operational level manoeuvring is given. We know that he conducted a successful military campaign against Wawat and Irjet in which numerous enemies were killed including the sons of the ruler and his elite troop commanders.

During the First Intermediate Period, the military accounts become more detailed and numerous thanks to the warring nomarchs (who for all intents and purposes) fulfilled the role of “operational commander” perfectly. One of our most informative accounts is that of Ankhtify of Mo‘alla whose military exploits are recorded in two separate sections. His first action was to go to the aid of the army commander (Overseer of troops), possibly a warlord, of Armant whose fortress (ith) was under attack by the forces of Thebes and Coptos. Armant was located in the Theban district and was the dominant centre there at the beginning of Dynasty X. Our hero, after departing Mo‘alla would have had to cross the Nile while proceeding north by ship up the western branch (imntyw) to reach Armant. Although it may not be known for certain whether Ankhtify had been lured to Armant under false pretensions and was not expecting a combined enemy force, the fact remains he still had to face this threat in that both Thebes and Coptos were clearly challenging Herakleopolitan authority. The enemy had apparently combined their camps (ithw) into one camp (Ith Iwni) which was located at Sgż smhsn. The remainder

---

265 For his account, see: Urk I, 131.15-135.7; and D. O’Connor, “The Locations of Yam and Kush”, 48.


268 According to Goedicke, this was a defined place (probably not located within the city) with a definite military character. It may possibly have been a temporary base (in other words, a tactical level camp): “’Ankhtyfy’s Fights”, 33-4.

269 Goedicke takes a somewhat unique view, in that, the Coptite and Theban forces were not expected to be in unity at this time and that they had in fact joined forces, ibid., 31-2 and 33 note 22.

270 It was also a settlement for foreign troops, see: ibid., 31.

271 Ibid., 33.

272 Ibid., 33 note 22.
of this section has suffered some damage but it seems certain that Ankhtify was successful, as his subsequent action (see below) indicates further military successes.\textsuperscript{273} It appears that he returned home after demolishing the enemy camp (\textit{ith}).\textsuperscript{274}

In the second account, Ankhtify took his fleet deeper into the Theban nome seeking battle. The starting point appears to have been \textit{Sg3 smhsm} which was the location for the Armant action.\textsuperscript{275} This campaign is of particular interest as Ankhtify engages in two separate amphibious actions. First, he lands on the west side of the district, yet no one would come out (of their fortresses presumably) from fear of his force. The extent of his penetration is from \textit{Smhsm} in the south to \textit{Tny} in the north.\textsuperscript{276} For the second part of this operation, Ankhtify lands on the east bank either after continuing his campaign further north or on his return south.\textsuperscript{277} He gives the extent of his penetration as the tomb of Imbi in the north and the settlement of \textit{Sg2} in the south.\textsuperscript{278} Sega, however, shut its gates against him and he was unable to capture this town. Furthermore, even though his forces were able to traverse both sides of the Nile apparently unopposed, they were not able to achieve a decisive battle. A major problem it would seem is that this commander was unable to successfully assault fortresses.\textsuperscript{279} This would seem to be an accurate assessment as the true geographical (and ultimately strategic) extent of this campaign can be ascertained somewhat by the fact that no mention is made of either Thebes or Tod. Thus it is unlikely he ever reached these locations.\textsuperscript{280} Therefore the operational successes of Ankhtify (tactical encounters did not play a significant part especially with respect to the second campaign) were hollow victories. He was unable to achieve a strategic level victory.

\textsuperscript{273} H. Goedicke, “‘Ankhtyfy’s Fights”, 36.

\textsuperscript{274} Ibid., 36.

\textsuperscript{275} Ibid., 38: \textit{sg3} as used here is not to be confused with the earlier mentioned \textit{sg2}, see: ibid., 39.

\textsuperscript{276} Both unidentified locations, see: Ibid., 37-41.

\textsuperscript{277} Ibid., 38.

\textsuperscript{278} This provides us with an insight to this commander’s operational thinking in that he clearly defines separate geographical points which serve to mark his two operational areas for each side of the Nile.

\textsuperscript{279} B. Williams, “‘Serra East”, 439.

\textsuperscript{280} H. Goedicke, “‘Ankhtyfy’s Fights”, 40.
Wahankh Antef II is another notable commander from this period. He was responsible for consolidating Theban rule in the South in part due to his operational achievement of capturing the Thinite nome. While we have already covered this military action in detail (see above), what is not clear from the text, however, is if the fortresses bypassed had to be assaulted or they simply surrendered without a struggle. We know the city of Thinis had been taken at least once by the northern ruler, as noted in the Instructions for Merikare (whether or not this occurred before or after Antef II’s assault is difficult to say) so such a contested city would not have been surrendered easily. In that same text the king urges his heir to build fortresses in the Delta, consolidate the frontier, and send out patrols. The mention of constructing new fortresses is notable as it assumes a more defensive posture is being recommended. We have already seen above how difficult they were to capture.

Another key figure during this period of internal strife was Tefibi of Asyut. He successfully defeated a Theban offensive as far as the fortress of the “port of the south”. Encountering a second expedition with a fleet, presumably a relief force, Tefibi claims to have defeated this one as well. Regardless of these two victories he, nevertheless, retired northward without making further progress. In another action, Tefibi sailed upstream after winning a battle against the Thebans at Thinis. He next engaged the Thebans in a naval battle in which he was successful. Again it is clear from these early texts that fortresses played an important role. The capture of a fortress proved to be a difficult affair but this was often a necessary requirement for the successful outcome of a campaign. A tomb of an unidentified “Northern Soldier” which is possibly dated to the reign of Mentuhotep II may belong to yet another of these operational commanders. Likewise, the Dynasty XII commander Sobekhotep who was active in the area of Abu Tanqura Bahari at el-Hôsh may have been responsible for the defence of this region.

282 W. Schenkel, Memphis, Herakleopolis, Theban, 74-82 especially 79-81.
284 J. Wells, War in Ancient Egypt, 77-8.
286 This individual did, however, hold the title mr m3ꜣ which would tend to make him a national general rather than a local leader, see the discussion in: I. Regulski, “The rock inscriptions at el-Hôsh”,
Other accounts, however, are less informative such as the stela of Sobeknakht where only a brief mention is made of this individual’s military exploits. The stela, which is likely dated to the beginning of Dynasty XI or slightly earlier, does, nonetheless, note that its owner “prepared the vanguard of the troops (dâmîw)” and that he “supplied it with all strong young men”. Thisfits in well with the idea of an operational commander assuming responsibility for military actions in his region especially with ensuring there was an availability of sufficient (local) manpower. The exploits of General Nesmontu have already been covered in Chapter II. The inscription, unfortunately, provides little in the way of operational level actions except for his possible use of surprise to capture, or at the very least, infiltrate settlements. A similar focus on tactical level actions is also found in the inscription detailing Khusobek’s military career. Yet some information can be ascertained regarding his operational level actions. The military action that took place in Nubia was clearly an amphibious affair with the army travelling south and returning north via ship. The campaign in Asia likewise appears to have been amphibious in part with the army

BMSAES 9 (2008), 55. Out of interest, another much later inscription (either New Kingdom or Late Period) of a military nature was uncovered to the south at Abu Tanqura Qebli belonging to the commander of troops Nes-Amon. The location of el-Hôsh may have been favoured either for its nearby quarries or as a convenient resting point for expeditions to the south, ibid., 58-9.


288 As translated by Silverman in his, “A Reference to Warfare”, 326.

289 Nesmontu was one of a select number of Middle Kingdom individuals who held the title mr mŠr wk, see: D. Grajetzki, Court Officials, 101-8; and D. Stefanovic, The Holders of Regular Military Titles, 204-5. Other prominent holders included General Inyotef (see Chapter II), and the Generals Mentuhotep and Dedu-Antef (both of whom were involved in Sesostris I’s Year 18 Nubian Campaign), W. Grajetzki, Court Officials, 103-4. Equating this title with the operational level or specifically with ‘operational commander’ is an attractive idea.

290 Khusobek appears to have served as part of the intimate bodyguard of the king (Sesostris III) and was tasked with fighting alongside him in combat. In his autobiographical inscription, which records his military exploits both in Nubia and Asia, Khusobek first relates how he and his regiment of sixty men engaged in combat with Nubians at knhf. Following this action, he received a promotion of rank and was given a command of 100 men. Next, during his Asiatic adventure, Khusobek was in command of the rearguard of the army when it was attacked by Asians. In the close combat action that followed Khusobek states specifically that he “struck” an Asiatic (possibly the enemy leader). Furthermore, he reassures the reader that at no time did he turn his back on the enemy, see the comments of: J. Baines, “The Stela of Khusobek”, 46-7 and 50-2; J. Gee, “Overlooked Evidence”, 29; S. Cohen, Canaanites, Chronologies, and Connections, 46-7; and W. J. Hamblin, Warfare in the Ancient Near East, 403. Unlike his counterpart Nesmontu, one of the titles held by Khusobek was ģw 3 n niwt (Commander-in-chief of the city regiment), D. Stefanovic, The Holders of Regular Military Titles, 52.
transported into the region by ship. In this case, however, we are given an important indication as to Egypt’s operational abilities in that it is fairly certain that the Egyptian army penetrated deep into this region reaching the area around Shechem (Skmm). While the Egyptians failed to hold this city and were forced to withdraw, such an incursion into northern Canaan at this time was nonetheless an impressive feat.291 Further contemporary evidence to Egypt’s operational reach in this theatre may possibly be found in the form of scarabs of Sesostris III uncovered at Gerar and Gezer.292

The more substantial albeit somewhat damaged Dynasty XVII text account of Sobeknakht’s military campaign against Kush also provides us with a wealth of operational (and in this particular case strategic) information.293 The campaign was undertaken in order to repel a rather serious invasion initiated by the Kingdom of Kush. The latter had also apparently drawn in Wawat, as well as Khent-hen-nefer, Punt, and the Medjau. In addition, vague mention is also made of the “neighbourhood of the Asiatics” which may be a reference to the Hyksos and their involvement.294 While the strategic objective of the Egyptian response is clear, Sobeknakht, based at the city of El-Kab, had to repel the Kushite attack and restore order, very little information is provided at the tactical level. The text does inform us that El-Kab likely served as the primary operational base for the Egyptian counterattack and that it may possibly even have come under enemy attack, such was the seriousness of the situation. In addition, the handling of the Egyptian response by Sobeknakht and not the king, may serve as an example of operational flexibility on the part of the Egyptians, that is, subordinate commanders could be tasked to undertake campaigns of relatively high importance as was the case here. Indeed, El-Kab was likely an important centre in terms of political and military support for Thebes.295 If this was the case, the fact that the city was vulnerable to enemy attack is testament to the

291 W. J. Hamblin, Warfare in the Ancient Near East, 406.


294 W. V. Davies, "Kush in Egypt", 52.

fragility of Theban power at this time. Emphasising this fact further, Sobeknakht’s success was praised by the (unidentified) Theban king.296

Moving into Dynasty XVIII, an inscription found on Tombos Island dated to Year 20 of Thutmose III records a military action conducted by Inebny/Amenemnekhu, the viceroy at that time.297 This action was apparently undertaken in response to an earlier enemy action: “[Ye]ar 20. The good god, who overthrew the one who attacked him”.298 This was one of only two military encounters that took place during the Hatshepsut-Thutmose III co-regency period. Merymose, the viceroy of Kush under Amenhotep III, conducted a brief military operation against the Nehesi of Ibhet who had recently rebelled.299 Little is provided by the text regarding this action except that Merymose needed to recruit his contingent of troops from territory extending from the fortress (mnnw) of Quban (B3ky), down to the fortress (mnnw) of Try.300 This was a considerable stretch of river spanning 52-ites of sailing time or around 546 km.301 It is likely that one of these fortresses, probably the latter, served as the key operational level base for this particular action.302 Of further interest is the fact that Merymose recruited or


298 W. V. Davies, “Tombos and the Viceroy Inebny/Amenemnekhu”, BMSAES 10 (2008), 42. Inebny/Amenemnekhu’s service to king and country failed, however, to save him from damnation memoriae likely due to a possible close association with Hatshepsut, ibid., 45.

299 Urk IV, 1659.1-1661.5; J. Wells, War in Ancient Egypt, 18-9; H. Goedicke, Problems concerning Amenophis III, 37-48; and E. Morris, The Architecture of Imperialism, 330-3. Whether or not this action is to be considered part of the Year 5 Nubian campaign of Amenhotep III is open to question. L. M. Berman, “Overview of Amenhotep III and His Reign”, in Amenhotep III: Perspectives in His Reign, D. O’Connor and E. Cline (eds.), (Michigan, 1998), 11 and note 56. David O’Connor, however, argues this was a separate smaller campaign taking place in the king’s thirtieth year, “The World Abroad”, 264 and 269-70.

300 Urk IV, 1659.16-17. For this geographical expanse see our comments below (note 302) and also: A. Schulman, “The Nubian War of Akhenaton”, 304; and H. Goedicke, Problems Concerning Amenophis III, 42-3. While both fortresses are labelled as mnnw, it is clear that by this time, the term was also being utilised as a designation for “town”: E. Morris, The Architecture of Imperialism, 331.


302 While the identification of Quban with B3ky is well established, the identification of Try is a bit more problematic especially depending on which direction one travels that 52 iters. If the location was south of Quban, which would seem more likely, then Try should be located somewhere in the Third Cataract area with either a (as yet undiscovered) fortress on the island of Tombos or Kawa serving as likely candidates, ibid., 332-3.
supplemented his “army” from local manpower and this fits in well with the idea that such operational level commanders were to rely, if possible, on the resources within their areas of control in order to deal with hostile situations. The campaign was ultimately successful with 740 captives (and 312 hands) being taken. This may seem an impressive haul but only 150 of the captives appear to have been male Nubian (fighting) men. Another example of a subordinate undertaking a military action occurred during the reign of Akhenaten. In this case, grain was being plundered by the Nehesi of the country of Akuyati. Akhenaten commissioned his viceroy Thutmose to take care of the situation. The text mentions that 145 captives were taken and possibly thirteen of the raiders were impaled. Even though some may see this as no more than a minor police action, it does provide a strong indication that Egyptian control in this region was not absolute. Indeed, such lapses of control can quickly result in a serious situation with insurgents potentially posing a threat to Egyptian lines of communications. The numbers involved in this particular action (145 plus an additional 225) should not undermine the seriousness of such threats. Given the low population density of the region where the raid occurred, the numbers involved in this insurgency can be considered quite high. Furthermore, the text mentions that some of the captives were impaled. An equally harsh level of punishment was meted 

303 Rather than having to request troops from Egypt itself: J. Wells, War in Ancient Egypt, 19.

304 Urk IV, 1660.12. The balance being made up as follows: “lads” (110); Nubian women (250); servant girls (55); and children (175). H. Goedicke, Problems Concerning Amenophis III, 39. It is uncertain as to whether we should see these ratios as reflecting a typical Nubian tribal grouping. If, say, a large portion of the slain (312) were men (warriors (possibly including men from other participating tribes?) as well as aged), which seems likely (although some of the other non combatants may have been caught up in the fighting), then this would provide the following ratios (approximately): 44% for the men (312+150); 24% women; 17% children; 10% boys; and 5% girls.

305 For campaigns in Nubia during the Amarna Period, see: J. C. Darnell and C. Manassa, Tutankhamun’s Armies, 117-25. For this particular campaign, which possibly occurred during the twelfth year of this king, see: ibid., 118-9; and H. S. Smith, The Fortress of Buhen, 124-9.

306 A. Schulman, “The Nubian War of Akhenaton”, 301-2; and J. C. Darnell and C. Manassa, Tutankhamun’s Armies, 118-9. Twelve children were among those captured as were around 361 head of cattle.


308 Compare the troublesome country of Akuyati with other frontier areas such as the Sinai where the Egyptians had to contend with marauding Shasu Bedouin.

309 A. Schulman, “The Nubian War of Akhenaton”, 305-6. Schulman adds that even the major military action of Thutmose III’s campaign against Megiddo produced only 340 prisoners and 83 hands, ibid., 305.
out to the insurgents of the Year 5 Nubian rebellion of Merenptah (see below). It is possible that the importance of Akuyati lay with its gold deposits, assuming the territory extended to include the Wadi Allaqi region. The harsh punishment inflicted on the rebels, therefore, reflected Egyptian efforts to keep this region free from troublemakers.

In Dynasty XIX, the viceroy of Kush Setau campaigned on behalf of his king (Year 44 of Ramesses II) against the lands of Irem and Akuyati. His excursion south likely passed by Hagr el-Merwa where inscriptions were left. The Nubian rebellion which occurred during the reign of Merenptah in Year 5 was put down by a subordinate most likely the new viceroy Messuy. Again the situation was not too dissimilar. A sudden rebellion, possibly spurred on by the Libyans, threatened Egyptian security in the south. In this case, Merenptah was unable to personally lead the military response due to the fact he was preoccupied with the Libyan invasion. therefore the Egyptian military action was undertaken by a subordinate.

As one can see, a significant number of these actions were undertaken in response to rebellions or some other act of provocation. Overall, subordinate commanders played a significant and often crucial role in conducting military operations in response to rebellions or sudden unexpected attacks by hostile forces, and for launching retaliatory attacks. Their value especially lay in the fact they were stationed close to the action and therefore could react quickly to these threats as they developed. In larger, offensive orientated, campaigns, as leaders of divisions or other separate military units under the overall command of the king, talented commanders were vital in order for the army to be able to conduct simultaneous operations over extended geography and time. This, as we have noted above, allowed for greater operational flexibility.

310 A. Schulman, “The Nubian War of Akhenaton”, 303-4. The territory of Akuyati may have included both the Wadi Allaqi and the Red Sea Hills.


312 And not the king himself, see: R. Krauss, “Untersuchungen zu König Amenmesse”, SAK 5 (1977), 135-6. The other possible candidate for was Khaemtjetri, see: R. Caminos, The New-Kingdom Temples of Buhen I (London, 1974), 17 no. 4; and L. Habachi, Sixteen Studies on Lower Nubia (Cairo, 1981), 165. However, the argument for Messuy is more convincing, Krauss, “Untersuchungen zu König Amenmesse”, 133-4.
Conclusions: An Egyptian Operational Art?

Through our analysis of Egyptian military activity utilising these five criteria we can clearly see that there was an adherence to key operational warfare principles. Campaigns were conducted in order to achieve set strategic objectives. Military conditions were recognised and taken into consideration in the planning and execution of campaigns. Logistic considerations were likewise of equal importance in that supplies and other types of provisions were carefully arranged. In the execution of the campaigns themselves, two key features of operational warfare – simultaneous and sequential manoeuvring - were clearly employed. Finally, both the pharaoh and his subordinate military commanders exhibited key characteristics of what one would expect of an operationally minded commander: conducting high risk military actions; and successfully engaging enemies in battle with only finite resources and time at their disposal. In short, there is no doubt that the Egyptians possessed an awareness of the importance of military actions at the operational level, but it should be noted that their form of operational art only really fully developed from Dynasty XVII onwards. The exposure to the Hyksos, that great catalyst for change, introduced the Egyptians to not only new military technology, but also to new ways of using that technology to wage war. As the Egyptians moved to expand their empire, their form of operational art continued to evolve. The requirement to wage war in the Asiatic theatre (and to establish an Asiatic empire) with its numerous geographic and logistic hurdles, complex political make up, massive campaigning space, combined with Egypt’s insufficient combat power required for them to fully embrace this form of warfare. If they had not, and instead relied on an attritional approach in conducting war, their military achievements would not have been as significant. In fact, the Egyptians would have found themselves quickly overwhelmed by the sheer numbers of their enemies. This was especially so that even at the height of success, and adhering to operational principles of fighting, they were still never able to project significant enough military force in this region. While their national struggle against the Hyksos and the establishment of the Asiatic empire were the primary driving force for development of Egyptian operational art, we must also not discount its contribution to Egypt’s campaigns in their other major theatre of war. While the

Nubian theatre posed certain restrictions on the employment of operational art, there was still enough latitude available for utilising some operational principles to achieve their strategic goals. The attritional nature of Egyptian conquest of the Middle Kingdom where the frontier was slowly pushed south in intermittent stages is in complete contrast to what took place in the New Kingdom where we see a series of deep penetrative assaults which culminated with the destruction of Egypt’s nemesis Kerma and the eventual subjugation of Nubia up to the Fifth Cataract. Indeed, the period of time from when Egypt initiated its operations in the south under Kamose and until Thutmose I established his “stela” at Gebel el-Hagar was only sixty or so years. The campaigning efforts of the Middle Kingdom pharaohs on the other hand, spanning the reigns of Mentuhotep II to Sesostris III only managed to subjugate the land as far as the Semna Cataract and this took around 150 years! Clearly the Egyptian armies of Dynasty XVIII and XIX packed more punch than their Middle Kingdom counterparts. The deep (and long lasting) incursions that were conducted by a number of New Kingdom pharaohs, most notably Thutmose I, for example have no early equivalent. By Dynasty XIX, the combined arms army was a truly professional and permanent military institution and the Egypt, as a whole, was an undisputed land based power. Egyptian “art of war” had in effect reached its full maturity. On a closing note, it notable that the only strategic theatre where operational warfare appears not to have been heavily relied upon for offensive operations was the Libyan theatre, instead, we see a more attritional focused strategy employed. It was, however, this theatre that ended up being the greatest threat.
CONCLUSIONS

The primary objective of this study has been to argue that the Egyptian military practiced a rudimentary form of operational art in their military campaigning. In order to identify whether or not this was the case it has been necessary to examine Egyptian military capabilities at the lower levels of war with particular reference to the army’s tactical, logistic, and operational capabilities. With respect to the tactical and logistic capabilities alone, these two facets are great determiners in shaping the operational nature of an army and it was only by examining these elements in detail, and as a whole, that were we are able to determine whether those fundamental elements would have provided the necessary basis for the employment of operational art.

At the tactical level, we examined how the Egyptians fought and what they fought with. This tells us a great deal about their tactical, and ultimately operational, preferences. Even before battle is joined, images of the Egyptian army in formation show us what is clearly a professional military force consisting of well equipped, disciplined, and trained soldiers. The troops are uniformly armed and clothed which reflects the high level of state and logistic organisation on the part of the Egyptians. This is especially evident by the New Kingdom where the military bureaucracy is sufficiently complex enough to incorporate new advanced weapons systems. These images also provide a valuable insight into the ethnic diversity of the Egyptian army, something that is clearly notable by Dynasty XX. The integration, within the army, of a number of different ethnic auxiliary elements, something that dates back to some of our earliest images, but seen most notably with the battle reliefs of Ramesses III, may have been an indicator of manpower difficulties. This is an important consideration with respect to operational art. If manpower is in short supply, then there is a greater tendency to avoid attritional encounters in favour of more indirect methods.

It is with the images of open battle, however, that we are provided with our first real indications of Egyptian pertinacity for operational warfare. From our examination of the battle reliefs where the Egyptian king features prominently, the monarch’s preferred weapon is the bow and arrow. Moreover, he is commonly depicted with these weapons in his chariot. The combination of these two pieces of equipment formed the most powerful weapons system available during our period under discussion. The bow alone was an operationally important weapon, its
combination with the chariot even more so. It is only expected that the king be seen armed with what the Egyptians perceived as the most advanced weaponry on the battlefield.

Turning to the scenes of battle proper, where we see Egyptian troops engaged in active combat with enemy troops, operational aspects continue to be noted. This is seen most manifestly through the heavy reliance placed on archers, and in this respect it is therefore not unexpected that the famed Nubian archers find themselves depicted in some of our earliest battle images. In fact, the Nubian soldier embodied two operational concerns. First, while they were not Egyptian, the Egyptians realised the importance of their bow in combat. As a favourite weapon of the king himself, this weapon allowed the Egyptians and their Nubian auxiliaries to engage their enemies indirectly, at a distance, rather than having to rely on hand-to-hand (attritional) combat. Second, as an important auxiliary force, Nubian manpower appears to have been heavily relied upon to supplement the Egyptian battle ranks. Further testament to the preference of operational tendencies is the lack of heavy armour worn by the Egyptian and Nubian troops (both heavy and light infantry). The use of heavy armour tends not to be associated with operational mobility, and was only really utilised by military forces that preferred attritional encounters. What could possibly be seen as the apex of the power of the bow was the military encounter that took place between the Egyptians and the Libyans in Year 5 of Merenptah. In this battle the Egyptian archers break the Libyan army following six hours of combat.

The Egyptians and their allies did, nonetheless, engage their opponents in direct hand-to-hand combat, as noted in some of our earliest images, yet this appears to have been subsequent to the heavy arrow bombardment of the archer, in extreme situations, or when the opposing army had been broken and the heavy infantry move in on the shattered remnants. In the earlier periods, we do find a great deal of evidence for hand-to-hand combat between Egyptian soldiers and their enemies, while this is a trend that continues into the later periods, there is a notable change. We see a greater tendency for auxiliaries (in particular, the Sherden) to be employed for this dangerous task. Instances of hand-to-hand combat are, nonetheless, to be expected as the Egyptian army by Dynasty XIX was clearly a practitioner of combined arms warfare, and this is an aspect of operational warfare. This last point cannot be emphasised enough, the ability to conduct combined arms warfare was a vital prerequisite for the utilisation of operational art.
In addition to the images of open battle, the evidence for Egyptian assaults against fortified targets again shows a clear preference for operational tendencies. To begin with, it must be stressed that while the Egyptians were without doubt technically proficient enough to assault a city or fortress directly, this appears not to have been the desired option. Rather, every attempt was made to capture these targets indirectly, in particular, by expending as little effort as possible. This reflects a true reliance on operational art tendencies. City assaults could be costly affairs, in terms of time and resources expended, and more important, valuable manpower lost. None of which the Egyptians could easily afford. It is therefore not surprising that the texts, and even the battle images, emphasise a clear preference for assaulting these targets indirectly. It is also not surprising that references to sieges are uncommon. Sieges symbolise everything that operational warfare is not. Even in instances when a direct assault was required, there is a clear preference for the employment of indirect methods at the tactical level. We again see the bow prominently employed to “soften up” the defenders and the use of auxiliaries, as opposed to Egyptian troops, for dangerous tasks such as leading the assault. The assault methods themselves favoured the less time consuming method of escalade and penetration. Ladders, especially, were quick to make “on site” and equally quick for overcoming the walls of the city.

One also comes away with the impression that every attempt was made to avoid an assault in the first place. Although the use of psychological intimidation appears not to have been commonly employed, one may wonder whether those images of the Canaanite ritual being performed by the inhabitants of a soon to be defeated city reflect an Egyptian desire to emphasise the fact that these Canaanites were unable to rely upon any form of salvation whatsoever (these images may have been viewed by the hostage sons of rulers during their stay in Egypt). Furthermore, the prominent use of a sacrifice, a child no less, with all the logistic and social ramifications this entails must surely have had a profound impact.

As well as tactical proficiency, the second key factor that can greatly determine the operational capabilities of an army is logistics. The Egyptian army was in many respects quite fortunate in that it had access to a wide range of foodstuffs that provided all of its daily dietary needs. More important, the army tended to be well supplied while on campaign. This is especially crucial as the Egyptians campaigned in very different environments each placing their unique demands on Egyptian military operations. That the Egyptians were able to overcome these difficulties was only
possible with an acute understanding of the importance of logistics in waging war. This is especially so with operational warfare given its need for highly manoeuvrable forces that expend large quantities of ammunition. What we do note is that the height of Egyptian operational proficiency, there was a heavy reliance on the use of “in theatre” infrastructure and sources of supply (one might argue that this alone would tend to absolve the Egyptians of responsibility for the Middle Bronze Age IIIC destruction levels). When the Egyptian armies were able to supply themselves in such a manner, they exhibited a high degree of mobility and strategic reach. Indeed, the Egyptians appeared to have made every attempt to ensure their military operations were as cost effective as possible. This was likely a reflection of the fact that they had only limited indigenous resources at their disposal. Again, this is something that would favour an operational, indirect, approach to warfare. When one had available essentially unlimited supplies of troops and materiál, then there is a greater tendency to wage attritional warfare. With limited (finite) resources, on the other hand, and where there was a heavy reliance on supplies collected “in theatre” operational methods were favoured.

This “honeymoon” period, however, did not last forever. Logistic considerations changed considerably as the Egyptian military developed and the empire extended. This was especially notable in the Asiatic theatre where the heavy reliance on “in theatre” resources and infrastructure gradually gave way to more direct Egyptian investment. This had important operational consequences. On the one hand, this heavier investment allowed for larger armies with chariot components to be employed (and this was necessary for the projection of adequate force). This in turn allowed for greater opportunities with respect to the employment of operational art. On the other hand, as more and more bases were needed (as what happened in the Nubian theatre during the Middle Kingdom), Egyptian military activity became, in one of those great paradoxes in war, increasingly more attritional in character. Retention of empire proved too expensive for the state to afford.

While the Egyptians clearly understood the importance of logistics with respect to their own military forces, as befits a scribal-bureaucratic society, they were also well aware of the fact that logistics could be utilised as a weapon against their enemies. Targeting the enemy’s logistic infrastructure and communications routes rather than their military force is again a reflection of operational awareness. That is, instead of attacking the military forces directly (those all important centres of
gravity), the Egyptians attempted to neutralise them indirectly by attacking their logistic support apparatus. In fact, the Egyptians were highly selective in targeting the logistic elements of their enemies. Damage was inflicted, for sure, but existing infrastructure was retained whenever possible so that it could be utilised by the Egyptians after the enemy had been cleared out, as was likely the case with strategic centres such as Avaris and Qadesh. Operationally inclined armies tended to be resource “light” and had to be highly resourceful in making use of all available logistical support including those of their enemy. Those resources that could not be utilised were mercilessly destroyed. In many respects, for the Egyptians, attacking the logistic support bases of their superpower enemies was one of the only means available of inflicting serious damage upon their opponents. There is no doubt that the (select) destruction of enemy resources was a conscious military strategy undertaken by the Egyptians. This is especially so considering their low ratio of force to space. Overall, the tactical and logistic factors associated with the Egyptian military campaigning clearly point to the employment of operational art as the most optimum way of waging war.

In our examination of Egypt’s theatres and military capabilities at the operational level, we find that the interrelationship of the three major factors of space, time, and force were all favourable for the employment of operational art. The combined campaigning space was truly immense. Forces were limited, outnumbered, and time was always short. In fact, there is a clear correlation between all three factors and the strategic theatres campaigned within, in direct proportion to reliance on operational methods. During the course of Dynasty XVIII, as armies penetrated deeper into these theatres, as the Egyptian armies came up against more numerous and stronger opponents, and as campaigns lengthened in duration, the employment of operational art became more pronounced, in particular with the Asiatic theatre. For military success to be achieved, the most optimum use of limited force was the key. In this respect, the use of auxiliaries is most telling. Their continued and increasing reliance was an indicator of manpower problems. Therefore, economical use of troop numbers remained an important consideration. The use of fortresses, while consuming manpower, would nonetheless have assisted in this matter. Egyptian forts were designed to be manned by small garrisons (maybe as low as 50% of their full capacity). This meant that minimal numbers of troops could be employed to oversee large regions. Fortresses may even have been abandoned completely at times if the
situation warranted it. Of the three factors, it was time constraints which likely provided the greatest incentive for the Egyptians to embrace operational art. Time was always of crucial importance to military forces undertaking operational warfare, less so for forces that relied on attrition. The factor of time becomes more restricted as Egyptian military activity increased in scope. Therefore, campaigns were crafted to achieve the greatest possible result within the time available.

In order for an Egyptian operational art to evolve, however, the army had to move away from its dependence on the navy. This is indeed what we see occurring during Dynasty XVIII where we see that fundamental shift at the operational level away from sea and riverine operations to land based military activity. A key impetus for this change was the adoption of that tactically and operationally important chariot, a vehicle that came with heavy logistic requirements. Indeed, this vehicle sums up nicely the impact that new pieces of military technology can have on operational ability, and the logistic price that can ensure in obtaining and maintaining such weapons. The long term expenses cannot be easily foreseen.

Having determined that all the vital perquisites were present for the employment of operational art, it still proved necessary to actually identify key elements of this in Egyptian warfare as defined by current modern military understanding. In our examination of Egyptian military activity at the operational level, and with respect to the five key criteria as discussed in Chapter VI, we saw clear indications of Egyptian warfare conforming to what is considered operational art. Paramount among these was the heavy reliance on intelligence acquisition. In order to practice operational art successfully, one needed accurate, up-to-date, intelligence. Indeed, both went hand in hand. The Egyptians placed great importance on obtaining intelligence at all levels of war and in each of their three theatres. Intelligence was particularly important in formulating a military response to hostile enemy actions. That is, in order for it to be countered as effectively (and efficiently) as possible with the correct amount of force and expenditure. Two other key factors addressed were the use of simultaneous and sequential operations. These are very real indicators of operational art proficiency. That we have evidence for both in the Egyptian records is crucial for our argument. What was most important, however, is the fact that we also possess evidence for military commanders who were operationally minded. Even if an army is capable of operational warfare, it still required a competent commander, as that final key ingredient, in order to successfully
engage in operational art. The Egyptians, at times, possessed such commanders, and not just with the king, but also with non-royal commanders. It is notable that such commanders went to great lengths to record their military actions at the operational level.

In summary, taking all of the above points into consideration, the Egyptian pharaonic army of the New Kingdom period without doubt practiced a form of operational art that adhered to what modern perceptions would consider as such. Not only does this further support the argument that the operational level and the tripartite division of war is a potentially timeless phenomenon, but we are now able to argue quite conclusively that the origins of operational art do not lie within the military conflicts of the 19th century AD. As others have done already, we must push back its temporal origins, but this time further back than the military campaigns of the Mongols and of Alexander the Great, and back even further than the Israelite military activities that took place during the Iron Age. While we cannot argue that the origins of operational art are be found within the military campaigning of the pharaonic Egyptians, no matter how attractive this idea may be, the operational art they practiced was, nonetheless, an Art of War that was specifically their own.


Barguet, P., La stèle de la famine à Séhel (Cairo, 1943).


Beckman, G., Hittite Diplomatic Texts (Atlanta, 1996).


Bourriau, J., “Relations between Egypt and Kerma during the Middle Kingdom and New Kingdoms”, in *Egypt and Africa: Nubia from Prehistory to Islam*, W. V. Davies (ed.), (London, 1991), 129-44.


Brack, A. and Brack, A., *Das Grab des Tjanuni: Theben Nr. 74* (Mainz am Rhein, 1997).


Brewer, D., Domestic Plants and Animals (Warminster, 1994).

Brewer, D., and Friedman, R., Fish and Fishing in Ancient Egypt (Warminster, 1989).


Caminos, R., Late Egyptian Miscellanies (London, 1954).


Campagno, M., “In the Beginning was the War. Conflict and the emergence of the Egyptian State”, in Egypt at its Origins: Studies in Memory of Barbara Adams, S. Hendrickx (et al.) (eds.), (Leuven, 2004), 689-703.

Capart, J., “The Memphite Tomb of King Haremhab”, JEA 7 (1921), 31-5.


Cavillier, G., *La battaglia di Qadesh: Ramesse II alla conquista dell’Asia, fra mito, storia e strategia* (Torino, 2006).


Cohen, S., *Canaanites, Chronologies, and Connections: The Relationship of Middle Bronze IIA Canaan to Middle Kingdom Egypt* (Winona Lake, 2002).


Darnell, J., “The Eleventh Dynasty Royal Inscription from Deir el-Ballas”, *RdE* 59 (2008), 81-106.


Davies, B. G., *Egyptian Historical Inscriptions of the Nineteenth Dynasty* (Jonsered, 1997).


Dever, W., “‘Hyksos’, Egyptian Destructions, and the End of the Palestinian Middle Bronze Age”, Levant 22 (1990), 75-81.


Goedicke, H., “Egyptian Military Actions in <<Asia>> in the Middle Kingdom, RdE 42 (1991), 89-94.


Goedicke, H., The Battle of Megiddo (Baltimore, 2000).


Gonen, R., “Megiddo in the Late Bronze Age - Another Reassessment”, *Levant* 10 (1987), 83-100.


Grajetzki, W., *Court Officials of the Egyptian Middle Kingdom* (London, 2009).


Habachi, L., *The Second Stela of Kamose and His Struggle Against the Hyksos Ruler and His Capital* (Glückstadt, 1972).


Hanson, V., “Epameinondas, the Battle of Leukra (371 B.C.), and the ‘Revolution’ in Greek Battle Tactics”, CA 4 (1988), 190-207.


Irwin, A., The Levels of War: Operational Art and Operational Planning (Camberley, 1993).


Keel, O., “Der Bogen als Herrschaftssymbol: Einige unveröffentlichte Skarabäen Ägypten und Israel zum Thema ‘Jagd und Krieg’”, *ZDPV* 93 (1977), 143-77.


Kiszely, J., “Thinking about the Operational Level”, *Royal United Services Institute* 150.6 (2005), 38-43.


Lawrence, A. W., “Ancient Egyptian Fortifications”, *JEA* 51 (1965), 69-94.


Lichtheim, M., Ancient Egyptian Literature Volume I: The Old and Middle Kingdoms (Berkeley, 1975).


Lichtheim, M., Ancient Egyptian Literature Volume III: The Late Period (Berkeley, 1980).


Lundh, P., Actor and Event: Military Activity in Ancient Egyptian Narrative Texts from Thutmose II to Merenptah (Uppsala, 2002).

Lupo, S., “The Inscription of Amenemhet II in the Temple of Ptah in Memphis: was there a real control of the Egyptian State over Kush during the Middle Kingdom?”, GM 198 (2004), 43-54.


Lynn, J. A. (ed.), *Feeding Mars: Logistic in Western Warfare from the Middle Ages to the Present* (Boulder, 1993).


Mellado, E. P., “Trade of Metals between Egypt and Other Countries from the Old until the New Kingdom”, *CdE* 81 (2006), 7-16.


Miller, J., “The Rebellion of Hatti’s Syrian vassals and Egypt’s meddling in Amurru”, *SMEA* 50 (2008), 533-54.

Miller, R., “Ds-vessels, beer mugs, cirrhosos and casting slag”, *GM* 115 (1990), 63-82.


Müller, H. W., Der “Armreif” des Königs Ahmose und der Handgelenkschutz des Bogenschützen im Alten Ägypten und Vorderasien (Mainz am Rhein, 1989).

Müller, M., “Facing up to Cruelty”, BACE 20 (2009), 115-42.


Murphey, R., Ottoman Warfare (London, 1999).


Obsomer, C., “La date de Nésou-Montou (Louvre C1)”, *RdE* 44 (1993), 103-140.


Petrie, W. M. F., Tools and Weapons: Illustrated by the Egyptian Collection in University College, London, and 2,000 Outlines from other Sources (London, 1917).


Redford, D., “A Gate Inscription from Karnak and Egyptian Involvement in Western Asia during the Early 18th Dynasty”, JAOS 99 (1979), 270-87.


Sethe, K., Aegyptische Lesestücke (Leipzig, 1924).

Several, M. W., “Reconsidering the Egyptian Empire in Palestine during the Amarna Period”, PEQ 104 (1972), 123-33.


Shay, J., Achilles in Vietnam: Combat Trauma and the Undoing of Character (New York, 1994).


Smith, W. S., Interconnections in the Ancient Near East: A Study of the Relationships between the Arts of Egypt, the Aegean, and Western Asia (New Haven, 1965).


Snape, S., “Neb-Re and the heart of darkness: the latest discoveries from Zawiyet Umm el-Rakham (Egypt)”, Antiquity 75 (2001), 19-20.


Stuart, D., “The Sovereign’s Day of Conquest”, *BASOR* 221 (1976), 159-64.


Vandier, J., *La famine dans l’Égypte ancienne* (Cairo, 1936).


Weinstein, J., “Egypt and the Middle Bronze IIC/Late Bronze IA Transition in Palestine”, *Levant* 23 (1991), 105-15.


White, D., “The Third Season at Marsa Matruh, the Site of a Late Bronze Age Trading Station on the Northwest Coast of Egypt”, *AJA* 94 (1990), 330.


Wylie, G., “Brasidas – Great Commander or Whiz Kid?”, *Quaderni Urbinati di Cultura Classica* 41 (1992), 75-95.


