Rock Art at the Dawning of a New Age:

An Ontological Approach for the Study of Alpine Rock Art.

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"All of us draw our own conclusions from the same material and inevitably disagree from time to time. That is the glory of this material: it merits and receives countless interpretative solutions and, with a few wild exceptions, sustains them all. Examine the art from a new vantage point, and it emerges refreshed every time."[1]

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[1] Quote from Jane Glover in P.G Bahn, *Prehistoric rock Art: Polemics and Progress* (Cambridge: Cambridge University Press, 2010), 201.

Abstract

In the earliest stages of the Neolithic, certain practices of rock art were carved on the natural outcrops and boulders in the landscape of Alpine Europe, beginning a tradition of striking artistic representation and expression that lasted well into the Iron Age. With over 500,000 works (and counting) in nearly 1,000 sites, Alpine rock art holds an almost uninterrupted period of 10,000 years of heritage. Despite this, Alpine rock art remains decidedly absent and detached from the broader currents of archaeological discourse regarding the prehistory of this region. As a result, the overarching research objective of this thesis will be to explore how applying diverse theories in the study of Alpine rock art may recontextualise the material and bring the discipline out of isolated studies. More specifically, this thesis will propose a robust methodology founded on the basis of ontology, assemblage theory and the communities of practices framework to provide a more nuanced and holistic understanding of the complex nature between archaeological entities (rock art) and the overall contexts (the prehistoric Alpine arc) in which they are situated.

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INTRODUCTION

Alpine rock art is a long-lived practice that represents a resource that can exist across multiple disciplines providing valuable input into our understanding of the region.[1] Some of the earliest productions of rock art in this region can be recognised from the images that appear in Valcamonica, the Italian Alps, or the Totes Gebirge near Salzburg in Austria.[2] Important groups can also be found in the Alpes Maritimes, notably Monte Bego, but also in Piedmont, in Liguria and Aoste Valley in Italy and, Valais and Grison cantons in Switzerland, as additional sites appear across the region from the Late Neolithic periods (ca. 4,000 BCE) onwards up until the Roman period (ca. 16CE).[3] With over 500,000 works (and counting) in nearly 1,000 sites, Alpine rock art holds an almost uninterrupted period of 10,000 years of heritage (Figure 1). In a time when the people of this region left no known evidence of writing, rock art is an invaluable piece of evidence that connects us to those people who lived in the heart of Europe, between the traditional Eastern and the Western paradigms of scholarship. Despite this, Alpine rock art remains decidedly absent and detached from the broader currents of archaeological discourse regarding the prehistory of this region. Moreover, across the sub-discipline of rock art, there have been many approaches that remain in some ways 'incomplete' as they remove the consideration of the archaeological context in preference of focusing on the art or vice versa. Thus, although rock art has maintained its place *in situ* throughout the millennia, it is often overlooked or reduced to a singular aspect. Yet, there is almost an unsuitability of the term 'rock' or 'art' to convey the richness that can be garnered from the phenomena to which it is attached.[4] Rock art is more than the surface on which images appear and is laden with more than old-world traditions of aesthetic value. As Zawadzka so elegantly states:

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[1] For the purpose of this study, the term "Alpine Region" will be used to encompass more specifically the following areas: Northern Italy (North of the Po River), the Circum-Alpine regions and the Alpine Mountain Arc. This region has been decided by considering the archaeological corpus that connects these specific areas. It has also excluded the southern half of the Po plain as the area experiences a micro-climate that shares in both temperatures of the Mediterranean and temperate Europe, with the Po itself acting as an almost informal climatic border between the two. As the northern banks of the Po topography and climatical are closer to the Alpine Arc, the river will act as the border for this thesis. (Cavazzuti et al. 2019). It should be noted that this is more of a blurred boundary than definitive in order to discuss this study and the proceeding position of the scholarship mentioned within this thesis. Refer to Figure 2, which provides a map defining this scope.

[2] (A.E. Fossati 1996)

[3] Alpine rock art referenced in this this refers to the images have been classified as being produced during the prehistoric eras of Northern Italy (ca. 5000 BCE – 16CE). While rock art does appear following this period, notably during the Middle Ages, this study will not address tock art beyond the chronological framework outlined in Table 1.

[4] This thesis does not advocate for the construction of new terminology to describe rock art as it views such terms to be complex and multi-layered, continuously evolving within scholarship. As a result, they are seen to suitably convey the intricacies of the continuously evolving rock art phenomenon as viewed in this thesis. This goes against Conkey et al. 1997 who views the use of the term "art" as misleading and limiting preferring terms like imagery. While this author recognises the reasoning behind this as Conkey et al. viewed imagery as a more effective way of approaching the significance of images in the past this again only reduces the phenomena to aesthetic value. Scholars like (Bradley, 1997, 4) have preferred to use of more neutral terminology like 'rock carvings' and 'rock drawings' but again this author believes that this only reduces the phenomena to an aesthetic or technical focus. While the term 'art' is undoubtedly linked to talks of aesthetics, the term also has the ability to take on a life of its own that embodies both the technical, physical, cultural and theoretical aspects of the material we wish to discuss in this thesis. Thus, when referring to the entire phenomenon in this thesis, rock art will primarily be used, when referring to the artistic imagery aspect, this thesis will use image and imagery. However, although this thesis will use 'rock' and 'art' broadly and somewhat liberally since, in the mind of this author, there is no suitable alternative term to describe such a phenomenon, it might benefit the reader to imagine that throughout this thesis 'rock' and 'art' are enclosed by inverted such commas ; (M. Conkey et al. 1997)

"Rock art is the paths along which the place is located, the proximity of other places filled with agency and the larger placement within the territory of a group, it is the stories, the memories, and the experiences of people. In this complex sense, rock art can be understood as landscape art, teeming with activity, sociability and living presence."[5]

This is a reality that has increasingly become recognised by scholars, predominantly working with rock art sites outside of Europe, as they attempt to engage with the ontological nature of these spaces. Therefore, the overarching research objective of this thesis will be to explore how applying diverse theories in the study of Alpine rock art may recontextualise the material and bring the discipline out of isolated studies. More specifically, this thesis will propose a methodology founded on the basis of ontology, assemblage theory and the communities of practices framework to provide a more nuanced and holistic understanding of the complex nature between archaeological entities (rock art) and the overall contexts (the prehistoric Alpine arc) in which they are situated. However, despite the apparent simplicity of this proposal, its implementation presents a complex and challenging task.

The Alpine region, as a whole, has often been divided between the discussions and narratives of temperate Europe and the Mediterranean, as scholars seem unable to come to a unanimous decision regarding its place in the prehistoric world. With sweeping statements like, "as everybody knows, agriculture on the two Alpine slopes came from two different directions: the Mediterranean and the Danube," it is clear that for a long time, there was the notion that the Alpine region was a place moulded on the backs of its external connections.[6] Indeed, only recently have we seen works that have provided more agency to the populations of the Alpine areas, recognising the dynamism of the landscape.[7] Even so, its place in the overall scholarship of prehistorical study remains ambiguous. Consequently, rock art studies often find themselves twice removed, isolated from the archaeology discourse of the region and the broader scope. As a result, before we can begin to discuss Alpine rock art in a more holistic context, this thesis will first re-contextualise our understanding of its place in prehistory and how the Alpine rock art and region have functioned within and outside the archaeological disciplines. Therefore, Chapter One of this thesis will provide the baseline context for this study by reviewing the current state of the research and the entangled regional approaches to determine the position of Alpine rock art. The isolated and fragmented nature of rock art scholarship will be explored, and the lack of integration of rock art into archaeological

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[5] (Zawadzka 2021, 277)
[6] (Forni 1997, 178)
[7] (Rondini and Zamboni 2020; L. Zamboni, Fernández-Götz, and Metzner-Nebelsick 2020; Iacono 2022; Rondini 2022; Cicolani and Zamboni 2023)

discourse will be discussed. This chapter will then consider how interpretations, concepts and theories established in other regions with a strong tradition of rock art studies have approached similar issues. From this, the chapter will situate this thesis amidst the current Alpine research traditions and propose the application of an ontological approach grounded in theories of assemblage and communities of practice to facilitate a more comprehensive and practical strategy for overcoming the problem of isolation in the Alpine region.

Chapter Two will further contextualise this theoretical approach and lay out the methodology for this thesis. A critical framework will be established to create four distinct levels of analysis, offering a robust foundation for investigating the different relational aspects of Alpine rock art during the Final Bronze Age (hereafter, FBA). Specifically, this chapter will outline how this approach can be used to examine how communities of rock art practice may have evolved, matured, declined or vanished in the region during the FBA. Thus, this chapter will further outline the principles of relational ontology and assemblage theory to present how this component will function and further define the methodology for synthesizing the Alpine rock art phenomenon as a community of practice. A consequence of this examination will be the requirement to recontextualise the various physical and cultural levels of the Alpine rock art phenomenon. In order to achieve this, assemblage theory will be employed to deconstruct the various constituent layers of the rock phenomenon. Therefore, the following three chapters will present three levels of analysis as individual assemblages that will define the physical, archaeological and cultural aspects of the rock art phenomenon during the FBA.

More specifically, Chapter Three will present the broader archaeological and physical context in which the rock art phenomenon emerged, highlighting possible relationships and organisational structures in the connective communities of the region. It will show the trans-regional connectivity between communities and will illustrate the potential paths of mobility and practice exchange during the FBA leading onto the Early Iron Age (hereafter EIA). Chapter Four will then explore Alpine rock art as communities of practice synthesising the eastern and western rock art sites and their connections from the Neolithic to the EIA. This chapter will use the rock complexes of Valcamonica and Monte Bego as models to determine the degrees of continuity, discontinuity, similarities and variances over time and space while also considering enduring relations within and between the two poles. The chapter will further recontextualise the regional practice of Alpine rock art as a constellation of practice and provide a basis for understanding and re-assembling the assemblage in the final level of analysis. Finally, Chapter Five will examine and discuss the patterns and interactions between and within the rock art phenomenon as a community of practice during the FBA. This

chapter, combining all the previous levels of the analysis, will look at the two most noticeable reactions in the rock art assemblage: the evolution and expansion of the Valcamonica (eastern pole) as a community of practice and the cessation of new productions and disappearance of Monte Bego (western pole) as a community of practice. This chapter will examine two potential motivators to suggest why these practices evolved, adapted, endured or faded during the FBA. By applying the established framework of this thesis, this chapter aims to achieve a more comprehensive understanding of the rock art phenomenon and ultimately generate a new avenue of research towards rock art.

As a result, this thesis aims to be a step forward towards a systematic and contextualised review of prehistoric rock art across the Alpine arc, placing it within the wider debate involving the Alpine region and, in the broader sense, the Central European continent and the Mediterranean area. Alpine rock art provides a unique opportunity to explore the connecting point between the regions and examine a domain in which social complexity, knowledge, and connections may have evolved, adapted, endured or faded during prehistory.
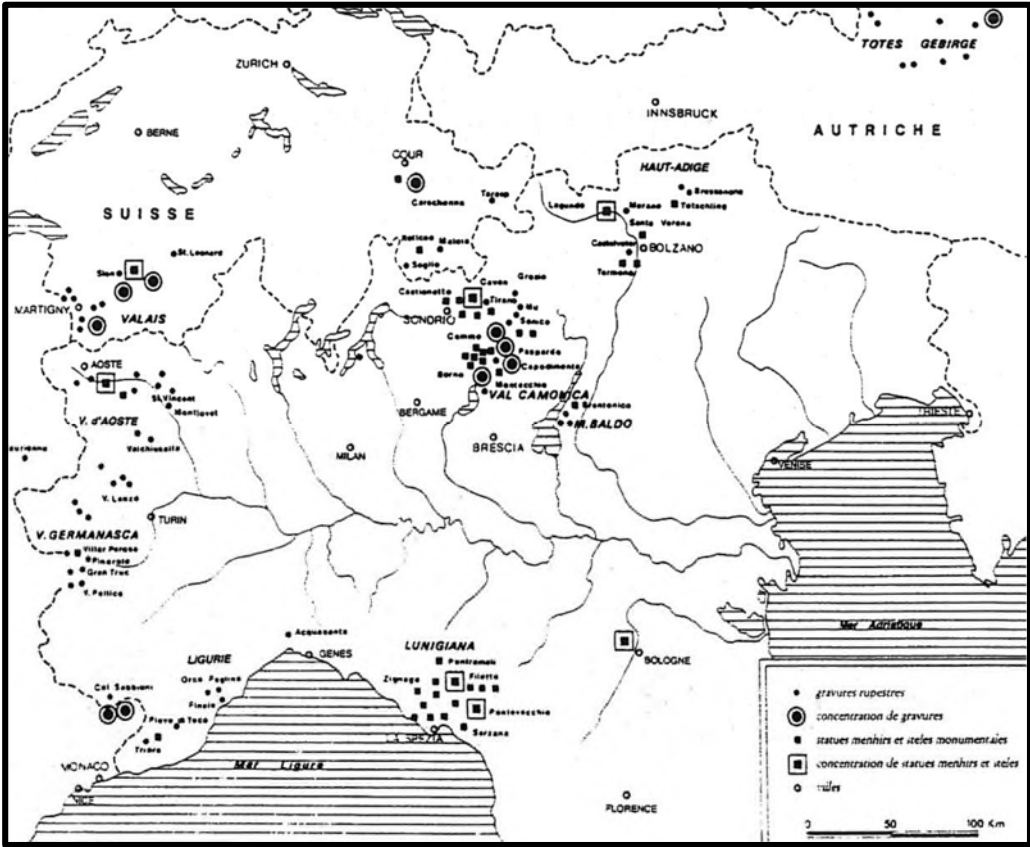
Figure 1. Map of Alpine Region showing the various distribution of rock art sites. (after Anati 2000)
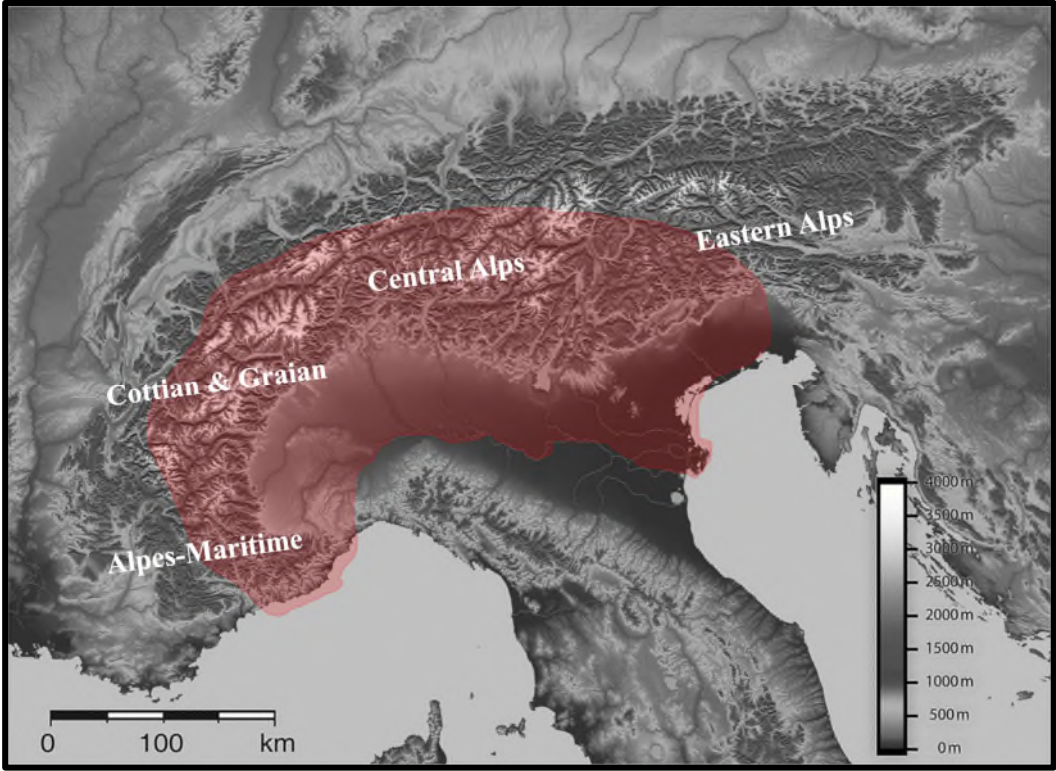

Figure 2. Map of Alpine Region as defined in this study. (Map sourced from Ghosh 2021 and edited by author)

I. THE CURRENT POSITION

Before an issue can be addressed, it must first be identified, discussed, and contextualised. By breaking down these aspects, this chapter will review the current state of research traditions and the entangled regional approaches to determine the current position of Alpine rock art. The isolated and fragmented nature of rock art scholarship will first be explored, discussing the contrary and paradoxical issues which divide the discipline. An overview of the literature will show that this has been due to somewhat self-imposed isolation and reluctance from archaeological scholars to engage with its problematic nature, thereby preventing successful integrations of rock art into archaeological discourse. As this thesis aims to bring rock art studies out of isolation, the current state of the archaeological context in the Alpine region will also be addressed. Although bordered by heavily investigated spaces, it will become evident that the Alpine region has been both overlooked and detached from the broader discussions of the Euro-Mediterranean region. This chapter will then situate itself amidst the current Alpine research traditions, identifying the overarching trends that have led to rock art's general isolation. Finally, to induce a fresh perspective and to avoid perpetuating the issues within a closed loop, this chapter will consider how interpretations, concepts and theories established in other regions with a strong tradition of rock art studies have approached similar issues. From this, it will become evident how ontology may be effectively applied to rock art studies to facilitate a more comprehensive and practical strategy for overcoming the problem of isolation in the Alpine region and provide a way forward for this thesis.

i. Rock Art: An Isolated Discipline

There is a great deal about European prehistory that remains unknown to scholars. Without literary evidence to inform their understanding, scholars must rely on the material record to reconstruct their interpretations of events. However, this record can be limited in its availability and scope, making it challenging to reconstruct a comprehensive understanding of prehistoric societies. Yet, despite the limited availability of evidence and such substantial corpora to work from, rock art has persistently been underrepresented in archaeology and art historical discourse.[8] The most common reason provided is that this material evidence falls outside either disciplines' purview or responsibility. Most archaeologists are reluctant to consider rock art in their analysis as they believe it sits within art history's interpretive domain.[9] However, despite the stark use of the term 'art' in the title, it is not common

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[8] The starkest confirmation of this fact is shown by comparing the beginning of Bradley's 1997 introduction, which holds this same awareness of underrepresentation in the discourse as Bradley's later 2020 publication. (Bradley 1997, 7; 2020, 1)
[9] (Porr 2019, 154; M. Conkey et al. 1997)

practice for art historians to engage with any form of prehistoric art. Instead, there is a similar belief that it is primarily archaeological and outside an art historian's disciplinary boundary.[10] However, these reasons appear more evasive than absolute, as they remove the obligation for scholars to engage with visual data, which is generally considered problematic, especially in prehistory.

The concerns of scholars attempting to use rock art in their analyses are not unfounded. Firstly, its problematic nature lies in the interpretative endeavours tied to understanding the meaning of rock art. A large majority of rock art research has been dedicated to this interpretive pursuit by focusing primarily on the visual characteristics of rock art stressing iconographical, semiotic and cognitive approaches.[11] However, searching for an objective 'truth' or ' original meaning' in rock art is problematic when considering the subjective nature that embodies any artistic representation.[12] Images, and by extension art, have fluid and dynamic natures, which creates a capacity for a variety of different meanings.[13] These meanings can be multi-layered and experienced simultaneously by different actors interacting with the image and the space in which it appears.[14] The highly contextualised nature of the experience of an image, being dependent on the time, the space, and the individual, means that without supporting contemporary literary evidence, any attempts at interpretation are often based on modern preconceptions or temporally removed ethnologies.[15] While rock art scholars like Emmanuel Anati have theorised that we could read rock art like a foreign language in the right state of mind, [16] others, like Paul Bahn, have deemed these approaches to be "optimistic, unrealistic and ingenuous pipe dream" due to their highly speculative nature.[17] For these reasons, most rock art specialists avoid interpretive studies, preferring to focus on more verifiable aspects like content, technology, or chronology. However, challenges remain even within these more tangible and objective approaches.

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[10] (Heyd 2005, 2)

[11] For an overview of such approaches, see extensive bibliographies within (Bruno and McNiven 2017 esp. Conkey, M. Chapter 1; Insoll 2011 esp. Gazin-Schwartz, M. Chapter 5; Whitley, D. Chapter 20.)

[12] The issues of original meaning, truth and intent in the art are quite complex issues that would require a detailed analysis to explore the problems in these pursuits fully. However, to briefly summarise how this more closely relates to rock art: the issues of objective 'truth' or 'original meaning' often lie in the belief that what is represented reflects a true account of life as the image recalls recognisable elements that relate to the viewers understanding of the world. However, what the viewer's understanding is may be different from the artist's intent or their own understanding of the world. Alternatively, the meaning might remain the same, but the truth value changes as time goes on (we could look at the use of emojis in texting language as an example the graduation cap emoji was intended to represent graduation ceremonies, however, over time it has also become associated with notions of success, hard work and growth). This issue can be further compounded by prehistory as the viewer can be removed by several thousand years, different social, cultural and economic beliefs and even different continents. For works that explore this issue in prehistoric art further see; (Dobrez 2011; Lesure 2011; Bednarik 2013 esp. p. 7-9; Holdaway and Wandsnider 2008; Schaafsma, 21-34)

[13] (Nyord 2020, 2-4)

[14] (Bahrani 2014, 1-10, 35-45)

[15] (Bahrani 2014)

[16] Anati in (Lee 2008)

[17] Bahn (2010, 1)

Despite its physical stability, general immovability and life in the archaeological record, rock art can lack significant elements that contribute towards quantitative analysis. Rock art sites in the open-air, shelters or caves rarely possess the stratigraphy required to accurately date the artistic finds engraved on stone.[18] Without absolute dating measures, scholars rely upon the relative dating available.[19] Relative chronology in rock art studies generally relies on examining and identifying motifs in the artistic repertoire that share like qualities with objects in the physical archaeological record.[20] This process requires the artwork to have identifiable elements that can be applied to a comparable typographical sequence, usually metalwork.[21] However, even where such motifs exist and are datable to, say, the Copper Age, this might not account for the longevity or popularity of the motif's representative life.[22] The motif's life could have endured well into the Bronze Age, which could be the point in time when it was actually carved on the rock. While additional applications such as superimposition can be valuable in gaining such insights into a motif's life, it is clear that the dating of rock art is a complex process that must consider the multi-agent and multi-temporal aspects that compose the sequence.[23] Indeed, chronological debates in recent years remind us how cautious we need to be when addressing these issues and how far the scholarship still has to go.[24] Thus, most scholars are often discouraged from engaging with the evidence as they become disillusioned by the unlikelihood of producing valid or verifiable interpretations. As a result, rock art has played little part in the broader archaeological studies of prehistory. Instead, it remains a separate field, with its own institutions and publications, disconnected from the context in which it was produced. However, the above limitations and concerns from scholars should not discourage its use; in so doing, we reduce the capabilities and knowledge that we may gain from such extensive corpora like those found in the Alps. This current issue overshadows the discipline of Alpine rock art and, by extension, the region as a whole. Indeed, the lack of recognition and discussion of Alpine rock art in the broader archaeological discourse appears to be only one example of the region's isolation and exclusion. Additionally, the region itself is often overlooked or omitted from wider

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[18] Recently, chronometric chronologies have been achievable by analysing the organic matter trapped in or remaining on the rock (such as pigment) or analysing rock 'varnish' to provide a calendrical element. See (Dorn 2001; Rowe 2001).

[19] Absolute dating refers to chronologies based on results derived from chronometric techniques that provide a numerical calendar date ± 100 years. This can be achieved through C14 radiocarbon dating, dendrochronology, cation-ratio dating, varnish microlamination technique and AMS radiocarbon pictograph dating. There are degrees to which this can be achieved in rock art refer (Whitley 2011, 83-89)

[20] (Keyser 2001)

[21] This can often be difficult as motifs can lack accuracy and precision, making it difficult to match beyond the silhouette of the objects and their profile particularly in cases where fine details on the handles/blades can assist in determining typology (Sansoni, Bettineschi, and Gavaldo 2016)

[22] Here life of a motif refers to how a particular design, symbol or pattern evolves, changes, over time or how long it is in use. In simplistic terms, when using metallurgy to create the borders of rock art chronologies, there is a margin of error here that may see copper age style dagger motifs being applied in the Bronze Age, as the style could still have been in use. Essentially popular motifs may retain their use over periods or come 'back into fashion'. Issues in using relative chronologies are generally offset by 'chains of reasoning' see (Chippindale and Tacon 1998, 93)

[23] Refer for over of analyses using superimposition (Keyser 2001, 123-125) and refer for specific uses in practice (Alexander 2009; Huet and Bianchi 2016)

[24] (Sigari 2022; Zilhão 1995; Bednarik 2014; Huet 2017; Arcà 2001; A.E. Fossati 2015a)

archaeological considerations. When contemplated together, the hesitation of scholars to engage with this material is understandable, as rock art in the area is somewhat twice removed. Thus, in order to fully understand how this thesis will work towards recontextualising rock art in the scholarship, it is necessary first to consider the region's placement in the field.

ii. The Alps: An Isolated Region

Despite being somewhat isolated, rock art is recognised as a sub-discipline of archaeology. Therefore, it is essential to understand how the archaeological scholarship of this region has operated in relation to broader discourses. The Alpine region often finds itself divided between the discussions and narratives of temperate Europe and the Mediterranean, as scholars seem unable to come to a unanimous decision regarding its place in the prehistoric world. This is shown in the scholarship as there remains an absence of any standardised term to describe its geographical location (Mediterranean or temperate Europe).[25] As figure 2 in this thesis has already shown, scholars need to classify the specific Alpine area they will discuss as terms such as Circum-Alpine, Alpine arc, Northern Italy, Po Valley, Southern Europe, and Western Mediterranean possess indistinct boundaries that can include and exclude much of this region.[26] As the region lies on the border of Eastern and Western concerns in scholarship, it is seen to act as a sort of interface between the Eastern Mediterranean and Central Europe traditions, as it expresses trends and tendencies of both macro-regions.[27] Thus, the reconstruction of prehistory in this region has often fallen under conceptions of 'periphery' and 'marginal' despite more recent scholarship attempts to distance themselves from these paradigms.[28] On the one hand, scholars try to reconcile a peripheral tradition within classical archaeology, which determines that the region owes much of its stratification to the Greek colonies of the south, the rise of Rome, and Etruria, while ignoring its connections with the north.[29] On the other hand, scholars fit it within the teleological ancestry of Alpine Gaul, thereby positioning its foundations and developments

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[25] The region lies in central Mediterranean scholarship as determined by (Vianello 2011, 33-34; A. Dolfini 2014; Blake and Knapp 2005); in western Mediterranean scholarship as per (Martínez-Grau et al. 2020; Freund and Batist 2014); (BW. Cunliffe 2001, 272-275); in temperate Europe according to (Harding 2000); in southern Europe per (Lorenzo Zamboni 2021, 23); in transalpine Europe (Christian Iaia 2020); in 'Barbarian Europe' according to (Bonfante 2011); and even as part of the "Western Balkans" (Iacono 2022, 380)

[26] Ibid.

[27] These can be extensive down to the micro level, but in overarching macro-trends, the region is often associated with eastern-Mediterranean ideas and the grand narrative of Bronze Age collapse and emerging elites e.g. (Cardarelli 2009; Perego, Scopacasa, and Amicone 2019; Cavazzuti et al. 2019); and possess material cultural that can be seen to match the 'urnfield model' and warrior chief ideology generally associated with trends of western scholarship e.g. (Kristiansen and Suchowska-Ducke 2015; Harrison 2004; M. Sorensen and Rebay-Salisbury 2006; Kristiansen 1998; Perego and Scopacasa 2016; Andrea Dolfini 2020).

[28] For syntheses and use of core-periphery paradigms, see (Fokkens and Harding 2013, 8-10; Hodos 2020, 14; Harding 2013; Papadimitriou and Kriga 2013). For adaptations to this approach, such as 'negotiated peripherality' and inter-regional connectivity, see (Kardulias 2007, 55; Horden and Purcell 2000; Broodbank 2013, 2016)

[29] FBA scholarship has particularly shown an international pervasiveness for eastern Mediterranean dynamics, with the east, particularly Greece, becoming the metric against which the rest of the European world was measured (W. Harris 2005, 167-168) (Taylour 1958)

centrally in temperate Europe.[30] Yet, both of these notions reflect a *topos* that overlooks the more complex nature of the mountainous area where the archaeological data reflects an anthropic presence capable of adapting to external inputs and influences to follow its own distinctive trajectory.[31] This may be why, more often than not, the area in question is simply not addressed when considering prehistoric Italy and the wider scope of the Euro-Mediterranean.[32] Thus, somewhat poetically, just like the discipline of rock art, the Alpine region is often overlooked and thereby isolated within its own local paradigms.

The lack of attempt to provide a holistic or even regional perspective outside of Alpine-based scholarship shows an exclusion that is more palpable than most of those other 'marginal' regions that find themselves omitted from the narratives and resigned to a negligible position.[33] Interestingly, this stands in sharp contrast to the more recent focuses and syntheses of central and southern Italy, suggesting that the reasons for this oversight lie in the traditions of research rather than in the nature of the evidence and role of the region in prehistory.[34] Thus, through an investigation of the archaeological context of the Alpine region, this thesis will reconstruct a synthesis more applicable to the realities of the region and how it relates to the rock art phenomena. Within this, it will become apparent that the progress of recent studies has yielded a picture of a region that hosted complex interactions. Indeed, the scholarship now shows that this region possesses an intensely dynamic landscape that has had a sympathetic and cyclical relationship with the internal and external pressures that appear to have been present in the region during prehistory.[35] Furthermore, the rock art will be shown to congregate at intersections within this archaeological network of short and long-range exchanges and community mobility.[36] However, it is necessary to take into consideration that such a picture would not have been possible to create even a few years ago as only recently have large portions of the region been under examination,[37] and even so, the western half still remains somewhat elusive with no apparent demand for recognition in the archaeological remains.[38] With this in mind, it is now appropriate to turn to the current position of the Alpine

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[30] (Roncaglia 2018; Allen 2021)

[31] (L. Zamboni, Fernández-Götz, and Metzner-Nebelsick 2020; Rondini 2022; Cicolani and Zamboni 2023)

[32] There are some exceptions Zamboni but often region is still never considered in its entirety but split between east and west see (Fokkens and Harding 2013) (Iacono 2022). Elsewhere, "Northern Italy" is also considered to lie in the northern half of the central peninsula, south of the Apennines. For example, see (J. Armstrong and Cohen 2022, Fig.2) Making the region a world removed.

[33] There are notable exceptions (L. Zamboni, Fernández-Götz, and Metzner-Nebelsick 2020; Iacono 2022; Mussi 2002)

[34] For recent syntheses (L. Zamboni, Fernández-Götz, and Metzner-Nebelsick 2020, 12). Such traditions show that there remains a fondness for literature from the region, even if it may be removed by a couple of hundred years. Ironically, those more contemporary (proto-historical, early historical) written ethnology about prehistory are seen to guide some of the prehistorical research of central and southern Italy. Yet, within such a wide corpus of these early BCE texts, the prehistoric Alpine people are mentioned in brief by Pliny the Elder, see LCL 352: 100-103

[35] (L. Zamboni, Fernández-Götz, and Metzner-Nebelsick 2020; Rondini 2022; Cicolani and Zamboni 2023; Molloy, Bruyere, and Jovanovic 2023)

[36] See Chapter Four of this thesis.

[37] Studies using bioarchaeological and archaeometric methods, as well as the deconstruction of teleological premises, are just some of the more recent studies that are reframing the landscape e.g.(J. Ling et al. 2019; Cavazzuti et al. 2019; Cavazzuti 2020; Rondini 2022; Iacono 2022; D. Delfino and Del Lucchese 2020; Radivojevic et al. 2019)

[38] (Lachenal 2014; Iacono 2022, 397)

rock art research tradition to see how it functions within such an isolated scope and how we might work towards recontextualising and incorporating it within the wider discussions of the Euro-Mediterranean.

iii. The Alpine Research Tradition

There has been a long history of rock art research in the Alpine Region. The first written record of rock art in the region dates back to a letter from 1460, wherein Pierre de Monfort describes Monte Bego as "a hellish place with figures of devils and a thousand demons carved all over the rocks".[39] More systematic studies of the Alpine region have occurred over the last 100 years, with preference given to the two most significant concentrations of rock art in the region: Monte Bego and Valcamonica.[40] Despite a rich history of studying the region, finding an in-depth synthesis of the entire Alpine rock art is not easy. Instead, the scholarship of Alpine rock art has remained largely divided by the two main sites, which have always played two distinct roles in the scholarship. These roles have emphasised an east-west divide creating two distinct centres, labelled as the region's "capitals" or "poles", from which scholarship of rock art disseminates.

The Western sphere revolves around the Monte Bego complexes, where 31,857 rock art figures can be found.[41] The research history of the site has stressed a more interpretive approach than a scientific one, with archaeological excavations neglected in favour of continued debates about the possible meanings of the images.[42] The area lies within close proximity to the Italian border but is primarily controlled and dominated by the French discipline that connects the site back towards the west. The site has benefited from a persistent and continuous research genealogy, beginning with the seminal works of Clarence Bicknell to the current pioneer, Henry De Lumley.[43] De Lumley, in the last 25 years, has overseen teams that completed the survey of all the rock art currently known in the area and has contributed immensely to the literature of Monte Bego.[44] In the eastern sphere, discussions of rock art are dominated by those complexes rediscovered in the Valcamonica area. The site, seen to possess an even richer corpus than its western neighbour with ca. 400,000 figures, has had various study teams and numerous individual researchers devoted to

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[39] Quoted from (Arcà 2013a, 143)

[40] Studies of Monte Bego precede this by 80yrs (Moggridge 1869)

[41] There are almost 9 figures for each engraved rock in the region; (Arcà 2009, 282)

[42] (Huet 2017, 200) - Nonetheless, there is enough 'scientific' information that we can still cite numbers and facts regarding the complex as a complete survey of the engraved rocks has been completed, and scholars are provided access to itineraries, rock surveys, typology tables, numerical and percentage counts of figures, as well as the thematic and interpretative insights. (Arcà 2009)

[43] For Clarence Bicknell see (Lester 2018) for his main text, see (Bicknell 1913); For a history of scholars who have been known to most affect the scholarship prior to de Lumley, see; (Arcà 2013a, 143-147)

[44] (De Lumley 2003; De Lumley and Echassoux 2009; De Lumley et al. 2010; Papaleo et al. 2011)

its research.[45] The focus of these studies has generally leant more towards analytical and scientific methodologies, with many field schools devoted to tracing and recording the sites.[46] This scholarship has mainly been driven by the impetus of Emmanuel Anati, who set the model for field recording and conceived 'the civilisation of Valcamonica' in the 1960s.[47] However, there have been many other scholars who have had a substantial impact on the research of this site.[48] With a combined corpus of ca. 432,000 figures and counting, these sites make up the greatest concentration of the rock art phenomenon across the Alpine Arc.[49] The quality and scale of such centres make the focus on these sites understandable; however, this wealth creates a relative single-mindedness. In pursuing a complete knowledge of such an extensive area, while required and valuable, the more holistic approach can be neglected and the potential connectivity of this region ignored.

While the exceptional quality of rock art in this Alpine region has generated an academic industry devoted to its study, such devotion has only contributed to the discipline's often repetitive and introverted approaches.[50] Ultimately this has led to only further isolating the region from some of the wider currents of prehistoric research. Recent scholarship has, at times, continued to use Ludwig Pauli's 1984 *The Alps* as the foundational text for placing rock art in a broader European context.[51] While the initial impact of such a text would have been considerable, relying on a text almost 40 years old as the only attempt at a broader integration of rock art can result in methodological and analytical blind spots. While other publications have briefly alluded to the broader scope, micro-analyses have been the primary concern for the past 20 years.[52] Consequently, theses from Italian universities tend to have focused more on studying individual rocks under interpretive frameworks.[53] Similarly, projects have been angled more towards developing explicit methodologies for the scientific recording of specific sites.[54] Even so, infrequent publication remains a challenge for those looking to study any rock sites of the Alpine arc outside the region, as just over 30% of the

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[45] Study teams: the Centro Camuno di Studi Prehistori, Footprints of Man, CCSP, Project Quattro Dossi. PARC-Paesaggi dell'Arte Rupestre Camuna; for figures refer (G. Nash 2021)
[46] However, the publication has not kept up with fieldwork. In 2009, Arca noted that 54% of the rock art complexes had been traced, but only 20% of this has been published. (Arcà 2009) Nonetheless, given the number of figures believed to be in the area (conservatively ca. 400,000), this is still a substantial corpus to work from (G. Nash 2021)
[47] (Anati 1966)
[48] The Anati programme has been built upon mainly by A. Marretta, AE. Fossati, A. Arca.
[49] (Arcà 2009; G. Nash 2021)
[50] A view shared by (Chippindale 2019; De Saulieu 2012; Bradley 1997, 8)
[51] See (Bevan 2006)
[52] (Marretta 2016; Bevan 2006; Arcà 2020; Alexander 2009; Gelfi 2021; S. Harris and Hofmann 2014)
[53] To clarify these approaches have provided immense value in the individual analysis E.g., Chiodi, C. (2003). La Roccia 22 di Foppe di Nadro. Contributi per lo Studio dell'Età del Rame nell'Arte Rupestre della Valcamonica (Tesi di Laurea). Università degli Studi di Milano, Milan, Italy; Conti, A. (2012). Studio dell'Arte Rupestre della Località Caneva di Cimbergo (BS) nel Parco Regionale dell'Adamello (Tesi di Laurea). Università degli Studi di Milano, Milan, Italy; Bonafini, D. (2003). Turismo Culturale e Realtà Locale del Parco di Naquane - Parco Nazionale delle Incisioni Rupestri (Tesi di Laurea). Università Cattolica del Sacro Cuore, Brescia, Italy; Bonomini, F. (2002). L'Arte Rupestre in Valcamonica: La Simbologia del Cervo e il Dio Cernunnos (Tesi di Laurea). Università Cattolica del Sacro Cuore, Brescia, Italy.
[54] Andrea Arca has completed a 3D rendering of the Naquane great rock, refer for online tour (Arcà 2020)

combined Valcamonica-Monte Bego corpus has been published, and other smaller complexes are all but forgotten.[55] With over four languages and eight different countries sharing the Alpine mountain ranges, it is rare to see synchronicity outside the local rock art areas. The modern territories of the Alps seem to create more of an insurmountable border than in prehistory by impeding the convergence of national research teams towards common objectives and approaches.[56]

Overall, such division and seclusion within the scholarship are not surprising, as rock art is an isolated discipline in prehistoric research. However, combined with the general isolation or exclusion from academic work encompassing the Euro-Mediterranean region, this creates a self-perpetuating social ecosystem of isolation, further compounded and augmented by the divide in Eastern and Western scholarship. Conversely, there has been some recent diversification in the Alpine archaeological and rock art fields over the last ten years.[57] Nevertheless, the two still rarely intersect. The Alpine rock art tradition remains primarily dominated by ecological and functionalistic frameworks, which show little recognition of current archaeological discourse.[58] At the same time, archaeological discourse retains its stigma against the image, never fully accepting the whole context of the material. Markedly, this creates two separate historical records, the archaeological and rock art record, with the two rarely overlapping despite having mutual interests.

As the wider discipline of rock art moves away from purely interpretive image studies, it becomes apparent that the phenomenon cannot be understood ahistorically but as one archaeological component among the varied. Thus, we are at the point in the Alpine tradition where more inclusive approaches are necessary to obtain a more holistic understanding of the prehistoric record and move the conversation forward. However, this is easier said than done. As has been shown, the current position of rock art studies is an isolated but also divided discipline split between suppositional interpretative approaches and those classified as more objective and scientific. As a result, before this thesis can begin to discuss rock art alongside its archaeological context, it must first re-contextualise the phenomenon by finding a

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[55] 100% of Monte Bego figures have been recorded yet only 8% of these complete tracings have been published, whereas 54% of Valcamonica has been traced with less than 20% having been published. (Arcà 2009, table III)Smaller sites are known to take years to be published to the wider sphere, e.g. Balma del Capretto site was discovered in 2013 but remained unpublished until 2020 (Defrasne 2021)

[56] (Defrasne 2021, 50)

[57] Advances in digital photography, 3D rendering, and GIS have contributed to landscape and spatial studies, see (Arcà 2020; Huet and Alexander 2015; Karnapke and Baker 2018; G. Nash 2021) ; Less tangible analyses have incorporated recent anthropological concerns and theories to give new interpretive meanings, see (Robb 2020; Mourey and Bianchi 2020); and some scholars have attempted to bridge the archaeology and rock art records see (Marretta 2015; Rondini and Marretta 2021)

[58] Functionalist - in terms of analysing physical characteristics (style, iconography, location) to determine symbolic meanings, but not truly looking at the broader social and cultural contexts (Porr 2019)

'contextually legitimate' way to critically and reflectively approach the material.[59] Therefore, this thesis will now summarise how interpretations, concepts and theories established in other regions with a strong tradition of rock art studies have approached and attempted to bridge similar issues. This will lay the foundation for this thesis to build on in the methodology by foreshadowing a more comprehensive and practical approach to overcoming the problem of isolation in the region. As rock art research in the Alpine arc has become somewhat disconnected from contemporary trends and theories and slightly stagnated in their approach with repetitive and introverted studies, it is necessary to review how these issues of isolation and fragmentation within the discipline have been approached elsewhere in order to propose a way forward for the Alpine region.

iv. Ontology: A way forward?

As new developments from within and outside the field of rock art have criticised and questioned the dominant orientation of objective anthropological inquiry, scholars have attempted to find solutions using more theoretical approaches.[60] The benefit of such approaches can facilitate the consideration of rock art and archaeology together without compromising or requiring a unidirectional relationship. So often seen with integrated approaches, scholars attempt to map the archaeology directly onto the rock art or vice versa as they attempt to bring two vastly different sides together. However, as this thesis has shown above, rock art is, to a large degree, isolated from archaeology. While there have been pioneering efforts to bring together these disciplines in the past, these approaches often inspire others to lean more one way or the other.[61] The application of theoretical approaches allows one to side-step these issues, for if archaeology and rock art are theorised within the same framework, then there is no divide to bridge.[62] However, there is not yet a case of one theory that fits all. Thus, in examining recent scholarship in and outside the Alpine region, it has become evident that Alpine rock art studies require a theory that can overcome the binary contrasts and divides separating the region, the rock art and the discipline and provide a more holistic approach to the phenomenon.

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[59]Refer Conkey's discussion on Eco's 1999 book *The limits of Interpretation* regarding contextual legitimation. (M.W. Conkey 2019)
[60] (Holbraad and Pedersen 2017a; Porr 2019; Alberti 2016; Alberti et al. 2011; Witelson 2022)
[61] Scholars such as Richard Bradley, Christopher Chippindale, George Nash, and Kalle Sognnes have investigated how the geographical settings of rock images within particular landscapes reflected specific cosmological concerns, opening new ways of conceptualising the landscape and landscape art. These systematic studies of rock art and its landscape have revealed a more socially orientated conception of how prehistoric peoples may have engaged with their physical environment. However, while these contributions pushed for a greater understanding of the context, they inspired others to continue to focus their approaches further away from artistic elements, almost overcorrecting against the perceived stigma towards the formal stylistic use of the 'image'. (Bradley 1997, 2001, 2006; Sognnes 2001; G. Nash and Chippindale 2002; Chippindale and Nash 2004)
[62] (Witelson 2022, 232)

Ontology is one such theory appearing in places with a strong tradition of rock art studies.[63] This kind of research aims to contextualise the diverse interpretations of both what there is and how it exists, looking more specifically at connections between human and non-human entities within their respective ontological frameworks.[64] While some scholars criticise this approach,[65] the use of this theory has generated many new avenues of research towards rock art.[66] By exploring and engaging with both the metaphysical, conceptual and practical levels of the phenomenon, some scholars argue that it is the only theoretical approach that has the ability to touch on all aspects of rock art effectively.[67] Indeed, ontological analyses in rock art studies have allowed scholars to return to image analysis, which had become overlooked due to the stigma of iconographical studies denounced by those preferring landscape archaeology.[68] In addition, ontology has allowed for a more holistic investigation of sites, surfaces, landscapes and their relations to the societies in which they function.[69] In this way, the application of ontology has allowed for an analysis of rock art to occur at every moment of its assembly. As a result, the approach effectively removes the boundaries between archaeology and rock art.

By looking at its very nature of being and becoming, ontology has proved particularly useful in countries with an active indigenous voice and culture as ethnographic-ethnohistorical information has enriched the discussions and offered more complex scenarios for understanding rock art.[70] These ethnographically based ontological approaches have involved engaging in studies that incorporated indigenous-based knowledge into rock art contexts.[71] Ultimately, these have recontextualised and reframed rock art research through the prism of realities based on local contexts and thought, thereby moving away from the need for binary contrast (i.e. natural vs. cultural landscapes).[72] Not only has this given agency back to local communities, now in charge and reconnected to their own history, but it has also evoked the use of theories and concepts that probe deeper into the human and non-human experience by breaking down the relational aspects that connect such a multifaceted phenomenon.[73] Even so, these positions have had different or more limited effects on the rock art studies of

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[63] (Robinson 2016; Jones 2017; Abadía and Porr 2021; F. Armstrong, Troncoso, and Moya-Cañoles 2018) (Porr and Bell 2012; Porr 2019)
[64] (Fowler 2014; O. Harris 2014; O. Harris and Robb 2012)
[65] (Todd 2016)
[66] Refer to extensive biographies of (Abadía and Porr 2021; Jones 2017; Jones and Cochrane 2018)
[67] (Jones 2017)
[68] Using ontology, authors approached images in renewed terms of personhood, gender etc, for examples see: (O. Harris and Robb 2012; Wallis 2009; Creese 2011; Valdez-Tullet 2021)
[69] Ibid; (Alberti 2016)
[70] For these approaches, see (Motta, Veth, and Balanggarra Aboriginal 2021; Robinson 2016; Zawadzka 2021; Norder 2012); Moreover, it is worth noting that ontology has emerged as one of the most significant influences across the board in social theory, philosophy, arts and archaeology see (Holbraad and Pedersen 2017b)
[71] (Hirsch 2006; Layton 2003; McGlade 2003)
[72] (B. Smith and Blundell 2004; Norder 2012; Whitridge 2004; Motta, Veth, and Balanggarra Aboriginal 2021)
[73] This notion of non-humans can encompass artifacts, animals, environment, as well as less material entities such as memory. These notions tie in with the alterity nature of ontology (Norder 2012; B. Smith and Blundell 2004; David 2002)

Europe, where rock art scholars have been less receptive.[74] As shown above, scholars retain traditional views of archaeology and focus on conventional questions conducted under the usual precepts of scientific research. With its more metaphysical elements, ontology does not often fit within these parameters or any for that matter.[75] The term "ontology" in scholarship is often associated with concepts of being and becoming, yet with each use, it has acquired new dimensions and nuances.[76] However, this can often work to its benefit as its very nature is flexible and malleable, thereby adaptable to the different facets of archaeology. Indeed, while many rock art approaches have used ethnology to support their ontological approaches, this is not the only means of discussing the relational nature existing in the work. Assemblage theory has become a functional tool in breaking down the individual aspects of rock art, allowing scholars to fully explore the relationships that emerge at the different levels of an object's existence. [77] The approach facilitates a more comprehensive analysis of the phenomenon at hand and addresses the concerns of scholars who cannot or prefer not to rely on ethnographic evidence for their research.

Felipe Armstrong, Andrés Troncoso and Francisca Moya-Cañoles' recently conducted a study demonstrating how an ontological framework based on Assemblage and Relational theory can shed light on prehistoric phenomena.[78] By utilising assemblage theory to deconstruct and reconstruct moments in time, these researchers moved beyond the limitations of ethnographically informed methods, which they argue can create a "static argument" and place rock art as secondary to the ethnographic value. [79] Instead, they focus on the material reality of rock art and the interactions that define it by developing a temporal understanding of the network and patterns of relationships involved within the phenomenon. This approach offers a productive framework for thinking about prehistory that goes beyond teleological models and biases introduced by modern dependencies and visual analysis. Indeed, the combination of this approach has been used throughout analyses of prehistory.[80]

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[74] There are some exceptions in Atlantic and Scandinavian rock art research e.g. (Skoglund, Ling, and Bertilsson 2015; Valdez-Tullet 2021)
[75] For metaphysical discussions of ontology, refer to the extensive list of authors in (Alberti 2016); He describes these authors building upon the work of Bruno Latour (Latour 2005)
[76] (Alberti 2016)
[77] Refer to assemblage theory (DeLanda 2016); for more specific uses of assemblage as it pertains to this thesis, refer (Hamilakis and Jones 2017; O. Harris 2017; Fowler 2013; Barad 2007)
[78] (F. Armstrong, Troncoso, and Moya-Cañoles 2018)
[79] (F. Armstrong, Troncoso, and Moya-Cañoles 2018, 244)
[80] (Alberti et al. 2011; Kohn 2015; Holbraad and Pedersen 2017a; Fowler 2014; O. Harris 2014)

Moreover, other studies outside of rock art that have encountered similar issues in discussing prehistoric art have sought to use notions of communities of practice in the place of ethnology to inform their analyses.[81] Indeed, these studies have found alternative ways to overcome a lack of ethnohistorical evidence by applying communities of practice frameworks to reengage with what may be considered problematic material over space and time. The use of communities of practice theory allows for the investigations that blur the boundaries of information exchange and knowledge across landscapes without resorting to ethnic differences or "priori categories of social identity".[82] From identifying distributions of space, features and artefacts across and between settlements, scholars like Carl Knappett have begun to trace the patterns of interaction and trace these communities of practice at the meso-scale, providing a contextually legitimate way to critically and reflectively approach the material.[83]

Despite its widespread use and success in archaeological research, an ontological approach has been notably absent in the studies of the Alpine region.[84] However, given the current state of the literature, it is evident that an ontological focus could be beneficial in exploring interactive community patterns across the region. By recontextualising rock art and alleviating the discipline and region's isolation in the archaeological record, ontological and theoretical frameworks have the potential to shed new light on the extensive practice of rock art in the area. Moreover, the scale of this practice makes it well-suited for investigating interactive community patterns within the more tangible framework of a community of practice. While this summary only briefly touches on the potential of such approaches, it suggests that ontological theory offers a promising path for recontextualising the Alpine region. As a result, this thesis will now turn towards developing a tailored methodology for discussing Alpine rock art by drawing upon these studies that have applied ontology and assemblage theory and further exploring how these concepts and approaches might be readily applied within the dynamic of the Alpine region.

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[81] For recent studies using Communities of practice frameworks in prehistory, see (Soifer 2022; Stahl and Roddick 2016; Robb 2015) (Budden and Sofaer 2009; Nowell 2015; L. Sorensen 2016; J. Armstrong and Cohen 2022; Laing 2022; Wendrich 2013 esp. Hogseth, H. Chapter 4 and Hasaki, E. Chapter 9)

[82] (Blair 2016, 97)

[83] (Knappett 2011, 106)

[84] The only study known to this author that is driven by an ontological approach is (Defrasne 2018). Some scholars have questioned the role of Western ontologies in interpretations, and beyond this, there are studies that use ontological approaches relating to how the sites are perceived and managed in the 21st century. (Marretta 2013a, 349; Gustafsson and Karlsson 2008). There are also projects that are ontologically based but have very few publications nor a focus on prehistory (i.e. Indiana MAS project is applying agent and ontological approaches in their conservation work refer (Papaleo et al. 2011)).

II. THEORY AND METHODOLOGY

The previous chapter of this thesis began by discussing some of the concerns and challenges in analysing rock art and how these evolved the discipline and, more locally, the Alpine arc. Out of these two meetings emerged the position for this thesis, which distinguishes the value of an ontological approach to re-contextualising rock art within the broader scope. The benefits of ontology and, by extension, assemblage theory is clear from the success of previous studies that have sought to reconceptualise rock art holistically.[85] However, these are complex and multi-purposeful theories that have the capacity to take on a variety of means and applications. While such approaches have been seen to be effectively applied to rock art outside the Alps, this thesis must consider in more depth how this approach can be effectively applied here. Thus, this chapter will introduce a robust and comprehensive methodological and theoretical framework to study Alpine rock art and ultimately address the ongoing issues of isolation and fragmentation in the research field.

While there are various avenues such an investigation could take, taking advantage of one of the unique elements of Alpine rock art as a connective practice seems the best approach for reconnecting a divided landscape. As a result, this thesis proposes using an ontological framework to examine how communities of rock art practice may have evolved, matured, declined or vanished in the region during the FBA. A consequence of this examination will be the requirement to recontextualise the various physical and cultural levels of the Alpine rock art phenomenon. Therefore, in this chapter, using the bases of relational ontology, an assemblage framework will be created to contextualise and identify the relationships that caused it to function and evolve as a community of practice. As a result, this method applies four distinct levels of analysis to build the assemblage and offers a robust and valid foundation for more thoroughly investigating the relational aspects of Alpine rock art during the FBA.

❖ Level 1 (Theoretical assemblage) – defines the theoretical principles which underpin the methodological approach and imprint a dynamic and diachronic character to the study.

❖ Level 2 (Physical assemblage) – presents the broader archaeological context in which the rock art phenomenon emerged.

❖ Level 3 (Cultural assemblage) – provides an empirical overview of Alpine rock art based on the criteria outlined in the methodological scope below.

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[85] (Zawadzka 2021; Robinson 2016; Jones 2017; Defrasne 2018; Wallis 2009; Motta, Veth, and Balanggarra Aboriginal 2021; F. Armstrong, Troncoso, and Moya-Cañoles 2018; Nowell 2015; Laing 2022; Janik and Cooney Williams 2018; Skoglund, Ling, and Bertilsson 2015; Valdez-Tullet 2021)

❖ Level 4 (Combined assemblage) – combines the previous levels and applies the findings critically to examine how the rock art phenomenon functioned during the FBA and how this informs our current hypotheses and cultural understanding of prehistory.

Thus, in seeking to contextualise rock art under this approach, this chapter will include level 1 as it outlines the principles of relational ontology and Assemblage Theory, which ultimately underpin the methodological approach and imprint a dynamic and diachronic character to the study. As this thesis will use the ontological framework to further explore rock art as a community of practice, it will also be necessary to establish how this component will function here. Once this is firmly established, the methodology for synthesising the Alpine rock art phenomenon will be outlined. This outline ultimately addresses the methodological concerns and defines the scope of this proposed investigation into Alpine rock art as a community of practice. In so doing, this chapter presents a model for effectively bringing Alpine rock art out of isolated studies and into archaeological discourse. This thesis is not seeking to simply integrate the two, as ultimately, this creates a unidirectional relationship that often results in archaeology becoming the dominant discourse.[86] Instead, it seeks to find a meaningful way in which rock art may function from its current position to express the agency of a phenomenon that influenced and impacted the landscape of prehistoric Europe, both physically and culturally.[87]

i. Theoretical Assemblage (Level 1)

Ontology covers an increasingly broad range of approaches concerned with the study of existence and the nature of being.[88] In the context of archaeology, it is easier to view this in terms of understanding the nature of human and non-human entities and the relationships that exists between them.[89] Relational ontology emphasises this interconnectedness and interdependence between different entities in the world by encouraging us to think in terms of the relationships and the connections that shape the ways of being and becoming.[90] Within this framework, objects are not viewed as independent or containing inherent properties but are recognised as being in a constant state of fluidity induced by the phenomenon in question.[91] However, there are limitations to the uses of relationality, as more static views

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[86] (Witelson 2022)
[87] While we use past tense here, it is worth noting that the rock art still possesses an agency that affects the modern landscape.
[88] (Alberti 2016; Jones 2017; Holbraad and Pedersen 2017a; Kohn 2015)
[89] This notion of non-humans can encompass artifacts, animals, environment, as well as less material entities such as memory. These notions tie in with the alterity nature of ontology (Norder 2012; B. Smith and Blundell 2004; David 2002; Fowler 2014; Zawadzka 2021)
[90] (Alberti 2016)
[91] Barad's theory is the notion that properties are not inherent to things. Conneller makes a similar argument that materials are more than "a formless substrate" or "constraint to human action". (Barad 2007; Conneller 2011, 125)

lack a degree of temporal depth.[92] The changing and flowing characteristics of Assemblage Theory can be used to offset these limits.

Assemblage theory is linked with the ontological framework as it observes the banding and disbanding of entities and how these entities establish themselves and weave together throughout time to form an assemblage.[93] It acknowledges that artifacts are not isolated objects but part of a larger whole of interconnected systems. However, an assemblage is more than just a cluster of relationships.[94] It looks at the in-betweens, the historical atmosphere, the contexts that produced and reproduced specific places, and the moments and things that emerge in and through time. To some extent, the concept of an assemblage can take the place of context, suggesting openness through continuous expansion and change. As a result, there is a lot about ontology and assemblage theory that is significantly 'meta' in that it is self-referential. Each interaction with an assemblage immediately becomes an 'intra-action' by adopting a new participant and changing the ontological reality in which it functions.[95] Following this dynamic concept, we could work from the position that at each point, an assemblage is a moment where points meet. These moments have the capacity to bleed into one another to the point that it becomes difficult to discern where one may end, and another begins. Indeed, the past is changed by interventions in the present, as prehistory continues to unfold with new evidence and new analyses emerging constantly. This very Orwellian notion of the present controlling the past displays a paradox in which an assemblage is one and many simultaneously. In an attempt to avoid this paradox, this thesis will follow scholar Chris Fowler's example and examine the relations that persisted and changed as new elements arose, transformed and diminished in a similar way to which the dynamic nature of typologies has been articulated in archaeology.[96] This is best done through a diachronic approach which will allow this thesis to bring together all the typical components of an archaeological analysis as it relates to the phenomenon in question: Rock art at the dawning of a new age (the FBA).[97]

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[92] Refer Hodder's entanglement theory and Latour's actor-network theory (Latour 2005; Hodder 2012)

[93] For discussions of assemblage theory most applicable to the approach taken in this thesis, refer (O. Harris 2013; Alberti, Jones, and Pollard 2013; Barad 2007; Fowler 2013; DeLanda 2016)

[94] (F. Armstrong, Troncoso, and Moya-Cañoles 2018)

[95] 'Intra-action' is a term taken from Barad's work and used in this thesis under her definition that "in contrast to the usual "interaction," which assumes that there are separate individual agencies that precede their interaction, the notion of intra-action recognises that distinct agencies do not precede, but rather emerge through, their intra-action." (Barad 2007, 33)

[96] (Fowler 2013)

[97] (Fowler 2013)

Adopting these perspectives means putting relationships first and thinking about how things, people, places, materials, and ideas emerged from those relationships.[98] However, as this thesis goes through the process of analysing these relationships, it does not make sense to seek a singular truth or reality from them in terms of identifying the distinct presence of a specific culture, ideology or social arrangement. Although this follows a more radical move of the 'ontological turn',[99] the choice to forsake the pursuit of one truth allows for a more natural unfolding of the past and the assemblage instead of attempting to fit entities into a reality of the essential stages of development. By pluralising the conventional idea of "a" reality, we remove the notion that only one truth can be learned. To some degree, this contrasts against the main critiques of rock art that devalue interpretative analysis as it lacks a layer of objective truth. Indeed, most scholars tend to follow the view of Bahn that "the interpretation of the content of rock art is largely speculation and to pretend otherwise is dishonest or an illusion."[100] Within this understanding, rock art can then only be acceptable if it represents the 'truth' or anticipated aspects of reality. However, this reality is often one based on modern conception, far removed from the reality of a society created over 7,000 years ago. Nevertheless, the notion of a single reality is a difficult concept to sidestep without a firm base from which to pivot, such as ethnohistory, which is not readily applicable in Alpine prehistory. Thus, this thesis will not establish "a" reality or multiple realities. Instead, it will use ontology to examine and discuss "what there is"[101] and "how it exists"[102] by attempting to understand relationships that underlie the world and one's experiences of it.

Rock art is ideal for exploring such a complex entanglement of relations. Its production and consumption, along with its material reality, is by its very nature historical and relational as it is both forming and being a part of an assemblage.[103] Rock art sites like those discussed in this thesis have a generative capacity. Being more than the mere process of landscape marking, they have a relational genealogy that emerges from the arrangement or composition formed from the interactions of various entities, materials and forces.[104] In other words, aspects of rock art, whether its visual features, techniques, or location, are based on its position and participation in the assemblage of the phenomenon. It should be emphasised that there is a degree of agency here, that rock art is *participating* in this dynamic banding and disbanding rather than simply responding to it. The relations travel both ways, and stripping

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[98] To a degree, we apply a realist perspective in this thesis as it is concerned both with the human experience and all other media involved in any interaction that takes place, this thesis does not however, take an extremist view that everything matters and therefore nothing matters.
[99] (Alberti 2016, 165)
[100] (Bahn 2010, 1)
[101] (Fowler 2013, 61)
[102] (O. Harris and Robb 2012, 668)
[103] (Hamilakis and Jones 2017; F. Armstrong, Troncoso, and Moya-Cañoles 2018)
[104] (F. Armstrong, Troncoso, and Moya-Cañoles 2018, 245)

them away does not leave us with the essence of its being but only illustrates how we have transformed the assemblage.[105] Therefore, while this thesis places rock art at the centre of assemblage, it is crucial to remember that it is part of a multi-scalar phenomenon that expands outwards and inwards.[106] Indeed, communities of practice function well within this established paradigm as a more practical means of understanding rock art as a connective phenomenon.

The communities of practice framework can be understood as a group of individuals (members) bound together into a social entity (community) by informal relationships not necessarily in the same spheres of influence but created by sharing similar expertise and common context (practices).[107] In using this framework, it would be tempting to claim that the entire Alpine corpus of rock art constituted a large community of practice, transcending any archaeological boundaries to include, as its members, the wider Alpine society. However, this would force us to ignore the variations and differences that emerge in the corpus and society over time and space. Instead, we might view the rock art phenomenon as engaging in a 'constellation of practice'.[108] Constellations of practice go beyond local interactions and can emerge from physically separated communities of practice that share common roots, members, material or overlapping styles without having to share absolute uniformity.[109] They are the manifestations of joint practice around which "intercommunity interaction" may be organised, allowing for a heterogenous network of crafters to exist.[110] As a result, they do not stand alone within the archaeological record, as their relations extend not only to other communities of rock art practices but to other communities of material, social, and economic practices. Instead, they can be seen to be part of a larger 'organisational' structure, with members sharing their knowledge through diverse interactions and contributing to the development and structure of the whole community and its practices.[111] While constellations of practice may emerge less intentionally than communities of practice, the less definitive requirements provide us with a way to think about such overlapping practices on a larger scale.[112] Thus, instead of viewing rock art as a static element or practice routed and immovable in the landscape, this thesis will view them as key participants in all processes of community formation and constellation throughout prehistory. In examining the relations that

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[105] Fowler explains this concept beautifully by using a necklace as an example. If you take off a necklace, this might change its position in relation to the body, but it does not alter many of the other relationships that continue to make it a necklace, like how the material is formed to create the shape, the technique of manufacture etc. Entities can be functionally or semantically linked. (Fowler 2014)

[106] (O. Harris 2017)

[107] (Wenger 1998; Wenger and Snyder 2000)

[108] (Wenger 1998, 124-127, 168-169, 256-260; Stahl and Roddick 2016, 9)

[109] (Laue 2021b)

[110] (Wenger 1998, 105, 107, 127)Wenger 1998, 105, 107, 127; (Soifer 2022)

[111] This idea of organisational structure has been built upon Hildreth and case study of community life within business organisations. (Gongla and Rizzuto 2003)

[112] Roddick 2009, pg.80 (Roddick 2009, 80)

persisted and changed in and between these communities over time, this thesis will determine the patterns and intra-actions that occurred in the banding and disbanding of rock art assemblages and, by extension, communities during the FBA. Suggesting that these elements of rock art, comprised of things like the 'art', the consumption, the production, and all the other related activities taking place within such a mnemonic landscape, were significant agents in the assemblage of Alpine society and the rock art phenomenon. In this way, ontology, assemblage theory and the communities of practices framework work together here to provide a more nuanced and holistic understanding of the complex nature between archaeological entities (rock art) and the contexts (the prehistoric Alpine arc) in which they are situated. Therefore, this thesis aims to incorporate and combine these elements to apply them to its analytical endeavour in understanding how they function within these evolving communities of practice rather than complete a metaphysical overhaul of the ontology of rock art.[113]

Drawing further upon Fowler's approach to prehistoric applications of this theory, the key elements of this theoretical framework will now be outlined to assist in contextualising the Alpine rock art phenomenon and constructing the overall assemblage.[114] This will serve as the foundational reference point for reorientating the subsequent practical parameters of this methodology, as this thesis endeavours to examine the distinctiveness of rock art and the specific phenomena in which it operates.

- ❖ Rock art and all the entities this entails (e.g., environment, place, production, re-production, consumption, materiality and the practices involved with them) are the material result of their relationships with other entities (e.g., artifacts, humans, non-humans, substances, space, memories and so forth) and vice versa.[115]
- ❖ Rock art sites are agents in a community of practice that manifest around intercommunity interaction to create a constellation of rock art practices across the Alpine arc.
- ❖ Constellations and communities of practice can be supported and determined by their organisational structure. These structures may refer to the economic, social, or physical (environmental) spheres where a community and practice operate. They can impact the practice directly or indirectly as they often support or determine the practice's competency, development and life over time.

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[113] For metaphysical discussions of ontology, refer to the extensive list of authors in (Alberti 2016).
[114] (Fowler 2013, 62)
[115] (Harman 2009, 75)

- ❖ Relations and interactions travel both ways and stripping these away does not provide the essence of entities but only illustrates how the new assemblage has transformed the entity.
- ❖ Each entity can be understood as a unique assemblage of its relations, contingent on its specific milieu.
- ❖ These relations need not be defined in terms of their 'current' interactions. Thus, this study will consider that relations may also be enduring and engrained from past interactions to determine those that have persisted and changed.
- ❖ Once an assemblage is made, it can be extended, as the past is continually emerging with new discoveries, and it is the scholars' role to identify how they grow.
- ❖ Not all ontological translations of reality are equal because observations and intra-actions within the assemblage are not equal. Some are well articulated and enduring, whereas others are less effective and less enduring. This thesis will attempt to absorb those elements that engage with the specific phenomena studied here by using a diachronic approach.

These elements of theory will now be incorporated and applied in practice to construct the practical method that will assemble the physical and cultural context of the rock art phenomenon in Alpine Europe. This study is not trying to seek a singular truth but look at "*what there is*"[116] and "*how it exists*"[117]. Finally, it is worth noting that interpretations of the past are not produced by a single author. I recognise, as the creator of this assemblage, that I am also entangled within and, consequently, will reframe and review this phenomenon through the prism of previous interpretations with their own relational and historical values.[118] However, by working back through the chains that produced them, this thesis will extend and expose the relationships within rock art, bringing it out of isolated studies into a fuller and richer assemblage.

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[116] (Fowler 2013, 61)
[117] (O. Harris and Robb 2012, 668)
[118] To a degree, the reader should also recognise that they too are part of the assemblage being created here.

ii. Methodological Scope

Now that the first level of this thesis has been established, the methodological scope will define the parameters that will form the subsequent levels of this thesis. This methodological scope will be modelled on the theoretical framework created in level 1 to establish the practical method for making empirical observations about rock art complexes and their relationships in Alpine Europe. By identifying the patterns of associations and contrasts, similarities and differences, within the assemblage, this thesis aims to understand the significance of rock art within its larger context. However, this study will not present every aspect and figure across the Alpine arc. Re-counting every figure in this thesis is not only impossible practically but also misses the point theoretically. Our aim is not to examine the operative unit of the phenomenon from the individual object alone but, instead, from the whole system that has generated it.[119] In this sense, this thesis will be able to reframe Alpine rock art in the archaeological discourse by identifying discernible trends and patterns across periods to build an assemblage of Alpine prehistory. However, even without having to recount every piece of material evidence, such a diachronic approach still encompasses a substantial corpus with a multitude of connections to consider. Indeed, the comparison of such a large dataset poses key methodological questions, including:

1) The challenge of combining data produced by different methods and traditions,
2) How best to express and condense the data to provide an empirical overview of the region and,
3) How best to reconcile the different chronologies and seriation sequences proposed by various authors.

In order to address and overcome these challenges, the individual assemblages and methods have been created by considering them within the following parameters below to highlight best those elements that are well articulated and engage with the broader scope this thesis wishes to address.

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[119] (Robb 2015, 639)

Chronological framework

As this thesis will present a diachronic synthesis of the region, it is necessary to establish the chronological parameters from which it will work. Rock art in the Alpine region has an almost uninterrupted 'lifetime' spanning over 10,000 years from Epi-Palaeolithic to the Middle Ages.[120] Working with such a wide corpus and a vast geographical sphere forces us to merge, simplify and often struggle with different chronological schemes as the Alpine Arc shares its mountain range across eight countries. Each country works within their own defined national sequences, presenting a terminological and chronological split across Europe.[121] Most of these chronologies are characterised by their substantial metallurgical phases, yet they do not always align. This division is best exemplified by 'Ötzi, the iceman'. Ötzi was a naturally mummified man, believed to have lived ca. 3000 BCE, found in the Ötzal Alps on the border of Austria and Italy.[122] Despite the absolute dating, he is known to the Austrians as a 'Stone Age' man and to the Italians as a 'Copper Age' man.[123] This noticeable variation is caused by each country's definitions of their respective metallurgical phases, often placed at different points in the chronological sequence. It makes correlation difficult even before considering the controversial means of dating rock art mentioned above in Chapter One. Thus, synchronising any of these sequences is a virtually unachievable task. Yet, a definition of Alpine ages grounded in the more broadly accepted chronological parameters may be used here to allow us to proceed with the study. Table 1 attempts to serve as a general synthesis of the current dating systems and will be applied throughout this study.

This thesis recognises that there are several issues regarding cross-dating and chrono-typological methods.[124] However, Alpine rock art offers uniqueness in that permissible chronologies do not leave the art in a "temporal vacuum", allowing for a more unifiable reference to emerge.[125] Thus, Table 1's dating combines the absolute dating based on De Marinis's Northern Italian chronology and the relative chronology generally accepted amongst scholars specialising in Alpine rock art.[126] Since the majority of rock art throughout the region lies within the modern borders of Northern Italy, this thesis will use the Italian chronological scheme despite ongoing debates.[127] Moreover, only the archaeological discourse relevant to the Northern Italian Alpine regions will be reviewed due to their

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[120]This 'lifetime' in based on the combination of Valcamonica, Monte Bego and other smaller complexes in the region. If this thesis was to consider modern graffiti, then it could be argued that this use continued intermittently up until its classification as a UNESCO site in 1979. (Mourey and Bianchi 2021; Anati 2004).

[121] (Kristiansen 1998; Roberts, Uckelmann, and Brandherm 2013)

[122] (Archaeology 2016)

[123] Copper age man Ibid; stone age (neolithic man) (Festi, Putzer, and Oeggl 2014)

[124](De Marinis 2005; Witelson 2022)

[125](Mitchell 2005, 68)

[126] De Marinis is taken over the preference of Carancini and Peronia's chronology (Carancini and Peronia 1999) which has been repeatedly questioned (De Marinis 2006; Nicolis 2013) It also holds as the reference for FBA Northern Italy in larger syntheses (Marinis 1999; de Marinis 2001; Nicolis 2013; Jennings 2014; Cicolani and Zamboni 2023) (Lorenzo Zamboni 2021)

[127] (Pacciarelli 2001; Leonardi et al. 2015; Bartoloni and Delpino 2005; David-Elbiali 2013; Pare 2008)

position. Within this scope, De Marinis's chronological scheme has the distinct advantage of being reasonably comparable with the western and eastern chronologies of the Alps, making it more stable across a vast geographical scope.[128] From this, parallels can be made across time and space that may be empirically demonstrated between rock art and the current archaeological record. Although future research will likely modify and confirm chronological schemes, this chronological frame might withstand future changes by using a broader scope.

Dates B.C.E.	Valcamonica Style Phases'	Monte Bego Style Phases'	Northern Italian Archaeological Periods
5000 - 3900	I	IA	Neolithic (Stone Age)
3900 - 3000		IB	
3000 - 2800	II		
2800 – 2500/2200	III A	IIA/B	Copper Age
2500/2200 – 1650	III B	III	Bronze Age
1650 – 1200	III C		
1200 – 1000	III D Transition		Final Bronze Age
1000 – 800	IV Transition		
800 – 500	IV		Iron Age

Table 1: Chronological table showing the relative chronological phases of Valcamonica and Monte Bego and the absolute chronology of Northern Italy comparatively.[129]

Archaeological Assemblage (Level 2)

The archaeological assemblage comprises the second level that builds upon the combined assemblage this thesis creates. It will present the broader archaeological and physical context in which the rock art phenomenon emerged and establish the relationships and organisational structures that make up the connective communities in the region. Within the ontological framework that has been established for this study, submitting a diachronic assessment of the archaeology from the Neolithic to the Iron Age would be ideal for recontextualising the entire

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[128] See (Krause 2003; Roberts, Uckelmann, and Brandherm 2013; Jennings 2014)
[129] It should be noted that dating results from comparative chronology and evaluations of C14 analyses are not exact. Thus, where the table lists specific dates, these should be noted by the reader to all be approximate. For each phase, ± 100 years tolerance may be a reasonable allowance due to the confidence range of most radiocarbon dates. Valcamonica style phases after (Anati 1966, 311; 2016; A. Fossati 1991; Arcà 2001) ; Monte Bego style phases after (De Lumley 2003)

corpus of the Alpine region and completing the assemblage. Such an approach would require us to present diachronic examinations of specific archaeological sites across space and time. However, in using individual sites or specific material alone, this thesis would rely too heavily on ensuring a direct relationship between it and the rock complexes in question. As a result, an archaeological survey of specific sites will not be presented as this would require a large degree of speculation. Instead, working from a top-down approach, this thesis will highlight the general occurrences and trends recognised in the scholarship of the Alpine region during and around the Late FBA ca. 1200 - 800 BCE. This period, generally classified as a period of tumultuous change, offers an ideal point to determine how the communities of practice surrounding rock art may have functioned by highlighting the critical capacities and relations for internal development and change.[130] Likewise, the FBA corresponds with notable shifts in rock art practice throughout the region, which will be addressed in Chapter Four. Specifically, this period coincides with the increasing levels of rock art production at Valcamonica, where 98% of carvings are attributed to the Bronze and Iron Ages.[131] Furthermore, the period coincides with the prominent withdrawal of rock art production in Monte Bego, suggesting that rock art was also undergoing a 'tumultuous change'. Thus, in recognising the diachronic changes across the region, it becomes evident that an alternative framework is required to consider these fluctuations holistically rather than in isolation, as these overlapping elements suggest a relational connection. Therefore, an overarching synthesis that considers the more recent trends in FBA archaeology will be presented to recontextualise the physical context surrounding rock art and establish aspects of how it functioned within this context. Moreover, to avoid becoming isolated within the FBA developments of the region, this thesis will incorporate nebulous parameters in the diachronic and geographical to enable a more holistic and comprehensive understanding of the rock art phenomenon. Consequently, this thesis may need to extend beyond the conventional boundaries of preceding and succeeding periods of the FBA to enable a more comprehensive and holistic analysis. Such an approach will allow us to better investigate the community of practice surrounding rock art, its evolutions and declines and its relationships with other aspects of society in the FBA Alpine region.

Rock Art Assemblage (Level 3)

The third level of this assemblage will be devoted to recontextualising Alpine rock art as a community of practice to understand best how it functions within the archaeological context of the FBA established in level 2. However, despite the creation of online databases, such as

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[130] (Cardarelli 2009; Kneisel et al. 2011; Dickinson 2012; Cline 2014; Perego, Scopacasa, and Amicone 2019; Middleton 2017)
[131] (G. Nash 2017)

EuroPreArt,[132] which provides more accessible platforms for establishing a corpus of the region, the lack of consistency in analytical and recording methods across the modern territories of the Alpine regions presents a challenge for developing a uniform dataset. In response to this challenge, a synthesis of the following rock art complexes from the Neolithic to Early Iron Age (ca. 5000 – 500 BCE) will be made based on various publications, records and site-specific datasets that are currently available. This synthesis will serve as the foundation for generating a more extensive empirical overview of the region. The two sites that will be presented are (Figure 3):

❖ Valcamonica and,

❖ Monte Bego.

Beyond reasons of feasibility, Valcamonica and Monte Bego are sites with a strong paradigmatic value for the Alpine arc. The duration of the rock art phenomenon in these spaces provides an extensive diachronic character that is the ideal basis for testing our theoretical approach and drawing from a comparable archaeological range. Moreover, there have not been numerous attempts at an in-depth comparison and parallelisation of the two complexes, allowing us to side-step the issue of creating a repetitive synthesis while drawing upon an established and in-depth dataset.[133] Furthermore, based on the observable similarities between their geographical framework, structure and form, the two sites also provide a valid premise for a vast geographical extension of rock art studies in the Alpine region. Nevertheless, to further condense a still sizable corpus, the synthesis of Alpine rock art will be further confined to the following comparable three aspects to establish the communities and constellations of practice and assemble the rock art data.[134] These three aspects are:

1) Environment:

   This thesis will examine the environmental structure pertaining to this practice in terms of localisation, accessibility, and visibility by considering the geographical contexts of the rock art landscape. It is important to speak of not only *what* there is but also *where* it is, as it may be essential to describe not only what one can see on the engraved rocks but what one can see (looking out) *from* the engraved rocks as all of these elements may be applicable to how the practice establishes itself. Moreover, it will be important to consider the larger environment structure as the clustering of sites around these regions presents the notion that these sites may have functioned as overarching domains of knowledge for the practice of rock art in the area. This is not

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[132] Despite such a wide collaborative effort, astoundingly, significant sites like Monte Bego are not included in the database. (EuroPreArt 2000)

[133] This addresses the concerns of the following scholars regarding studies such as this thesis (Chippindale 2019; De Saulieu 2012; Bradley 1997, 8)

[134] The data will also be somewhat refined further by focusing primarily on the immovable outcrop rocks rather than statue menhirs, however some considerations will be made as they are often considered alongside outcrops in the scholarship.

to say that this was the hub from where trends were determined and disseminated. Instead, it could be viewed as the space and canvas upon which the community "refreshed what it knows by adding to, modifying and deleting from its base of knowledge".[135] This makes consideration of the accessibility, visibility and overall location of the sites essential for understanding how they may have functioned in the larger sphere of practice.

2) Application techniques:

Once the environmental aspect has determined the 'canvas' on which the rock art has been engraved, this thesis will then examine application techniques to observe how the images came into being and how they were adapted and modified over time. There is no doubt that the petroglyphs carved into the landscape required great precision to achieve.[136] As has been pointed out by scholars, the modern-day attempts at vandalising the rocks have shown that it is not easy to replicate the methods used by those in the past.[137] Thus, this thesis will present each site's application techniques to determine how diffused and varied such skills may have once been over space and time.

3) Elements of style, discussed in terms of motifs and composition:

There is such a degree of variability and lack of verifiable terminology that it is best to remember that even where motifs may be similar in style, neither will be located nor orientated similarly between rocks. This variability can complicate the assemblage as it is affected by these 'minor' intra-actions from modification of space, association, and production. Moreover, to some degree, any discussion of 'what a motif is' trespasses into iconography, which in prehistory can be highly speculative. However, ontology and assemblage theory gives us the capacity to move forward by finding a contextually legitimate way to critically and reflectively approach the material.[138] For this reason, this thesis will refrain from examining the motifs at the micro-scale and will limit the type motifs described into five manageable and contextually legitimate categories: animals, anthropomorphic, weapons and tools, technologies and productions, and geometric and other. These categories may be seen as a simplification of complex motifs. However, in an attempt to move away from the interpretative elements of rock art scholarship, this 'simplification' has been deemed necessary to remove the temptation to 'read' the scenes but still allow for thematic elements to emerge.[139] In this context, features of composition will be used to

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[135] (Gongla and Rizzuto 2003, 302)
[136] (Priuli 1997)
[137] (Marretta 2015)
[138] Refer Conkey's discussion on Eco's 1999 book *The limits of Interpretation* regarding contextual legitimation. (M.W. Conkey 2019)
[139] (Laue 2021a)

emphasise the variables that unite or divide the components of rock art during each period. 'Composition' is used as a broad term here to signify the groups of figures that occur together and the elements that can be brought together to make up the characteristics of each period.[140] Part of this will include clarifying the kinds of motifs seen to be most dominant or seen most in relation to the other to address the compositional character of each period and practice. This is to allow for a contextually legitimate way to discuss the overall constellation of practice in terms of persistent themes that are constructed differently rather than in terms of specifics. As a result, for the purpose of this thesis, certain interpretative tendencies and language will be necessary in order to be able to speak about what there is and how it exists.

These aspects have been chosen not to provide an in-depth analysis but to situate the phenomenon by providing tangible points to build upon. These quantifiable elements make it possible to begin to measure the similarities, variations, continuities and discontinuities between east and west and determine the scope of each community of practice. However, this is not only to uncover the different *chaîne operatoire* or the instruments used to create the art. Instead, these elements are used to 'follow' the material through time. The aim of doing so will provide the means of understanding the reality of rock art and how it relates to the social and physical reality created by the archaeological context. By later considering the practices and circumstances associated with these elements together, this thesis can discuss the particular historical becoming and being of the rock art. It seems then rock art 'traditions' may be discussed and defined as a cultural (or artistic) practice reduced in space but extended over time.[141] By using Valcamonica and Monte Bego as the metric to measure the practices and production of Alpine rock art, there is the capacity to recognise a degree of conformity and variance between them. In this way, the similarities and variances between these traditions could be seen to reflect local communities of practice within the larger constellation of practice that is the rock art phenomenon of Alpine Europe.[142]

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[140] Another way to look at the use of 'composition' is how the motifs come together to create certain "themes". However, we want to avoid the use of thematic terminology as this requires iconographical interpretation of the motifs. Yet, we recognise that to a degree this is unavoidable as certain compositions bring to mind certain assumptions that have a long life.

[141] (Gallay 2014)

[142] As a result, it will become increasingly necessary to measure the variability of the Alpine corpus over time and space. Thus, if necessary, new variables can be created later, some grouped together, and others added to promote this method in future studies.
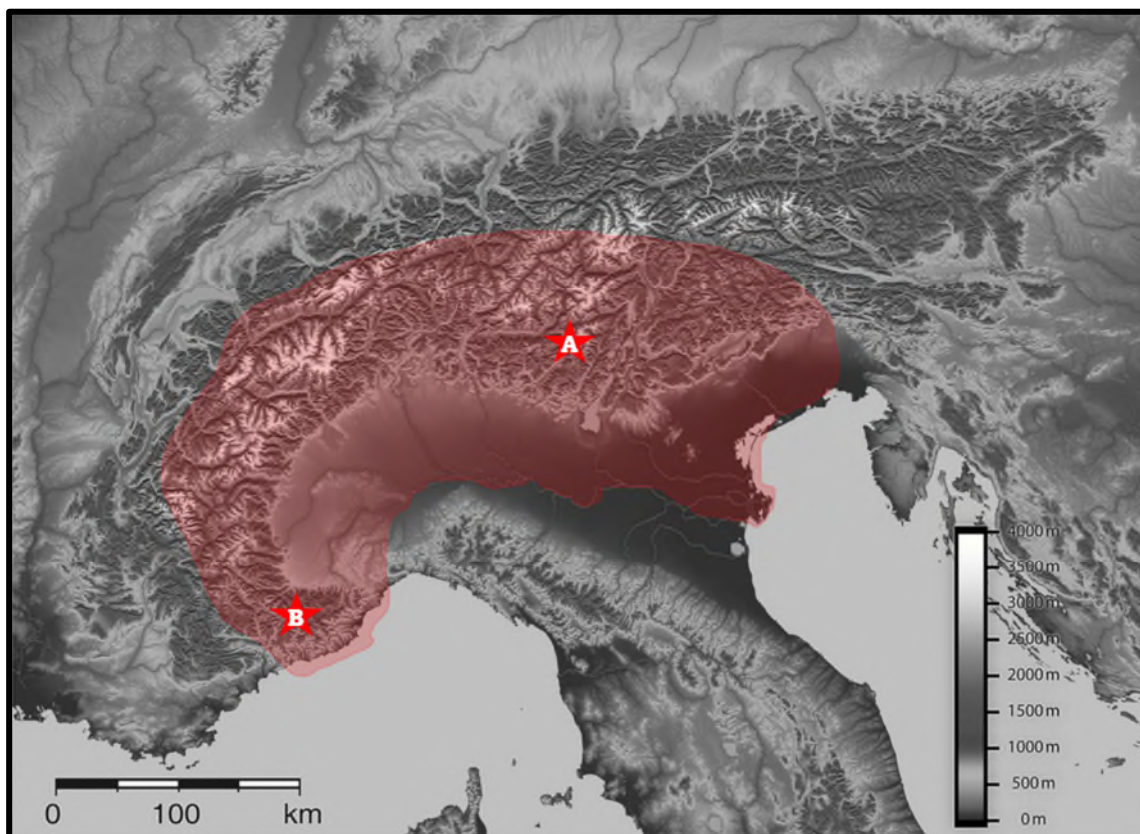
Figure 3. Map of Alpine Region showing A: Valcamonica; B: Mont Bego. (Map sourced from Ghosh 2021 and edited by author)

Combining the Assemblage (Level 4)

The final chapter of this thesis will combine the previous levels and applies the findings critically to examine how the rock art phenomenon functioned during the FBA and how this informs our current hypotheses and cultural understanding of prehistory. This thesis, using elements drawn from each of the assemblages, will critically examine and discuss the patterns and interactions between and within rock art as a community of practice during the FBA. More specifically, having looked at what there is and how it exists at each of the previous levels, this level (4) will focus on establishing why these practices might evolve, adapt, endure or fade.

In examining the relations that persisted and changed in and between these communities over time, this thesis will determine the patterns and intra-actions that occurred in the banding and disbanding of rock art assemblages and, by extension, communities during the FBA. Suggesting that these elements of rock art, comprised of things like the 'art', the consumption, the production, and all the other related activities taking place within such a mnemonic landscape, were significant agents in the assemblage of Alpine society and the rock art phenomenon. Nevertheless, communities of practice are complex and dynamic systems. Thus, the patterns and interactions that cause communities to adapt, mature, evolve

or vanish will also be complex as they are likely the result of many motivators. However, based on Wenger's framework, it is plausible to assume that any changes, adaptations, or continuance likely depend upon their bodies of knowledge, the support for their development and the community structure that led them.[143] As a result, drawing from the contextualised assemblage in this thesis and using aspects of Patricia Gongla and Christine Rizzuto's framework on disappearing communities of practice, I propose that from the contextualised framework, it will be possible to identify two potential motivators to suggest how the communities of practice embodying the rock art phenomenon disappeared and adapted during the FBA.[144] These two motivators are:

1) Organisational change:

Organisations in the context of this thesis refer to the structures around which communities of practice are supported and work within. These structures may refer to the economic, social, or physical (environmental) spheres in which a community operates. They can impact the practice directly or indirectly as they often support or determine the practice's competency, development and life over time. Thus, organisational changes may occur as these structures change. This can appear as a redefinition or reorientation of the organisational structure that forms the community, perhaps further reflecting changes in its 'leadership' and goals by setting new priorities and redeploying resources.[145] Indeed, each community can be seen to possess core members that share, interact and emit practice. If these members leave or new ones are added, change will likely be reflected.[146]

2) Knowledge Domain Change:

Gongla and Rizzuto have referred to a domain of knowledge as the space in which the community "refreshes "what it knows" by adding to, modifying and deleting from its base of knowledge".[147] Thus, changes in these domains can be affected as communities come together and transform over time, with one becoming more "mainstream" and the other domain evolving into a "sub-area" of the prevailing practice.[148] These domains could also be affected by an inability to access and learn the information to pass on to other members of the community.

Ultimately, by highlighting the presence of these aspects (domains of knowledge, supporting organisational structures) throughout the assemblage, this thesis will be able to discuss the

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[143] (Wenger 1998) (Gongla and Rizzuto 2003)
[144] Gongla and Rizzuto's 2003 study was conducted by examining the changes and continuities in a global business organisation to discern patterns over time that might reflect why one particular aspect of community life endures, and others disappear.
[145] (Gongla and Rizzuto 2003, 301)
[146] ibid
[147] (Gongla and Rizzuto 2003, 302)
[148] (Gongla and Rizzuto 2003, 303)

different paths and patterns that emerged and may have led to one community ceasing its practice and the other retaining and perhaps even expanding theirs.

Now that the theoretical and practical parameters for our thesis and assemblage have been determined, this study will move forward with recontextualising the various dimensions of the rock art phenomenon to understand better the broad communities of practice across the Alpine region. Ultimately, the purpose here is to outline how such an approach founded in ontology and assemblage theory can bring Alpine rock art out of disciplinary isolation and further provide new avenues of analysis.

III. ALPINE ARCHAEOLOGY (LEVEL 2)

Arnett states that to understand the practice of rock art and its inherent agencies, we need to weave together "the relationships between the material culture and the landscape, language, travel corridors, origin stories, colonisation, ethnography, and intergenerational history".[149] This notion comes from the ontological view that places and images are in a constant state of flux and, as such, contain a plurality of meanings that changes depending on each active engagement with these places and images at any given time.[150] Thus, in following our methodology, this chapter will present the broader archaeological and physical context in which the rock art phenomenon emerged. Within this synthesis, this chapter will also highlight the possible relationships and organisational structures that make up the connective communities in the region. Therefore, working from a top-down approach, this chapter will build the first level of the assemblage in which the general occurrences and trends of the archaeological context will be provided. The chapter will begin by presenting the dynamic landscape that moulds together the region, including the environment, natural resources and climate. Ultimately, this will present how the area interacts and comes together to promote relationships and communities of practice across space and time. Furthermore, this chapter will look at how human agency has adapted this landscape with regard to agricultural and pastoral output, land management and material evidence. These elements will then form the basis for suggesting the possible social and economic structures that emerged during the FBA, which were diverse and evolving throughout such a dynamic landscape. Thus, the picture that emerges, while somewhat fragmented (particularly in the western sphere),[151] will demonstrate the trans-regional connectivity between communities and illustrate the potential paths of mobility and practice exchange during the FBA leading into the EIA.

i. Dynamic landscape

The geography of the Alpine region (Figure 2) is defined primarily by the snow-capped mountain range that curves and demarcates the landscape between Central and Western Europe, Italy and the Mediterranean. Ultimately, the range encompasses eight European countries. [152] This wide and continuous arc stretches from the southern corridors of France in the Alpes-Maritime, running roughly northward through the Cottian and Graian massifs. Then sweeping eastward through the central Alps, southern Alps and Pre-Alps onto the Austro-Italian frontier and connecting onto the Dinaric Alps and Danube Basin in the east. Characterised by its rugged terrain, with steep slopes, deep valleys and extensive glaciers that

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[149] (Arnett 2016, 293)
[150] (Ingold 2000, 111-131; 2010; Norder 2012; Rajnovich 1994; Zawadzka 2019)
[151] (Lachenal 2018; Iacono 2022)
[152] The Italy range accounts for 27.3% of the entire arc. The other countries include, Austria, France, Switzerland, Germany, Slovenia, Liechtenstein and Monaco; (Convention 2023)

feed various rivers, tributaries and lakes, the region is dominated by the life and dynamism of the landscape. Indeed, this formidable arc does not create an unsurmountable wall but a connective passage. The large glacial lakes and the rivers with smaller tributaries cut through the vast twisting Alpine valleys and through the foothills to connect further with the main rivers of Europe, the Rhine, the Rhone, the Inn, the Danube and the Po. The connected northern Italian plain demarcated by the Po River, with its complex fluvial networks, creates vast alluvial microregions and connects an extensive fertile landscape from the western Alpine Arc of the Piedmont region to the Adriatic Sea.[153] The encompassing mountain ranges and the sway of the Adriatic corridor and the Ligurian Sea create a varying climate depending on elevation and location, with a colder and more temperate climate at higher elevations and a more sub-Mediterranean temperature coming from the nearby seas.[154]

The FBA corresponds to Europe's final Subboreal paleoclimatic stage (ca. 3500-800 B.C.E).[155] Despite Bronze Age narratives of climatic disaster, in the lead-up to the FBA,[156] the Eastern Alpine area enjoyed a sustained temperature increase after a cooling period that ran on into the EIA.[157] While lower temperatures were felt on the Alpine arc's southeast fringe, these may not have been casual enough to inspire 'disastrous' outcomes.[158] This being said, the western arc of the Alps, like the area around Monte Bego, experienced a much colder period from ca. 1200, shown by advancing glaciers.[159] Such a climatic shift may have impacted seasonal and sporadic occupation of different types of sites in higher altitudes, restricting access or prompting increased mobility.[160] Archaeobotanical and geological evidence suggests that this climate shift may have led to increased pastoralism, specifically sheep and cattle farming in the region.[161] A consequence of this period of climatic cooling that augmented from the Early Bronze Age was the substantial decrease of Alpine forests, causing a receding wood line that was simultaneously replaced by increased growth of smaller plants over time.[162] Therefore, scholars suggest that as plant species thrived in place of trees, this may have led to increased pastoral land use throughout the region in response.[163] However, this does not appear to have been in the place of agriculture. Such a diverse

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[153] Microregions like the Adige, Brenta, Piave, and Tagliamento extension (C. Smith 2017, 173); While the region defined for this study ends at the southern border of the Po River, it is worth noting that the south rivers from the anticline of the Apennine Mountains give way to the Italian peninsula extending the capacity for connection in this region well into central Italy. Tributaries also extending from the Ligurian coast mountains provide further access to the Italian Riviera.
[154] (Iacono 2022)
[155] (Molloy 2022)
[156] (Cardarelli 2009; Dickinson 2012; Cline 2014; Perego, Scopacasa, and Amicone 2019)
[157] (Scholz et al. 2012)
[158] (Frisia et al. 2005; Scholz et al. 2012; Menotti 2015, 244)
[159] (Le Roy et al. 2015)
[160] For further discussion, refer to (Ponel et al. 2001; Capuzzo et al. 2018). This could partly explain why the southwestern Alpine area has a substantial archaeological gap (Lachenal 2014; Iacono 2022, 397)
[161] (Mourey and Bianchi 2021; Morandi and Branch 2018; Kuhn and Heitz-Weniger 2015; Kharbouch 2000, 892; Finsinger 2001, 230)
[162] Ibid.
[163] (Molloy 2022)

ecology and Alpine alluvial deposits ensured that the plains and valleys of the region were highly conducive to both agriculture and pastoralism.[164] Moreover, the environment offered apparent opportunities for sustained habitation and presented the potential for economic pursuits and structures by providing resources such as stone, lumber, water, and metal.[165] Indeed, archaeological evidence indicates how this interplay of topography and resource distribution led to intense human exchanges.[166]

The various tributaries may have assisted in providing some of the most accessible and convenient routes that would have promoted the circulation of these goods, other materials and people across the region. Archaeologists have increasingly recognised how water exerted significant influence on social interaction, connection and the development of complexity by virtue of its critical role in travel, navigation, boundary demarcation, and the transport of materials and technologies in prehistory.[167] Large rivers of prehistoric Europe have been labelled as the "highways of the continent", providing means for social and economic interaction across space.[168] Moreover, even if these large rivers were not easily traversable, their importance would have hardly been diminished, as they act as ideal and reliable reference points.[169] While there are no assurances in reconstructing the paths that prehistoric peoples would have taken through the mountains and across the plains, it is reasonable for scholars to assume that these rivers provided guidance to and from resource points. Indeed, more recent studies have tried to apply LCPA (least cost path analysis) and social network theory to provide a reasonable understanding of how people and materials moved throughout the landscape.[170] These studies work from known points of reference, such as Alpine passes, settlement locations and material deposits, to determine the most advantageous path in terms of the length of time walking from one point to the next and further expand this based on goods circulated in the archaeological record.[171] Such studies have indicated that these natural Alpine corridors and waterways provided not only the crossroads for travel but contained dominant domains for trade and exchange of knowledge, presumably encouraging the developing dynamics of the area well into the Iron Age.[172] However, even though the potential for movement and connection may have existed, we should not exclude the degree

[164] (Burns 1963, 132; Vannière et al. 2011; Balista 2013)
[165] For a map of principal mines Alps refer (Perucchetti 2017, Fig. 4, 22); for the lithic industry, see (Della Casa 2005)
[166] Not only does the vast ecology provide obvious resources for habitation but also economic endeavours with access to lumber, water and metal (C. Smith 2017, 174; Jennings 2014, 17; Rondini 2022; Christian Iaia 2020)
[167] (Davison 2006; Kevin Walsh 2014, esp.89; B. Cunliffe 2008; Jennings 2015; Pearce 1995; Horden and Purcell 2000)
[168] (B. Cunliffe 2008, 38-47)
[169] (B. Cunliffe 2008, 44)
[170] This thesis refrains from attempting any understanding of how animals may have traversed the landscape. However, it is good to remember that this was a shared landscape and perhaps not just with physical beings but ethereal ones as well.
[171] For recent studies on Northern Italian and Alpine Regions, refer (Blake 2014; Rondini and Marretta 2021; Rondini 2022, esp. 306)
[172] (Nicolis 2013; L. Zamboni, Fernández-Götz, and Metzner-Nebelsick 2020)

of human agency and the ability of individuals to re-create, control and determine their environment rather than simply responding to it or being led by it.[173]

ii. Adapting the landscape

So often, scholars have examined and attempted to understand how the landscape impacted and influenced cultural changes and developments throughout prehistory. It has also been a high concern for scholars examining rock art, looking at how the landscape influenced the engraved narratives of rock art.[174] Yet, assemblage theory cautions us to remember that these relationships and intra-actions go both ways. Indeed, in considering the broader archaeological scope, the question should not remain focused on how the landscape influenced rock art but on understanding why it may be located where it is and, perhaps in turn, how rock art was used to adapt and influence the landscape. Indeed, the archaeological landscape of the Alpine Bronze Age shows how prehistoric people living within the region not only adapted to cope with the more hostile elements of the environment (i.e., temperature fluctuations, flooding, lower levels of oxygen at altitude) but also modified the landscape to suit their needs. As mentioned above, archaeobotanical data derived from pollen and charcoal analyses indicate that the Alpine region experienced significant deforestation starting from the Early Bronze Age.[175] Recent studies have shown that economic pursuits likely assisted the results of such vast clearings.[176] Bronze Age peoples applied controlled burnings to parts of the landscape and, in its place, built enclosed fields constructed from drystone walling and glacial boulders, like those found by archaeologists in the Valcamonica area.[177] As a result, the desire and capacity to engage in such a manicuring of the landscape represent elements of intensified agriculture production and increased pastoral land use throughout the Alpine region.[178] The archaeological evidence in the Monte Bego region also reflects rich pastoral structures in the Merveilles and Fontanalba valleys from at least the Neolithic alongside increased levels of deforestation.[179] Moreover, it can be noted that in the centuries before 1200 B.C.E., cattle became the dominant species, replacing sheep and goats, perhaps reflecting this more significant agricultural and pastoral concern.[180] These concerns should go hand-in-hand as these practices would have been seen to work in at least close awareness of each other and, at most, in symbiosis to cultivate the landscape. Such means of cultivation did not end with land clearings.

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[173] (Hodder 2000)
[174] (G Nash 2000; Sognnes 2001; G. Nash and Chippindale 2002; Sognnes 2003; Chippindale and Nash 2004)
[175] (Valsecchi et al. 2006; Cremaschi et al. 2015; G. Nash 2012; Pini et al. 2017; Molloy 2022)
[176] (G. Nash 2021; Dietre et al. 2016)
[177] Ibid. Evidence from the western Alps shows similar anthropomorphic modifications with the use of fire to clear areas for pasture (Pini et al. 2017)
[178] (Cremaschi et al. 2015; Longa et al. 2019; Mourey and Bianchi 2020); (Trentacoste et al. 2021) provide the most detailed study of animal husbandry and management in the region.
[179] (Mourey and Bianchi 2020, 45-46)
[180] (Trentacoste, Nieto-Espinet, and Valenzuela-Lamas 2018)

During the Bronze Age period, settlements across the region also used the fluvial system and landscape to further their needs. There is evidence of compact villages with surrounding embankments and moats, which brought the waters from the moats to agricultural fields with added ditches and channels for irrigation.[181] Likewise, lake-dwellings were built in or on rivers or modified water courses, constructed specifically to adapt to humid, damp water-based environments.[182] This ingenuity shows that those who occupied the region had excellent command and control over its development. Moreover, as the plain and Alpine valleys remained prone to flooding and vulnerable to climatically induced changes, the potential for intense human activity would have required a balance of labour-intensive work and the development of settlements that could manage the land.[183] Indeed, it is evident that the placement of some settlements allowed for ideal control over the resources and landscape.[184] To a degree, it is possible to consider that the larger material structures that made up these settlements (i.e. dwellings) account for the placement of another form of immovable material in the landscape. Indeed, for whatever reasons, domains were abandoned rather than packed up and taken to another place despite the significant roles their structure and creation must have played in forming a community's collective knowledge and purpose.[185] Thus any organisational changes in settlements, dwellings, and other types of sites that show regular stability of occupation and activity should not be taken lightly. These dynamic shifts in the landscape, which feature direct and intentional changes, provide an important contextualisation of the sites and surrounding space the rock art occupies. Further understanding these changes provides a required layer to the assemblage of meaning that the rock art is being placed within and provides a tool through which possible inferences may later be formed regarding domains of knowledge.

The archaeological record of settlements shows a high increase in site abandonment leading up to and during the FBA. Sites labelled 'thriving' in and around the Valcamonica area (i.e. Parre in Valle Seriana, Casazza-Prato della Pieve in Valle Cavalina, Iseo settlement) were abandoned by ca.1200 B.C.E, and this area does not stand alone in this.[186] Yet, in their place, new large settlements emerged rapidly and became more organised.[187] Indeed, the evidence does not reflect a reduction in population growth north of the Po River during this period.[188]

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[181] (Vianello 2015)
[182] (Jennings 2014, 80)
[183] Ibid.
[184] (Rondini 2022)
[185] Construction methods and settlement structure could have had great meaning to the inhabitants (Herbich and Dietler 2009)
[186] (Rondini 2022, 339-363)
[187] (Pearce 2020; Rondini 2022, 339-363)
[188] (Cupitò et al. 2011)There is a total abandonment of settlements in the southern Po plain, with a depopulation that lasts until the eighth-seventh centuries (Iacono 2022)

This suggests we need to change our perspective and view these changes less as part of a 'collapse' phenomenon but as an organisational restructure.[189] The settlement sites can be seen to contract across the region, with new locations becoming more geographically persistent and placed near rivers, Alpine passes, and resource supply points in more naturally defensible networks.[190] An example of this can be seen by the abandonment of the Iseo Lake settlement, which is then replaced by another only now on a more elevated plateau of the lake overlooking three of the significant valley routes, one of which notably connects onto the Trentino mining district.[191] The Alpine region provided many resources, including those needed for producing, collecting and distributing metal, with Trentino in the east and Saint Veran ores in the west.[192] This material has been recognised to play a critical role in mobility and exchange in this area and throughout the Euro-Mediterranean continent.[193] Indeed, Saint Veran ores show mining and smelting activity that began from ca. 2500 to 1800 BCE.[194] The flat slags (*Plattenschlacke*) found at this western Alpine site testify to the first known of this type in the Copper Age, only to become widespread throughout central Europe and the Alpine region by the Bronze Age.[195] The demand for copper and tin (bronze alloys) during the Bronze Age was high, yet supply points were scattered and limited throughout the continent.[196] The need to acquire these materials could have defined and promoted external trade growth and created the cause for defending access.[197] Such defensive control of the region combined with the nucleation of settlements implies the emergence of a hierarchical structure that may have coincided with increased materials to reflect this. While the appearance of defensive actions would suggest that archaeologists would have found supporting evidence of increased conflict in the region, currently, the archaeological record does not reflect this.[198] Instead, looking at the contraction of these sites, we could assume that this would have brought together additional systems of practice and exchange, leading to greater integrations with communities across a broader region. Subsequently, what the archaeology does reflect is an increase in luxury, prestige and specialised goods in settlements and burial contexts, which may confirm this assumption as new domains of knowledge come together to modify, adapt and evolve the current practices seen in the

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[189] (Cardarelli 2009)
[190] (Pearce 2020; Rondini and Zamboni 2020; Pearce 1997; Marinis 2009; Longa et al. 2019; Leonardi et al. 2015)
[191] (Rondini 2022, 350)
[192] (A. Dolfini 2014)
[193] (Broodbank 2016)
[194] (Bourgarit et al. 2008; Bourgarit et al. 2010)
[195] (Goldenberg 2004; Cierny et al. 2004; Bourgarit et al. 2008; Bourgarit et al. 2010)
[196] Such a demand for metal can conventionally be seen, to begin with the Copper Age refer (A. Dolfini 2014, esp. fig. 18.1)
[197] (Sherratt and Sherratt 2001, 20; Rondini and Zamboni 2020)
[198] Evidence of defensive features is mainly seen from the use of the natural morphology of the landscape; however, there is some evidence of artificial fortifications (Rondini and Zamboni 2020; Cardarelli 2009); for western sites, see also (D. Delfino and Del Lucchese 2020; Lachenal 2018). While these appear defensive, there is limited evidence of conflict in burials (Harding 1999; Andrea Dolfini 2018) This might suggest instead, this could have been maybe in anticipation, with such a connective bronze age network, the region could have been aware of similar conflicts occurring or such changes could simply be in response to climatic changes affecting the environment.

archaeological record like metallurgy.[199] Therefore, if such a change is reflected in one sphere of practice due to such a vast organisational shift, like the contraction of these settlements across the region, it may be reasonable to assume that it had the ability to be reflected in other practices, like rock art.

During the FBA, particularly in more eastern-based sites, different types of bronze work tools (saws, chisels, awls, and knives) appeared alongside the traditional axes of previous periods.[200] In addition, new bronze productions of what has been labelled as 'luxuries' appear to suggest a flourishing bronze age industry was emerging.[201] Indeed, the recycled materials from the smelter's closets at Frattesina, along with the pick-axed ingots, show that bronze was imported as an alloy to be worked on-site and other raw materials foreign to the region found at Frattesina and other FBA and EIA sites suggest that such exchange could have been from both short and long-distance connections.[202] Valcamonica settlements and other nearby higher altitude eastern sites show signs of metalworking and even possess exchange connections to the FBA Po plain sites like Frattesina and later Iron Age Proto-Villanovan sites with the appearance of like-styled pottery.[203] While this is increasingly more speculative, it could be suggested that these eastern sites show an emerging and complex industrial-commercial network controlling the trade and exchange of materials like south-eastern Alpine metal.[204] This again would raise the question about the degree of changes in social organisation that may have had subsequent effects on rock art, admittedly more so in the eastern region from the FBA onwards. Such multifaceted networks would have likely required some form of leadership that could manage and mobilise resources, along with specialised craft workers, skilled not just in working metals but pottery, bone and antler and other raw materials such as ivory, amber, and glass, which appear in some of these Veneto based sites.[205] Archaeologists have suggested that such 'leaders' appear in the burial context where markers of prestige, such as swords and jewellery, can be witnessed.[206] While such markers may not definitively point to a greater level of social stratification or even prestige as understood in modern terms of the word, we cannot ignore the possibility.[207] Indeed, it might

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[199] Metalworking which has had a long life of practice since the beginning of the Bronze Age, appears more pervasive and better organised, with a widespread diffusion and a superior level of specialisation. (Sherratt and Sherratt 2001, 18, 20)
[200] Ibid.
[201] This is further testified by mastery of slagging techniques (A. Dolfini 2014); For references of luxuries, see (Paolo Bellintani 2015; Cavazzuti et al. 2019; Pearce 2019; Pearce, Bellintani, and Nicolis 2020)
[202] (Pearce, Bellintani, and Nicolis 2020; Davide Delfino 2014)
[203] (Rondini 2022; Iacono 2022; Blake 2014, 132)
[204] (Bietti-Sestieri 2009, 33; Pearce, Bellintani, and Nicolis 2020; Rondini 2022) The nature of the industry can be raised further by the appearance of stone weights datable ca.1200 BCE with characteristics of both Aegean and European weight systems, suggesting the area was part of a more widely spread weighing system linked to notions of commodities (Jennings 2014, 77-78; Bietti-Sestieri et al. 2015, 385; Bettelli 2015); for notions of commodities, see (Renfrew 2005; Pare 2013, 508, 523)
[205] *Tesoretto* in Frattesina show numerous ivory combs, glass and amber beads and ornaments found together within a Bronze vessel; see (Bietti-Sestieri and De Grossi Mazzorin 1995; Bietti-Sestieri et al. 2015)
[206] Sword graves in Europe have long been considered indicators of prestige and warriorhood in the FBA (Cardarelli 2015; Cavazzuti et al. 2019; Harding 1999, 2000)
[207] (Cardarelli 2015; Cupitò and Leonardi 2003; Rondini 2022; Cavazzuti 2020) (Cardarelli 2009)

have become increasingly necessary to take on new elements of adornment across different scopes, including rock art, to individualise oneself in a larger community. However, it is necessary to note that these elements are not represented to the same degree in the western sphere of the Alpine region.[208] Recorded finds of this calibre are notably absent, suggesting, at least on the currently available evidence, that the eastern and western spheres may have developed different relationships that cause them to reflect different patterns. As a result, the capacity for human agency in the landscape may also be reflected by an unmistakable 'cultural' barrier between the east-west despite the navigable nature of the mountains and rivers connecting the two.[209] It is evident that the people of the Alpine region had a great deal of agency in choosing which relationships would endure and which were more likely to fade away. Even though such a connective landscape existed, there were still elements and areas of uncommonness.

iii. East vs West

An East vs West division was first observed in Chapter One of this thesis in the archaeological scholarship, which had shown to retain a euro-centric focus that divides discussions and narratives between eastern classical and western European traditions, and the Alpine scholarship centred around the long-established rock art hubs. Yet, this is not something to consider only in the history of scholarship. In fact, we can observe a discernible tradition for division in the material record at least as far back as the beginning of the Copper Age. There is evidence that this east-west separation of the Alpine region was extremely long-standing, visible in the archaeological record from the Late/Final Neolithic (c.4500-3000 BCE) through to the mid-Iron Age (500 BCE) and perhaps longer.[210] This east-west axis has been established by examining the patterns of metal use and movement, which suggest the presence of a 'tin-copper line'.[211] This line appears between the Oglio and Adda rivers cutting through the Alps to the Reuss and the Rhine (Figure 4).[212]

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[208] (Lachenal 2018; Iacono 2022)

[209] (Perucchetti et al. 2015); This goes against the river system model posited by (B. Cunliffe 2008)

[210] (Perucchetti et al. 2015)

[211] (Perucchetti et al. 2015; Perucchetti 2017)

[212] The reader should take into account that this is not a straight line, and Fig. 3 only provides an approximation of where the 'tin-copper' line cuts through the region for reference in how it pertains to the two main rock art poles.
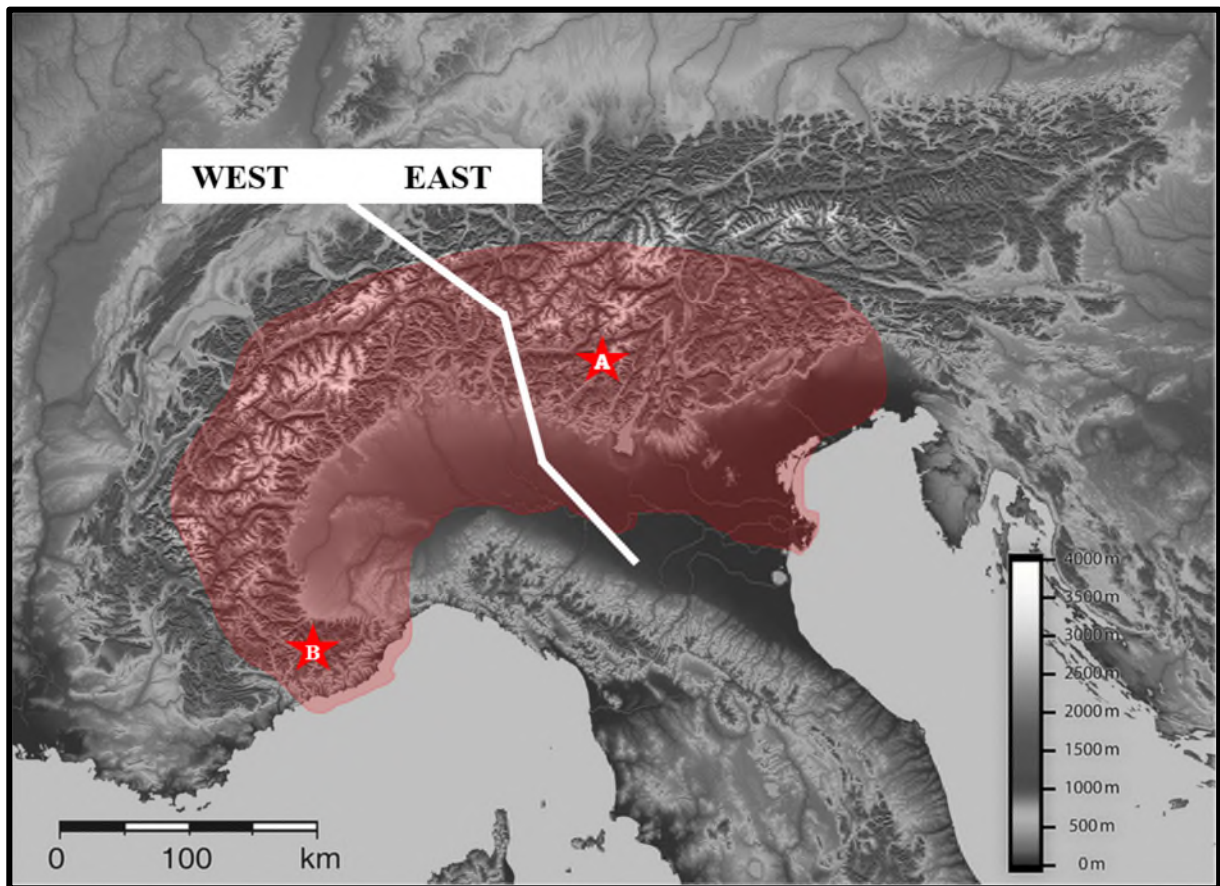
Figure 4. Map of Alpine Europe, including rock art sites A: Valcamonica; B: Mont Bego and 'tin-copper' line (after Perucchetti et al. 2015). (Map sourced from Ghosh 2021 and edited by author)

Further studies into the beginnings of the manufacture and circulation of metalwork have shown that this established east-west split seemed to follow the lines of trade and manufacturing long held by other domains of practice such as pottery production, burial behaviour and goods, and of course, rock art).[213] Evidence suggests that the relational ties held on either side followed outwards towards its cardinal directions (i.e., the West possessing stronger material ties to France and the East expressing connections shared with the Pannonian plain).[214] While this appears to split the region, it also serves to connect it to the wider Euro-Mediterranean scope. Taking a more panoramic view of the Alpine region and the areas surrounding it, in relation to these split studies, creates a perspective shift. Instead of being viewed as a marginal region, the Alpine space instead appears to be strongly embedded in an interregional network of exchange and mobility.[215] These communities were not created in utter isolation by unseen inhuman hands, nor were they on the periphery of

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[213] (Jung, Mehofer, and Pernicka 2011; Mehofer et al. 2017; Molloy, Bruyere, and Jovanovic 2023; Tasca, Putzolu, and Vicenzutto 2013)

[214] (Molloy, Bruyere, and Jovanovic 2023; Marinis 2009, esp. 539)

[215] (Jennings 2015; Kristiansen and Suchowska-Ducke 2015; Kristiansen 2016; J. Ling et al. 2019; Melheim and Sand-Eriksen 2020; Johan Ling, Chacon, and Kristiansen 2022; C. Smith 2017) (Lachenal 2014) (Iacono 2022)

more dynamic areas. Instead, they were embedded in the social and economic network that was evolving and adapting during this FBA period.[216]

However, it does not mean that they did not also face inwards. Evidence from Frattesina, an eastern FBA site in the Veronese plain, shows the overlapping archaeological footprints with the presence of Baltic amber beads, glass beads from southern France, *pani a piccone*, central European weights, bronze objects of Danubian-Carpathian production, Apennine potsherds and West Piedmont-styled torques.[217] Furthermore, recent studies examining strontium and oxygen isotope data from burial sites show an established practice of movement, with sizeable amounts of the data showing that not all those buried were indigenous to the area, some even coming from over 50km away.[218] It is worth remembering that traders were not the only conduits of information and exchange as people, more commonly women, moved and resettled throughout the region, creating the means for further integration of technological, social and ritual practices.[219] Further degrees of unity can be found across the region through trade networks and the appearance of more broad social occurrences related to the ritual and material domains.[220] Even a recognisable metallurgical koine is known to characterise the FBA with metal types and attributes appearing across the Euro-Mediterranean and throughout this region.[221] Indeed, from the Copper Age, we see the appearance of Remedello-style daggers, like those frequently occupying rock art in the Alpine region, in both Eastern and Western archaeological records.[222] Such connections do not only begin in the metal ages, as the distribution of jade stone tools appears across the arc and the distribution of ceramic bodies beginning with the relationship from square-mouthed pottery to Chassey styled ceramics and onwards to with Luco A type beakers.[223] As the list goes on, it is clear that these cardinally divided regions were actually not so removed from each other but shared almost a cultural hybrid of practice connecting all sides of the alps through a constellation of practices not only confined to the rock art phenomenon. Indeed, the nature of such a region and the archaeology that reflects it represent complex interactions that build upon the overall assemblage. While this chapter has only briefly synthesised the inter and intra-actions, it has established a connective community of people and objects throughout the region. Therefore, by re-connecting these regions in scholarship, this thesis further has a

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[216] Ibid.

[217] (Cavazzuti et al. 2019, 626; Fokkens, Harding, and Bradley 2013; Cupito 2011; Cupitò et al. 2011, 60; Molloy, Bruyere, and Jovanovic 2023; Bettelli 2015; Jennings 2014, 77-78; Bietti-Sestieri et al. 2015, 385; P Bellintani and Saracino 2015); There is also the perishable material to consider such as salt, timber, cloth or foodstuffs, which the archaeological record does not provide. These other goods could have moved freely between these spaces as they were essential commodities of exchange. (Iacono 2022)

[218] 60 individuals were tested in this study, see (Cavazzuti, Salvadei, and Salzani 2015) ; refer also (Cavazzuti 2020)

[219] (Blake 2014; Cavazzuti 2020)

[220] Refer for similar burial practices and ritual deposits(Iacono 2022) (Bradley 1988; Bietti-Sestieri et al. 2013)

[221] (Jung, Mehofer, and Pernicka 2011; Iacono 2022)

[222] (Medici 2019)

[223] Refer (Bagolini and Pedrotti 1998; Basso et al. 2006, 34, Fig.1) for distribution of Chassey-styled ceramics during Middle-Late Neolithic; for Luco A type beakers, refer (Pearce 1995); for distribution of Jade refer (Pétrequin and Pétrequin 2016)

solid foundation to suggest that these regions were not 'marginal' or 'peripheral' but intensely interwoven in a network that formed an intercontinental phenomenon for the Bronze age with many domains of interaction and knowledge.

In summation, the archaeological evidence of the FBA in the Alpine region shows varying degrees of continuity and changes in how people lived and experienced this dynamic landscape. This period reflects:

a) Organisational transformations, which are reflected in the contraction and abandonment of settlement sites in the region.

b) The subsequent strategic placement of sites relating to the morphology of the Alps providing what appears to be greater control over the landscape and points of passage for movement.

c) Possible 'leadership' changes were reflected in the increase of luxury and 'prestige' material found in settlements and grave goods, suggesting a need to display stature or status.

d) Demographic continuity, despite site contractions, suggests that the subsequence growth in larger sites performed as central hubs or regional nuclei. [224]

e) Climatic changes may have prompted mobility but could have potentially limited access to domains in high altitudes as they experienced colder climates, making usual travel paths inaccessible.

f) High levels of exchange and trade enduring from previous periods continue the connectivity between the eastern and western regions despite indicating elements that create distinct local communities. Nevertheless, western sites remain somewhat elusive in the archaeological record.

g) Shared material evidence from within and outside the region.

h) The wider scope during this period experienced a shrinkage of "bronzization" from 1200 B.C.E, while connective regionalities persisted in temperate Europe until c.750 B.C.E. with adaptations to traditional trade routes.[225]

While this paints a broad-brush synthesis, it places into context a dynamic and evolving landscape with long enduring relationships evident throughout the region. This argues for a sustained and somewhat regular network of exchange and connection, allowing for practices and knowledge to flow across space and, to a degree, time with little impediment. Ultimately, this argues for a vast constellation of practices ensuring that someone travelling from one

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[224] However, remembering that the pathways to social complexity are not always linear is worth remembering.
[225] (Kristiansen 2013; Kristiansen and Suchowska-Ducke 2015; Kristiansen 2016); "Bronzization" comes from Vandkilde who uses the term to suggest the Bronze age as a Pre-modern 'globalised' world - in this sense a world tightly knit together by the bronze trade, with local characters but hyper-regional connections. (Vandkilde 2016)

Alpine sphere to the other would encounter a community not so alien to their own. However, although archaeology suggests that goods and, by extension, people moved great distances, it is essential to note that rock art, by its very nature, is fixed in place, allowing perhaps for a domain of knowledge to remain somewhat fixed in an ever-evolving landscape. Consequently, this could serve to work in favour of archaeologists. As the archaeology of the western sphere still somewhat eludes scholars, such a stable reference point has the capacity to shed light on a region that seems less concerned about leaving behind a strong presence. Thus, now that we have contextualised the 'physical' nature of the rock art phenomenon, lets now turn to what we may consider the 'cultural' context that takes the form of rock art to consider how such a stable and permanent practice function in such a dynamic and evolving landscape.

IV. ALPINE ROCK ART (LEVEL 3)

This chapter focuses on recontextualising the two main Alpine rock art as communities of practice to better understand how they functioned within the broader context. As a result, this chapter has been divided into three sections to synthesise the eastern and western Alpine rock art traditions and establish them as individual yet connected communities with an enduring history from the Neolithic to Early Iron Age (ca. 5000 – 500 B.C.E).[226] Therefore, the initial two sections of this chapter will present the methodological criteria to form the Eastern and Western traditions for rock art sites, providing an empirical overview of the relationships and elements that make up these communities of practice. This chapter will investigate how rock art was created and adapted over time and space by examining the environmental structure, application techniques and style elements as they relate to each other and the wider region. An empirical overview of these aspects enables a clear view of the manifestations of a joint practice supported perhaps by intercommunity interaction, at least until a markable shift is seen to occur in the FBA. Therefore, in using Valcamonica and Monte Bego as the models to work outwards from, this chapter will determine the degrees of continuity, discontinuity, similarities and variances over periods of time and space. However, to do this effectively, this chapter will also consider the dynamics that occurred after the FBA to verify the occurrence and sustainability of a significant shift in the record. Considering these dynamic forces will add the second level of the assemblage, allowing us to gain a firm grasp on the dynamics of Alpine rock art as a constellation of practices.

Within each synthesis, we will begin by presenting the environment of the sites, looking specifically at the localisation, accessibility and visibility of each site. Then we will review the application techniques of rock art that have further modified the landscape. Finally, to avoid repeating the same synthesis that has already been provided in literature by many scholars before, we have summarised in table format the stylistic elements of Valcamonica and Monte Bego rock art for each period. This table will illustrate the more substantial modifications of the motifs and composition through these periodical sequences and form the basis for stylistic traditions between east and west. We are conscious that generalisation is a bad habit and cannot reduce a whole corpus to an all-encompassing explanation based on the two sites alone. As a result, a more descriptive summary of the practice will be provided, which will require that this thesis present some of the thematic elements of each period in order to emphasis some of the unique aspects while connecting others to some of the other known rock art sites in the region to follow these practices through time and space. Finally,

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[226] The term 'tradition' is used in the context of this chapter as the trends and stylistic elements, which have been recognised throughout the history of rock art scholarship, are reflected in other known rock complexes orientated similarly throughout the Alps.

the third section of this chapter will highlight how the same phenomenon developed in a distinct yet similar manner over time and space by drawing attention to enduring relations within and between the two poles allowing us to recontextualise Alpine rock art as a constellation of practice and further zoom in on the dynamics of the FBA. Although this thesis aims to avoid presenting interpretations regarding the 'meaning' of the images during different periods, it is contextually legitimate to present those trends that have endured in the rock art scholarship to date as they ultimately affect the over-assemblage. Furthermore, by presenting these elements, we can ensure that we do not create a unidirectional relationship that prioritises archaeological discourse and theories when discussing the combined assemblage in Chapter Five (level 4). However, in the same vein, this thesis will not be using these to confirm the current interpretative assumptions but will provide a basis for understanding and extending this assemblage to bring rock art out of isolated studies.
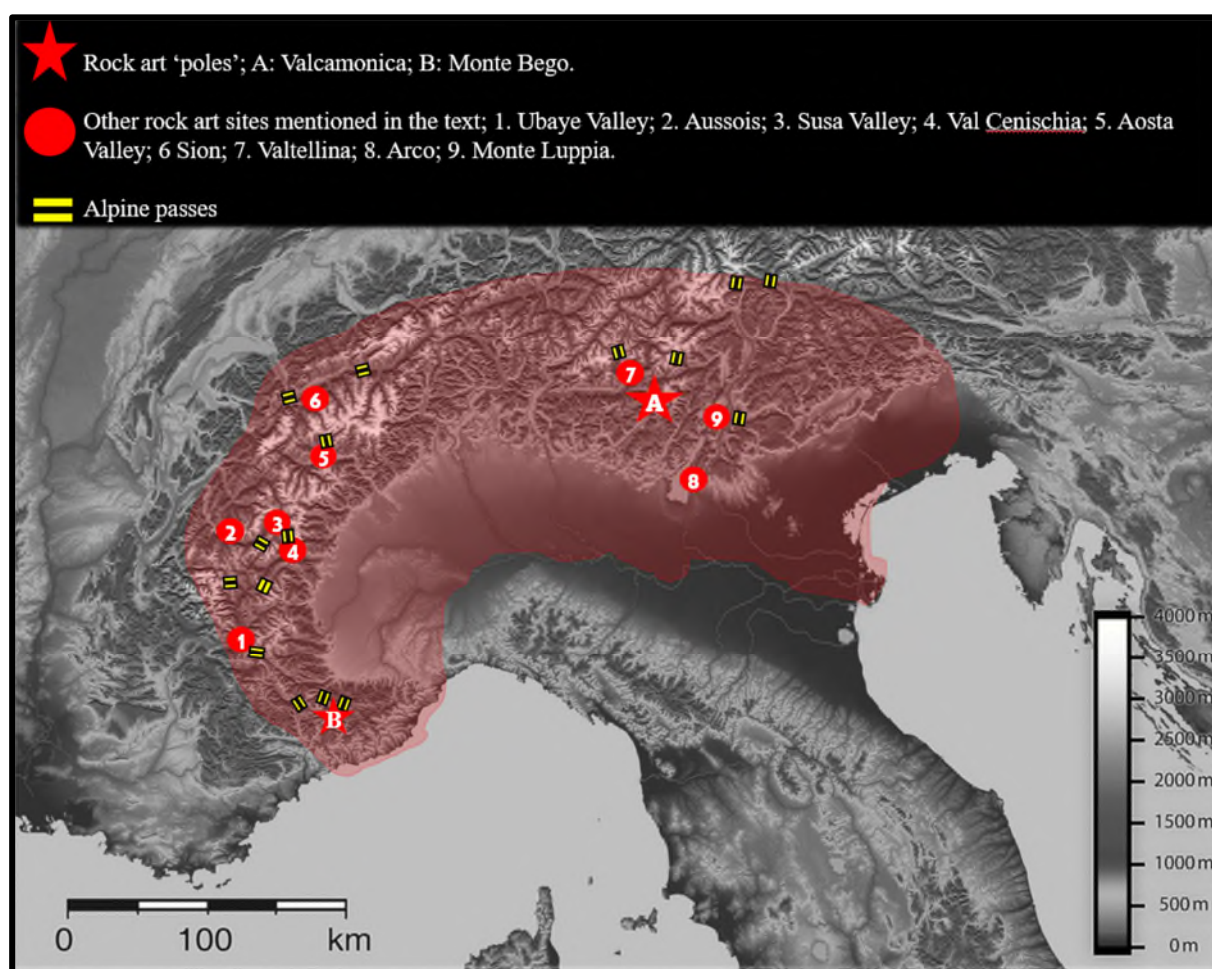
Figure 5. Map of Alpine Europe, including all sites referenced in this text and nearby Alpine passes. (Map sourced from Ghosh 2021 and edited by author)

i. Eastern Tradition: Valcamonica

Environment: Localisation, accessibility, and visibility.

Valcamonica (Val Camonica) is one of the largest valleys in the eastern Lombardy region, located in the province of Brescia of Northern Italy. The U-shaped valley spans over eighty-five kilometres, beginning at the Adamello massif in the north and following the Oglio River to the mouth of Lake Iseo in the south.[227] The Oglio River covers most of the valley, connecting Lake Iseo to the Tonale Pass in the heart of the alps. The landscape of the valley switches between broad sweeps of the flat valley floor to sudden natural bottlenecks where it narrows, like at Breno, Cedegolo and Edolo. Alpine passes connect Valcamonica to the Trentino-Tyrol region and Valtellina to the Western Alps (Aprica).[228] From the Brennan pass through the Tonale pass, which connects modern-day Austria and the Trentino-Tyrol region, one could reach Valcamonica by foot in just over two days. Valcamonica also feeds onto Valtrompia, Valsabbia and Giudicarie Valleys and the Val Cavallina, which leads into the Po plain, making it accessible from the north and south. The Pizzo Badile Camuno Mountain demarcates the steep slopes at the heart of the valley to the east, and the Concarena Mountain to the west (Figure 6), both stand over 2500m above sea level.[229] The snow-capped mountain frames the narrow valleys creating the sub-Alpine climate that gives life to the valley. With forests and meadows, four topographical zones comprise the valley: the mountains, the upland plateaus, the valley floor and slopes, and the snowline.

Figure 6. Valcamonica Valley with Concarena Mountain in background (after Nash 2021)

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[227] (G. Nash 2012)
[228] (Marretta 2013a)
[229] Ibid.

More than one hundred and eighty open-air rock art sites are spread and clustered throughout the valley on both sides of the river, with none appearing above the upper plateau (Figure 9).[230] Smaller sites scattered throughout the valley continue from Lake Iseo along the Oglio River and into the Valtellina area. However, the majority of known carvings (90%) are confined to a six-by-four-kilometre area at the sites of Cemmo, Capo di Ponte, Naquane, Nadro, Paspardo, and Pescardo.[231] Irrespective of the engraved figures, the rocks have been shaped by the retreat of the Oglio glacier following the Late Glacial Maximum.[232] This erodent left behind the lustre and polished 'canvas' for the rock art with numerous meltwater channels and grooves to enhance the figural additions scattered throughout the valley (Figure 7). All sites where the Valcamonica rock art can be found contain natural bedrock, large outcrops of black-grey or red-violet sandstone and schists and high pastoral land features.[233] These sites have also been seen to produce various Copper Age statue menhirs of the same stone type, although original contexts are often difficult to establish.[234]

Figure 7. Foppe di Nadro representing the visual effects of sunlight and grooves on the rock (after Rock Engravings Nature Reserve of Ceto 2023)

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[230] (Marretta and Cittadini 2011)
[231] (F. Fedele 2007) (Ghislandi 2011)
[232] (Anati 2014)
[233] Red-violet colour of some rocks due to high bioturbation. (Lombardi 2006)
[234] There are exceptions Cemmo boulders – archaeologists have found boulders buried *in situ* with comparable archaeological dating materials in the stratigraphy, assisting in the more accurate dating of styles. (Poggiani-Keller 2018; Rondini and Poggiani-Keller 2021)

Most of the main rock art sites possess a surrounding panorama and are near the river or its streams and tributaries. Although the rock art today is adjacent to wooded areas, during prehistory, the rock art would have been open and exposed on the intermediate slopes of the valleys.[235] Most of these rocks are not visible from the bottom of the valley, yet the valley can be visible from some hill sites (Figure 8).[236] Ignoring the natural additions that make up these open-air sites is challenging. They create an 'open' context that presents a highly visible (in terms of sun and moonlight) and accessible space that connects along pathways and trails or lies at critical points of control within the surrounding terrain (Figure 7).[237] The very nature of rock art, particularly in open-air sites, is embedded into its environment. To a degree, Valcamonica was able to remain hidden as it blended into the landscape for centuries before its rediscovery in the early 1900s, despite such close continued occupation of the region.

Figure 8. Bedolina valley floor as seen from the "Roccia della Mappa" ("Rock of the Map") during the Anati Mission archaeological campaigns held in 1957 (after photo Anati Mission Archive; Marretta and Cittadini 2011)

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[235] (G. Nash 2017)
[236] (G. Nash 2021)
[237] For a recent discussion on the role of light see (Chippindale and Nash 2004; Chippindale and Baker 2012). However, it should be noted that some sites are more difficult to access due to the steepness of some rock faces, which may prevent some depending on fitness and skill.; Nash has observed optimum times of the day when the rock is best illuminated (G. Nash 2017)
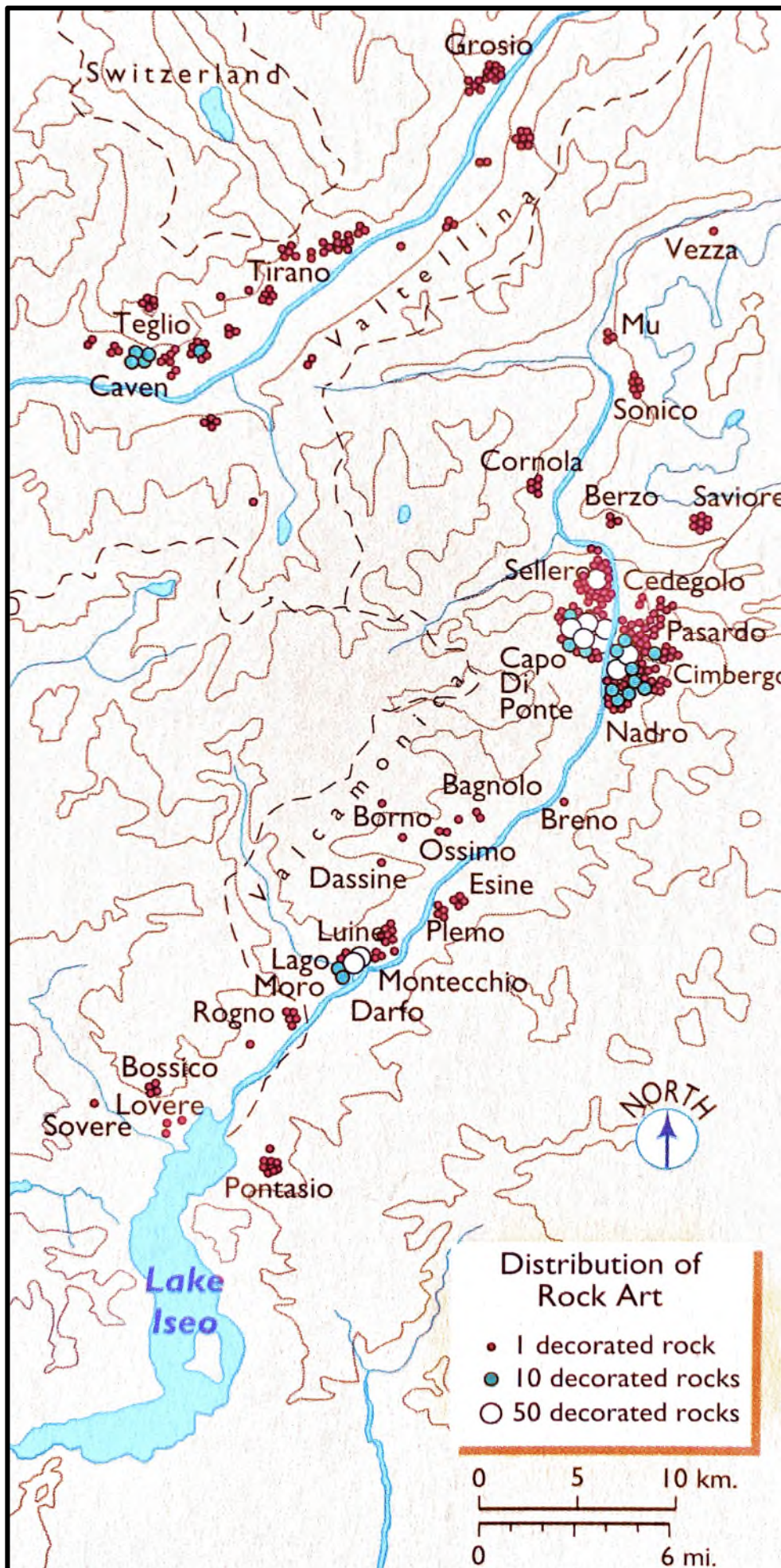
Figure 9. Distribution of rock art in Valcamonica (after Scarre 1998, 157)

Application Technique

The application of the images in Valcamonica into the rock surface during prehistoric periods varied little from the pecked, scratched and carved techniques. Each of these techniques would have required skill and precision to purposefully mark the landscape by removing stone from the rock's surface.[238] All of these methods would have involved the use of a pointed object, which would have had to have been angled and hit with the correct amount of strength to create the textured grooves and lines we see today. [239]

The pecking technique produces the large majority of the rock complexes in Valcamonica.[240] This technique uses a pointed tool to strike the stone perpendicularly in order to produce imprinted points with each blow. It is believed that these tools used to strike the first blow would primarily have been made of stone, as it was likely a practice begun in the Neolithic age, but also due to the force required to strike the rock, a stone would be more durable than metal, which would have more quickly become blunt or damaged.[241] Following this first blow, the rock is then struck again with an 'engraving' tool to allow for more control and more accurate details to be produced.[242] Repeated hammering can then create the necessary depth the worker wishes to achieve (Figure 10. B).[243] Such depth could have also provided the means in which to accommodate colour or some other kind of patina, although there is limited evidence to suggest this.[244]

Alternatively, the filiform (threadlike) or graffiti technique is the minority of the Valcamonica practices. The technique appears a lot like faint scratches in the stone, seeming to require much less expertise to achieve (Figure 10. A). This technique is produced by rubbing a pointed tool on the surface of the stone. Where pecking is more likely to have been done with stone tools, filiform is thought to have used metal tools to scratch the rocks more effectively and certainly more quickly.[245] The filiform technique appears relatively lightly on the stone as it is not very deep, nor is it highly visible to the naked eye unless in proper lighting. As a result, it is believed that the technique was more likely used as a means to increase the visibility of pecked motifs.[246] Indeed, pecked motifs from the Copper Age show instances where scratches have been used to define the limbs of anthropomorphs and create halos around the figures.[247] However, it could be possible that this was more simply a

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[238] This thesis does not discuss any rock art that has been painted and thereby had elements added to the surface. (Priuli 1997)
[239] (Marretta 2014)
[240] (Anati 2014)
[241] (Priuli 1994)
[242] (Marretta 2014)
[243] Greater depth has the greater ability to achieve visibility
[244] (Sansoni, Bettineschi, and Gavaldo 2016)
[245] (Priuli 1994)
[246] (Chippindale and Baker 2012)
[247] (Sansoni, Bettineschi, and Gavaldo 2016) refer to Ossimo monoliths and Cemmo-Pian delle Greppe stele (F Fedele 2008)

consequence of the worker preparing their surface by outlining the motifs for subsequent pecking and carving.[248] Indeed, most filiform figures are mainly concentrated in the Iron Age, where there appears to be a greater degree of uniformity to the style and shape of the motifs, particularly anthropomorphs, which may suggest that there was a drive towards this need for more precision in their work during this period.[249] Nevertheless, it is evident that the filiform does allow for a great expression of details that are decidedly more difficult to create only by pecking.[250] Thus these two techniques seemed to have co-existed and complemented each other to present the images of Valcamonica.

The application technique of this rock art does not only refer to the skill with which the works have been created but how these might interact with the 'canvas' on which it is applied.[251] While the type of rock used has been addressed above in the environmental context, if one were to zoom in on these panels, it could be noted that although 'polished' by the glaciers that retreated from the region, they are not all smooth. Indeed, it appears the applicator may have gone to great lengths to choose a surface that reflected the correct topography to enhance their work, suggesting that certain rocks may have been chosen specifically for their cracks, shapes and grooves. Such motivation may have affected which technique workers may have used or helped divide the canvas for multiple compositions.
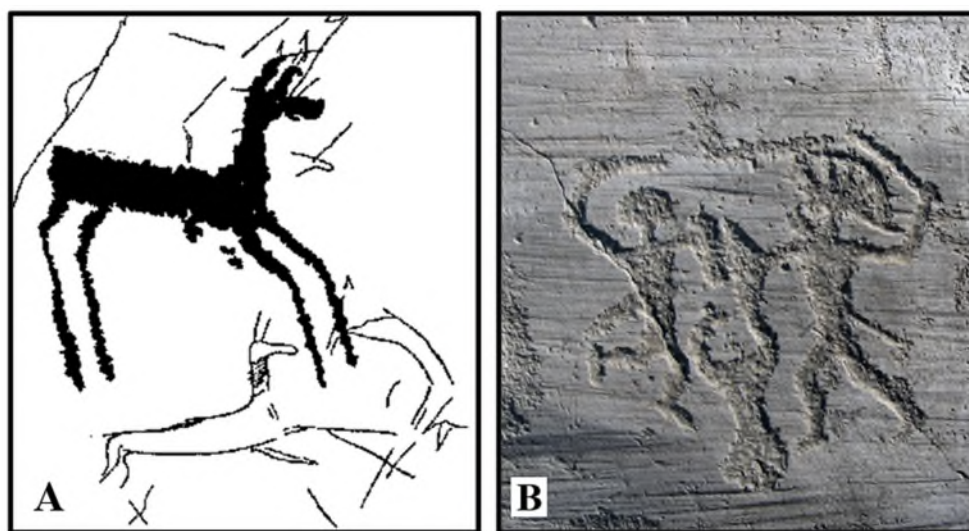
Figure 10. Valcamonica rock art techniques. A: Pecked and scratched figures from Dos Sulif Paspardo (after Marchi 1997); B: Pecked figures from Foppe di Nadro (after Rock Engravings Nature Reserve of Ceto 2023).

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[248] The filiform style is also always found in association with these pecked engravings, which may further support this assumption. (Marchi 1997)

[249] However, there are instances where complex figures and geometric shapes emerge but these are confined to much later periods (ca. 6th century B.C.E onwards) (Sansoni, Bettineschi, and Gavaldo 2016)

[250] (Sansoni, Bettineschi, and Gavaldo 2016)

[251] There are other elements such as superimposition, but this thesis will refrain from discussing these here, for discussions on superimposition see (G. Nash 2017; Alexander 2009)

Elements of style

Presented below is a table summarising the elements of style found at Valcamonica sites from the Neolithic until the Early Iron Age (ca. 5000 – 500 BCE) (Table 2).[252]This table shows that there is a clear development and evolution of style through the periods, yet, as the repetition of motifs evidently shows, there remain degrees of continuity and endurance through each period. As the style progresses, it appears to become gradually more realistic, more dynamic, and more descriptive as it grows more varied, more numerous and more structurally thematic as each period takes on a different stylistic practice. This table will be considered in further detail in relation to Monte Bego below.

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[252] This table has been created from a synthesis of literature and the author's observations of sites from graphic databases. The relevant sources used include (Anati 1976; P.J 1977; Anati 2000, 2004, 2009b; Marretta Tand Cittadini 2011; Casini 2013; Marretta 2013b, 2013a; A.E. Fossati 2015b; Marretta 2016; A.E. Fossati 2017; dell'Uomo 2016; EuroPreArt 2000)

Style	Period	Date BCE	Motifs	Features of motifs	Features of Composition
I	Neolithic	5000 - 3000	Animals	- Stags, Dogs, Ibex	- Lack of general composition. - Mainly schematic figures and geometric designs. - Astral symbols and stags are mainly predominant. - First domesticated animals appear.
			Anthropomorphs	- Stick-lined figure arms in exaltation	
			Weapons & Tools	- Spears, boomerangs, arrows, daggers, and spears, axes (rare).	
			Technologies & Productions	- Hoes, traps	
			Geometric, Other	- Astral symbols (sun?), horns, geometric designs, cup-marks	
II		3000 - 2800	Animals	- Stags, Dogs, Ibex, oxen/cattle (mainly horns), goats, snakes	- First attempts at abstract composition. - Emphasis on topographical compositions. - Large-sized anthropomorphic figures appear. - First anthropomorphic images on monoliths and standing stones. - Stage hunting is predominant. - First ploughs appear.
			Anthropomorphs	- Figures over 2m high - Various lined figures	
			Weapons & Tools	- Spears, axes, boomerangs, large triangular daggers	
			Technologies & Productions	- Hoes and Ploughs	
			Geometric, Other	- Astral symbols, snake patterns, cup-marks	
	Transition				- Stylised composition appears.
III	Chalcolithic	2800 - 2200	Animals	- Stags, Dogs, Ibex, oxen/cattle, goats, pigs	- Beginning of monumental art w/ one figure in the dominant role. - Typical Composition = Astral figures + isolated weapon + animal + anthropomorphs ploughing + ornamentation. - Principal motifs revolve around livestock, hunting, and agriculture. - Superposition of daggers and other weapons over animals. - Isolated weapons/tools are mainly predominant. - Wheels, Wagons, Ornaments, Textiles, Traps and Nets appear. - Statue-menhirs appear.
			Anthropomorphs	- First appearance of armed figures	
			Weapons & Tools	- Remedello daggers, halberds are most common.	
			Technologies & Productions	- Carts, looms, ploughs, nets and traps	
			Geometric, Other	- Makers signs, cup-marks, horns, spirals, torques, disks, series of parallel lines (belts, rugs collars, river lines?)	
	Bronze Age	2200 - 1200	Animals	- Same as the previous period	- Monumental art and themed scenes. - Compositions centred around weapons and tools. - Bronze Age-typed weapons appear. - New technologies: Looms and Weaving. - Detailed 'topographies' - Paddles appear. - 35% increase in anthropmorphs
			Anthropomorphs	- Ornated figures and armed figures	
			Weapons &Tools	- Sub-triangular daggers, battle axes, spears, shields, paddles, and shouldered daggers.	
			Technologies & Productions	- Same as the previous period, four-wheeled carts, looms and weaving	
			Geometric, Other	- Topographic 'maps'	

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[1] The term 'topographical' is used here to define geometric motifs that are delimited and subdivided and bring to mind the representation of settlements, buildings or agricultural plots. This follows (Arcà 2004b).

Style	Period	Date BCE	Motifs		Features of motifs	Features of Composition
IV	Bronze Age Transition	1200 – 800	Animals		- Stags, Dogs, Ibex, goats, pigs, fowl, (notably fewer cattle/oxen), horse	- Decline of monumental art. - Descriptive scenes become geometric and static. - Decrease in overall rock art production. - Human figures comprise 50% of corpus, animals falling below 10% . - The horse appears. - Isolated tools & weapons become rarer. - Styles become more uniformed and consistent
			Anthropomorphs		- Armed Figures - Arms perpendicular - Legs upside-down V shape - Shown duelling or drawing-up: - Duellists generally have curved Arms and handle daggers or sticks w/ helmets but no shields. - Drawn-up figures generally wear helmets and handle spears, axes or swords and hold round shields. - Hold tools & other objects. - Figures on horseback - Figures in profile	
			Weapons & Tools		- Spears, axes, bows and arrows, hoes, sickles, anvils, paddles, shields, helmets, swords, and picks are rare	
			Technologies & Productions		- Carts, ploughs, metallurgy, looms, nets and traps	
			Geometric, Other		- Idoliforms, topographies - Huts, barns, shrines, temples?	
	Iron Age	800 - 700	Animals		- Stags w/ rounded horns, Dogs, Ibex, goats, pigs, fowl, snakes, rabbits, unidentifiable, Oxen and their associated motifs (ploughs & carts) replaced by the appearance of the horse.	- Complete descriptive scenes depicting 'daily life'. - Isolated tools and weapons are rare. - Use of agricultural tools more often. - Numerous figures of structures appear. - Handicrafts are more common with metalwork, construction of wheels, and lumbering. - Armed figures represent nearly 25% of IV corpus. - Figures become more individualised. - Ox replaced by horse.
			Anthropomorphs		- Same as the previous period.	
			Weapons		- Oval-ellipsoidal, circular shields, crested helmets, spears and axes, swords are rare.	
			Technologies & Productions		- Same as the previous period, boats	
			Geometric, Other		- Same as previous period	
		700 - 500	Animals		- Same as the previous period, fish	- Miniatures, meticulous design, the perspective of larger scenes. - Figures have more dynamism, represented by bends and curves in limbs. - Emphasis on action and motion. - Increase of human figures by 14%.
			Anthropomorphs		- Raised arms with identifiable muscles (arms & legs) - Triangular or Trapezoidal shaped bodies w/ sometimes quadrangular contours. - Duellists have the same weaponry as the previous style. - Use of square blades increases from the previous style.	
			Weapons & Tools		- Round Shields, crested helmets with Iophos, spears, swords and axes w/ quadrangular blades	
			Technologies & Productions		Same as the previous period	
			Geometric, Other		Same as previous period	

Table 2. Features of Valcamonica's stylistic trends for each archaeological period (created by author).

ii. Western Tradition: Monte Bego

Environment: Localisation, accessibility and visibility.

Monte Bego refers to a mountain in the Mercantour National Park situated in the Alps-Maritimes (south-western Alps). The name also refers to the engraved rock art phenomenon that is distributed throughout the mountain's vicinity. The site belongs to the catchment area of the Upper Roya Valley in France, which covers a fourteen-kilometre range of dramatic peaks, deep valleys and high-altitude lakes (Figure 11).[254] This region is separated from the Gordolasque and Vesubie basin and tributaries of the Var River by the high mountain peaks of the Mont Mounier to the west and Mont Clapier to the east. However, several nearby passes allow travel through the Alpine range to be manageable by foot.[255] The area remains surmountable, with less than a five-hour walk to the Tende and Fenestra on the Italian border and only forty kilometres from the Mediterranean coast. Moreover, while the Roya River does not flow through the site, its proximity connects the Alpine area to the Mediterranean coast. It flows to the Tende Pass, where the nearby tributaries of the Po connect to the Italian plain. The terrain around Mont Bego is known to be rugged, with steep, rocky slopes and narrow ridges at altitudes ranging between 2000 and 2700 metres.[256] Nevertheless, despite the upland pasture, the Mont Bego area is buried in snow for six to nine months of the year, making accessibility a more seasonal venture.[257]
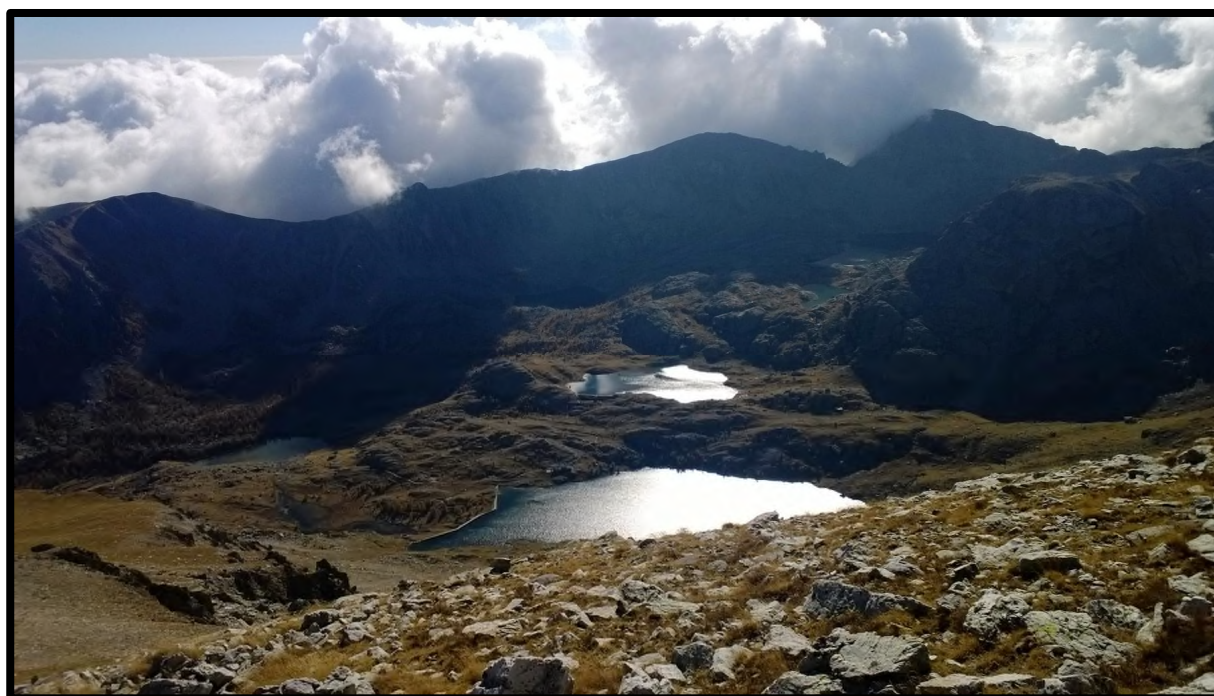
Figure 11. Merveilles Valley, Monte Bego (after Pr18 2018)

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[254] (Arcà 2009)
[255] Ibid.
[256] (De Lumley and Echassoux 2009)
[257] (Arcà 2013a)

The present landscape is the result of the Quaternary glaciers that eroded the landscape carving the deep U-shaped valleys and creating peat bogs and layered lakes.[258] The closest stable valley floor is located less than 2 hours of walking downhill from the lower limit of the Bego area. The retreat of the ice also exposed the great rock surfaces, with the Roya glacier generating polished rocks of shists (pelites), sandstone, gneisses, granites and carbonate.[259] Surprisingly, engravings have only ever been discovered on the shist and sandstone, where the purple, orange, red and green surfaces were chosen as the 'canvases' on which to produce the prehistoric engravings (Figure 12).[260]
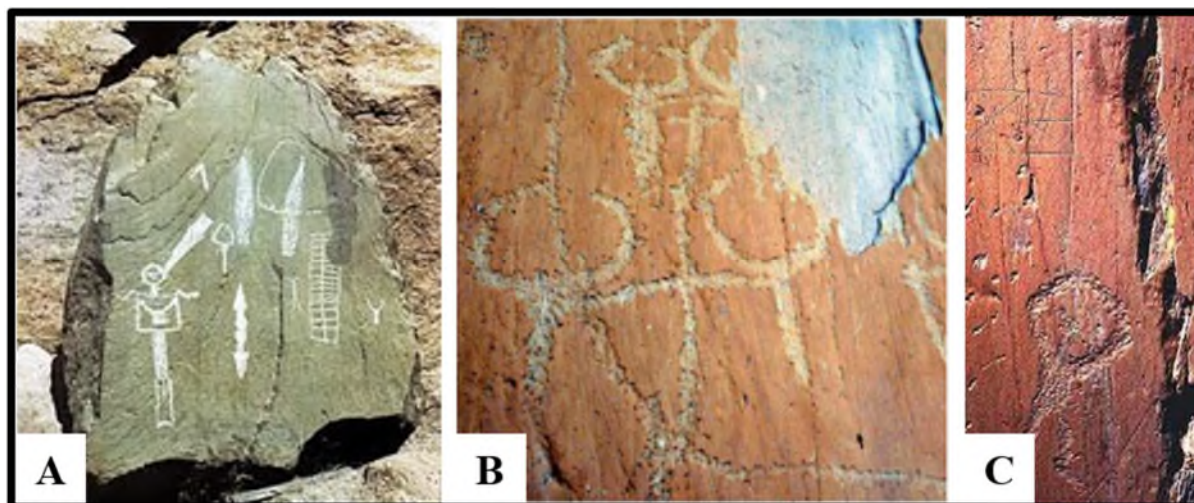
Figure 12. Images of Monte Bego rock art showing the different coloured surfaces. A: Chef de Tribu (after Lumley 2003); B: Monte Bego ploughing scenes (after Arca 2013); C: Man holding halberd (after Rupestre.net 1996a).

The engraved area is divided into seven principal sections, which are then subdivided into 23 zones (Figure 13). The principal sections containing the majority of the engravings are the Merveilles and Fontanalba valleys. Unsurprisingly, these valleys are near important pastoral paths and at the gateway of the engraved areas.[261] The rocks in these areas also possess a distinct triangular shape compared to the rest of the region. Generally, the petroglyphs are executed on the walls of the valley. Most of the engraved rocks are immovable open-air sites etched into the landscape of the valley, with one exception: *Stele du Chef de Tribu*.[262] To achieve the best visibility, it appears most of the figures follow the natural dips and grooves of the polished walls.

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[258] (Bianchi 2010)
[259] (De Lumley 2003)
[260] 65% of these engravings are found on green or orange shale, and only 35% on purple/red sandstones. Ibid.
[261] Ibid.
[262] (Thomas 2003) ; However, the absence of evidence is not evidence of absence, as the very notion of movable stones means that they can be moved.

Figure 13. Monte Bego map showing the principal sections and zones (after Bianchi 2010, Fig. 1)

Application Technique

The petroglyphs of Mont Bego possess a greater variety of stylistic techniques than their eastern counterpart. Indeed, four distinct techniques styles have been determined across the sites (Styles A-D) (Figure 14). Nevertheless, the process for application remains quite similar. The process involves creating round cupules by aligning minor cup-shaped marks next to each other to create the image. In some instances, the cupules are not joined together (Style C). The application was made using a hard stone, likely a quartz blunt point, and by applying pressure and rotation to create a strong abrasion of the rock.[263] Similar to Valcamonica, there are elements to suggest that a large number of engravings, in particular daggers, were sketched with a fine point before cupules were applied.[264] Some of the daggers are large enough to suggest that these weapons may have been held to the rock and traced.[265] Serrations in the rock appear to be used to the same effect as those in Valcamonica to enhance the worker's design. The relative chronology of the site has been based on these styles, with Style A being the earliest and continuing onwards chronologically to Style D.

❖ Style A is classified by small regular cupules and smooth engraving surfaces.

❖ Style B is shown by large cupules that are less regular.

❖ Style C is characterised by large cupules widely spaced a part.

❖ Style D is categorised by elongated and spaced cupules that are hammered outwards.
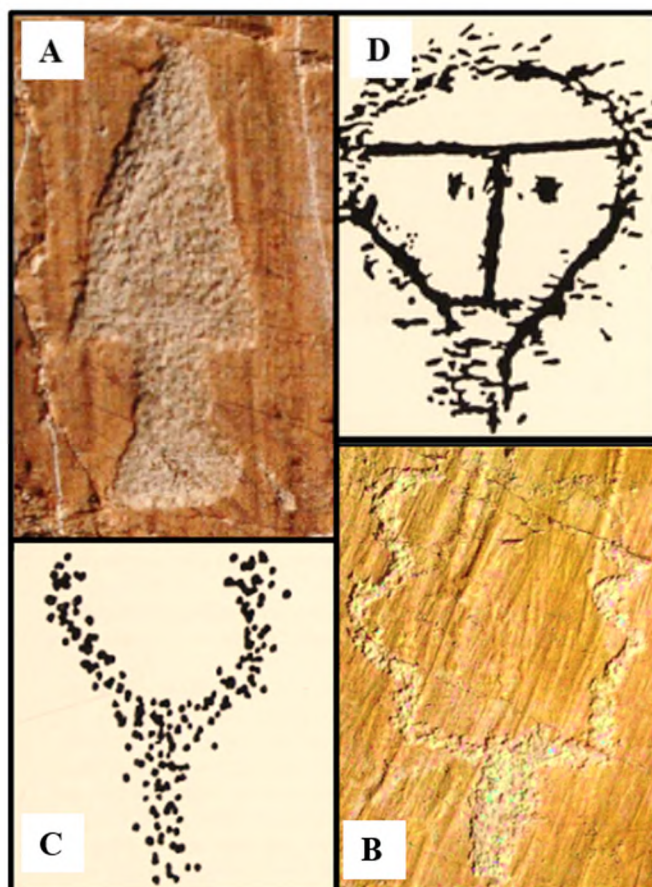
Figure 14. Monte Bego's Pecking Styles (after De Lumley 2003)

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[263] (Iglesias 2008)
[264] (De Lumley 2003)
[265] Ibid.

Elements of style

Presented below is a table summarising the elements of style found at Monte Bego sites from the Neolithic until the FBA (ca. 5000 – 1200 BCE) (Table 3).[266] Unlike Valcamonica, this table does not include elements from the beginning of the FBA, as this is when scholars have noted that all new production of rock art in the region ceased.[267] Further contrasting Valcamonica, there is a higher degree of monothematic structure, showing a significant degree of continuity and endurance through each period. There is also decidedly less compositional structure to rock art despite the belief from scholars that the figures consist of one single archaeological event.[268] Nevertheless, where Valcamonica has been categorised with over ten different motifs by rock specialists in the literature,[269] Monte Bego fits well within the five categories used in this thesis. De Lumley and scholars under his purview have been able to establish that anthropomorphs (1.2%), corniforms (45%), weapons and tools (4%) and geometric figures (7%), non-representative (42.8%) (cupules & unclassified figures) comprise the whole corpus.[270] This table will be considered in further detail in relation to Valcamonica below.

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[266] This table has been created from a synthesis of the literature. The relevant sources used include (Bicknell 1913; De Lumley 2003; Thomas 2003; De Lumley and Echassoux 2009; Bianchi 2010; Arcà 2013a; Huet and Bianchi 2016)

[267] (Arcà 2009, 2013b; De Lumley 2003; Iglesias 2008; Huet and Bianchi 2016; Mourey and Bianchi 2021)

[268] The hypothesis that all the rock engravings can be considered as a single archaeological event (De Lumley 2003)seems to be contradicted by studies of superimpositions (Huet 2017). However, if this assumption was correct, what purpose would be served by such a variance in the application techniques described above?

[269] (Anati 1976)

[270] (De Lumley 2003)

Style	Period	Date BCE	Motifs	Stylistic features of motifs	Features of Composition
IA	Neolithic	5000 - 3900	Animals	- None	- Dominated by topographical compositions (rings) - Preoccupation with corniforms begins
			Anthropomorphs	- Stick body, horned figures (no heads)	
			Weapons & Tools	- None	
			Technologies & Productions	- None	
			Geometric, Other	- Topographical representations (ring type) - Spirals	
IB		3900 - 2800	Animals	- Bovids horn no bodies	- Dominated by topographical compositions (geometric) - Corniforms appear - Schematic designs
			Anthropomorphs	- Stick body, horned figures (no heads)	
			Weapons & Tools	- None	
			Technologies & Productions	- ploughs	
			Geometric, Other	- Topographical representation (geometric type) - Abstract frilled figures, square/rectangle shaped with fringes, perimeters, areas and dots	
II A/B	Chalcolithic	2800 - 2200	Animals	- Bovid represented by stick body circle horned figures attached by ploughing implements - Bovid become full square-bodied	- Corniforms and ploughing scenes are numerous - Isolated weapons and tools appear - Menhir (1) with three logoi structure - Anthropomorphs are rare
			Anthropomorphs	- Small torses, long limbs, upturned arms, heads included, armed figures mainly axes/ploughs, gendered elements (genitals) - Horned figures - Large hands - Halo figures	
			Weapons & Tools	- Triangular blades of Bell Beaker type, detailed weapons - Straight-based halberds - Rhomboidal daggers or drooping shoulders - Halberds with elongated triangular blades	
			Technologies & Productions	- Linear body ploughs - ards, wheels, spade ploughs	
			Geometric, Other	- Same as the previous period, connecting lines (meanders?)	
III	Bronze Age	2200 - 1200	Animals	- Oxen represented by square-body horned figures	- Rock carvings are 'unrealistic'. - Paddles appear - Anthropomorphs are rare
			Anthropomorphs	- Associated with ploughing scenes or weapons	
			Weapons & Tools	- Rounded-heeled blades - Daggers with protruding guard and arched base - Halberds with arched base	
			Technologies & Productions	- Hoe-type ploughs, paddles	
			Geometric, Other	- Same as the previous period.	
N/A	Bronze Age Transition	1200-800			

Table 3. Features of Monte Bego's stylistic trends for each archaeological period (created by author).

iii. Constellations of Practice

The archaeological context of this thesis has already established that connections and relationships between the people of the Alpine sphere were evident and long established. As this is a requirement for the constellations of practice to emerge, it is unmistakable that this thesis can now move forward with observing how the constellation of rock art appeared across the region, providing the 'cultural' context for this study.[271] This will be done by examining the overlapping styles, joint practice and shared agents between these separate domains that create a connective distributed knowledge system. However, this system should not be seen in terms of specifics but rather shared relations and elements constructed in both regional and local contexts.

The environmental contexts of these two sites, which are used as the metric for east and western traditions, differ fundamentally, but they also share some important commonalities. Both sites appear in open-air contexts near Alpine passes, rivers and lakes. This association with water is a consistent trend that can be seen to be followed with other rock sites throughout the region.[272] This study would argue here that they also both appear in valleys with a high degree of panoramic views (Figure 16).[273] While previous authors have noted that Monte Bego is at a higher altitude with an environment that leans more toward upper pastoralism and therefore varies decidedly from the lower Valcamonica floor, the sites still sit within the V shape of a valley structure (Figure 15).[274] Although other sites throughout the region may not be placed in lower valleys, panoramic views remain a constant practice.[275] However, while both sites present themselves as accessible, Monte Bego appears to be slightly more secluded.
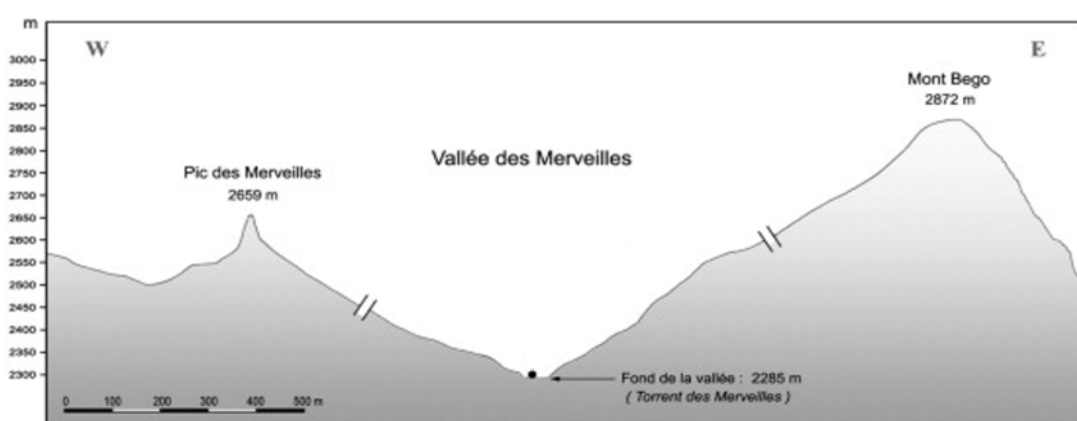
Figure 15. V-shaped valley of Merveilles in Monte Bego area (after De Lumley et al. 2010, fig. 3).

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[271] (Sassaman 2016, 274)
[272] (dell'Uomo 2016)
[273] This is in contrast to Arca, who does not view Monte Bego area as a valley due to its higher elevation. (Arcà 2009)
[274] Ibid.
[275] (Arcà 2004a)

If we follow Barry Cunliffe's premise that rivers were the 'highways of the continent', Monte Bego could be considered the more 'scenic route' off the highway.[276] In this analogy, the Roya and Gordolasques Rivers would act as the main highways, with their smaller tributaries leading into the 'scenic' mountain area. The Roya and Gordolasques Rivers can be seen to connect the area more readily around the site than the smaller streams and rivers that flow through the Monte Bego complex. However, this does not mean that the area was not readily traversable. Many mountain paths lead throughout the range into the foothills of France and Italy, as seen today.[277] On the other hand, the eastern site is well situated with access to the Oglio River connecting the site to central Europe in the north and the Po valley to the south, which by extension opens up to provide movement throughout the whole landscape onto the Mediterranean, Western Europe, and central Italy.

Figure 16. Panoramic view from Alpine Rock art sites; A:Cup-marked rock, Val Chisone; B: Susa Valley, Rocca del Chiodo (after dell'Uomo 2016)

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[276] (B. Cunliffe 2008)
[277] (De Lumley 2003)

Nevertheless, on either hand, the question of movement between these places and others throughout the region is not contested, and their association with Alpine passes should not be overlooked (Figure 5). Indeed, there is an argument here that such positioning of these sites in the landscape and on immovable and endurable canvases may have lent them to being recognised as reliable sights or points similar to geographical markers.[278] However, this notion may be more applicable to the smaller rock art sites, which could be viewed as boundaries of knowledge, than those with more extended periods of occupation and production. Whereas the consistent visitation of the two poles suggests, these were more than just waystations or passing markers but domains of knowledge woven into the larger social sphere. These 'markers' could have been adapted by the community for their use to act not only as landmarks but as brokers of knowledge by transferring information from person to rock and rock to person. As a result, the association with water may be more of a consequence of the more economical and social practices taking place within and between these spaces, such as metallurgy, agriculture, pastoralism, and habitation, all elements which can be seen in the archaeological assemblage.[279] Indeed, in remembering that rock art has a generative capacity as a multi-scalar phenomenon filled with agency and teeming with activity, sociability and memory, it is reasonable to label rock art sites as knowledge domains.[280] In this sense, it is the space where the community can constantly refresh "what it knows", adding to it, modifying it, and deleting it.[281] The acts of modifying and deleting can be seen in how motifs are reshaped or superimposed with new images throughout the periods, as community members may be seen in this manner to be setting or re-setting new priorities towards practice.[282] Thus, part of this knowledge exchange can also come from the techniques used in applying this rock art.

The Pleistocene glaciers left behind a hard polished canvas across the region, on which communities began to engrave and peck the rock art. Notably, while other polished rock surfaces existed for potentially the same purpose of use, it appears that the practice for applying these images on stone was to be sandstone and schist rocks only. Indeed, Nash notes that all the engraved rocks in the Valcamonica region account for less than 1% of the total rock outcrops available. [283] As mentioned above, Monte Bego had various stone types, suggesting that workers had a tremendous amount of agency in choosing which rocks were selected for specific purposes. Scholars have suggested that such choices may have been prompted by the desire to reflect the landscape in their images and bring a particular

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[278] (Melheim and Sand-Eriksen 2020)
[279] Refer to Chapter Three for evidence of pastoralism, metallurgy and habitation practices.
[280] (Zawadzka 2021)
[281] (Gongla and Rizzuto 2003)
[282] (Alexander 2009; Huet 2012)
[283] (G. Nash 2017)

topographical life to their creation by having the rock act as the microcosm for what stands in the landscape.[284] Interestingly despite Monte Bego and Valcamonica being described as landscape art, no motifs or signs can be seen to depict identifiable natural landscapes, i.e., no distinguishable mountains, rivers, plants or trees, at least none recognisable to scholars today.[285] The relationship between audience and image is essential to remember, as while some of these application practices seem somewhat representational and casual in nature, as if the worker only responds to the available environment, the activity of rock art is quite a performative process.[286] The process of application has the capacity to echo not only sound but memory and knowledge through the image. Indeed, there is an intimate relationship that is established between the applicator and the audience, even today, and the accessibility of these sites would suggest that the audience was not overly restrictive.[287] The very nature of open-air complexes even expands the site's capacity to receive an audience that is not strictly human.[288] While notions of representations here may lead towards a more speculative analysis, it is important to stress once again that these images can convey knowledge of more than just technique and style. Yet, style elements remain essential for recognising the communities of practice that overlap.

Beginning with the Neolithic, a large part of Monte Bego's art seems to relate to this period (ca. 5000-2800 BCE). It is also the period in which scholars have found the most remarkable unity between Alpine rock art, specifically between the geometric motifs.[289] This thesis has used topographical motifs to describe these standard geometric modules that consist of a filled or contoured area, with dots or lines confined within.[290] Indeed, the formal correspondence between the sites for these types of motifs is unparalleled in the proceeding periods. The sites also share a preoccupation with animals. Although the stylistic features that determine these animals differ (Valcamonica representing a variety of wild animals vs. Monte Bego's corniforms), this period has often been associated with rock art scholarship as one of animal worship.[291] Part of this belief in their worship comes from the appearance of anthropomorphs in exaltation (arms raised).[292] However, if we consider the events occurring in the archaeological context, the beginning of the Neolithic period caused a clearing of the land that was beneficial towards agriculture and pastoral motivations.[293] This may suggest

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[284] (G. Nash 2017; Chippendale 2004; A. Fossati 2011)
[285] (Arcà 2004b)
[286] Practicalities could simply refer to choosing the right kind of stone that is soft enough for carving but hard enough to withstand weathering.
[287] (Bradley 2009)
[288] This does not have to be restricted to physical beings either it could be ethereal, metaphysical or spiritual.
[289] (Arcà 2004b)
[290] Refer Valcamonica on Foppe di Nadro r. 23 and at Monte Bego Roccia dei 300 (z. XIX gr. IV r. 21a) in Fontanalba
[291] (Anati 1976; A.E. Fossati 2015b; Robb 2020; Mourey and Bianchi 2020)
[292] There is some contestation regarding the dating of some of these 'praying' figures at Valcamonica see (Arcà 2015)
[293] See Chapter Three, Footnote 176-180

that these were the supporting organisational structures surrounding the practices of rock art throughout the region.

Following the Neolithic are the metal ages concerned with the various metals' ores of the corresponding names for the periods. The metal ages are decidedly preoccupied with representations of weapons and tools. Scholars have been able to create the relative chronologies of rock art in the Alpine region on the basis of identifying these motifs as such. The Remedello-type dagger is the most recognised and most popular representation of weapons across both sites and the rest of the Alpine region, appearing noticeably in the archaeological record as well.[294] Its appearance sets the beginning limits for the Copper Age rock art style (ca. 2800-2500). The predominant focus of Copper Age rock art appears to be the 'faithful' depiction of weapons and tools in isolation.[295] However, this does not mean that they stand alone during this period, only that they are shown passively, not actively, in the hands of anthropomorphs.[296] Moreover, copper age figures do not seem to appear randomly together but appear to adhere to a more specific order or pattern, almost following more strict rules of practice.[297] These new 'rules' of practice appear from the repetition and consistency of the composition during this period. The characteristics of this production framework are the appearance of at least three motifs: geometric sign (typically astral imagery), a weapon (typically Remedello dagger), animals and anthropomorph together (typically ploughing scenes or deer and 'hunter').[298] This mark the first serious break in unity between the areas as Valcamonica is seen to create a more streamlined composition structure along with an increase in the use of menhirs.[299] "The Chieftain" at Monte Bego is the only exception that shares this monumental composition seen more consistently in Valcamonica (Figure 9. A).[300] Indeed, even though the copper age styles are commonly referred to as a period concerned with the 'cult of weapons', this did not appear to hold the same attention for the Monte Bego practice, which had not moved past the 'cult of animals'.[301] While the Copper Age brings an association of these figures with weapons and tools, animals in association with ploughs remain the central focus in the west more so than the eastern site.[302] However, it should be noted that menhirs have a distinctive characteristic in that they are more moveable than the

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[294] Remedello type can also be associated with Rinaldone, Spilamberto triangular-shaped copper aged daggers. (Medici 2019)
[295] Weapons and tools become much hard to categorise when held by anthropomorphic as their scale is generally reduced along with their detail.
[296] There is instance where the daggers are shown alone without relation to another figure.
[297] (Anati 2009a)
[298] The typical images can vary but the cluster of motifs generally stays the same refer for example (Anati 1976, 85, Fig.74 and 75)
[299] (Arcà 2009)
[300] (De Lumley et al. 2010)
[301] (Anati 2009b) Given the lack of archaeological evidence in this sphere for metals this is not surprising. Instead the Western site is decidedly more focused on animal motifs (horns) and associated ploughs which would coincide with the continued practice of agriculture and pastoralism in the area, based on archaeological evidence of 'shepherd huts'. (Mourey and Bianchi 2020; Arcà 2004b)
[302] 50 ploughing scenes are counted in Valcamonica compared to 571 scenes in Monte Bego (Arcà 2009)

out-crops, and it is often difficult for scholars to pinpoint their original contexts if they are not found *in situ*.[303] Thus, the possibility remains that others were made following similar composition and motif use to Valcamonica but were moved. With the composition being shared in other menhirs and immovable stones across the Alpine region, such as western sites in the Piedmont, Aosta Valley, Valais, Lombardy, Trentino-Alto Adige, and more, this could be possible.[304] Nevertheless, the end of the Copper Age seems to mark the more decisive shift between the two sites leading into the Early Bronze Age.

Variation in motif types between the sites becomes more obvious during the Bronze age. However, the stylistic progress remains relatively similar, where similar types of motifs are represented. In the Copper Age, animals were more likely to be represented with stick bodies. In the Bronze Age, the same animals (while different kinds at either site) were produced with fuller bodies as they became more rounded or square.[305] Where the two sites begin to vary is in the representative details within the types of motifs. Motifs within technologies and production of Valcamonica increase to include four-wheeled carts pulled by animals, looms and weaving. Also, geometric figures become decidedly more intricate in Valcamonica, were the famous 'Bedolina map' comes into production.[306] Valcamonica continuously seems to add new elements of knowledge to the rocks in terms of style, composition and motif types. Whereas Monte Bego, while incorporating new elements in terms of weapons and tools that dominate the new age, as well as stylistic changes to reflect fuller bodies in animals and anthropomorphs, stays, as many scholars have noted in the past, largely monothematic.[307] The motivations of the community in this Western sphere do not seem to change much from one period to the next except to reflect the new types of weapons and tools newly developed in the archaeological sphere. While the Bronze Age seems to have retained a vast majority of its standard practice that had already been established in the previous ages, it is around the 1200 B.C.E transition phase that we begin to see the focus shift from weapons and tools onto individual anthropomorphic figures, specifically the armed ornated figure.[308]

The FBA brings with it an end to the production of new motifs in the Monte Bego region for the prehistoric periods. Scholars have noted that this period also shares a decline in the production of the menhirs at Valcamonica, with motifs confined primarily to the outcrops of the valley.[309] These outcrops also reflect a new motivation geared towards representations of

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[303] (G. Nash 2017)
[304] (Arcà 2013a)
[305] (Arcà 2013a, Fig. 24)
[306] (Anati 1976, 110, Fig. 100 and 101)
[307] (De Lumley 2003)
[308] Scholars have suggested this marks a changing ideology from a 'cult of weapons' to a 'cult of man (warrior)'. (Bevan 2006; Marretta 2013b, 2016; Anati 1976)
[309] (Anati 2014)

individualised anthropomorphs which now comprise 50% of the corpus production.[310] The majority of these anthropomorphs now carry weapons and are shown in what appears to be a duelling or drawing-up composition.[311] Anthropomorphs also appear riding horses, and scholars have noted that such composition of motifs correlates to the representation of a new kind of social or perhaps economical figure.[312] This may be in response to the changes that are reflected in the archaeological record, which shows an increase towards metal products and luxury goods.[313] Similar to the suggestion that agriculture and pastoralism were the supporting organisational structure for the Neolithic period, perhaps here a new change is reflected, one that depends on the trade of metals through the region. Indeed, the arrival of this ornated figure became the main depiction for the proceeding Early Iron Age period (ca. 800-500 B.C.E) and onwards.[314]

The only representation of Iron Age practices between these two sites comes from Valcamonica, as Monte Bego remains uncarved since the beginning of the FBA. In this period, the production style rapidly developed as the engraved images became more spatial and the figures more consistent.[315] Scholars have even applied further sub-phases for this period based on the consistent styles between the ornated anthropomorphic figures.[316]While the technique and material have not changed since the Neolithic, the stylistic practice has undoubtedly taken on new life. An increase towards technologies and production motifs reflects new economic endeavours from metallurgy to textile production, and geometric figures take on the appearance of structures and buildings (Figure 17).[317] 'Contiguous scenes' appear in the Iron Age, in which figures appear together in groups that reasonably reflect spatial order manifesting as a cohesive thematic scene.[318] Above all, the 'warrior' takes centre stage (Figure 18). This classification of the 'warrior' by scholars refers to the regular occurrence during this period of anthropomorphs ornamented, brandishing weapons, and sometimes riding a horse.[319] Regardless of the interpretation of this composed motif, there is a clear goal here to increase the stylistic individualisation of anthropomorphs. By making them appear more 'active' in the art, not just in perceived movement, as in previous periods, anthropomorphs are generally front on and static, but also in this type of ornamentation, ornamentation which can also be witnessed in the burial practices of the FBA

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[310] (Marretta 2013b)
[311] (A.E. Fossati 2015a, Fig. 3)
[312] Economical in the sense that mercenaries are known to have been popular during the Bronze age period (Harding 1999; Bevan 2006; C. Iaia 2009; Fokkens and Harding 2013; Robb 2020)
[313] See Chapter Three ref. 205.
[314] (Marretta 2013b)
[315] (Marretta 2013b)
[316] (A. Fossati 1991)
[317] (Anati 2009b)
[318] (Marretta 2016)
[319] (A.E. Fossati 2015a, Fig. 3)

and EIA.[320] Indeed, while the bodies of anthropomorphs generally stay standardised, it is how they are equipped that distinguishes them throughout the periods.[321] This uniqueness of this eastern site between the two predominant spheres presented here is made all the more apparent by the absence of Monte Bego practice during these final two prehistoric periods. However, although Monte Bego produces no new engravings, this does not mean that the entire western sphere is absent during the Iron Age. As this thesis has already alluded to, these two poles and their practices are not isolated. While Monte Bego and Valcamonica dominate most of the rock art literature in Italian, French and German scholarship, valuable engraved rocks, and petroglyphic complexes remain scattered along the Alpine arc.

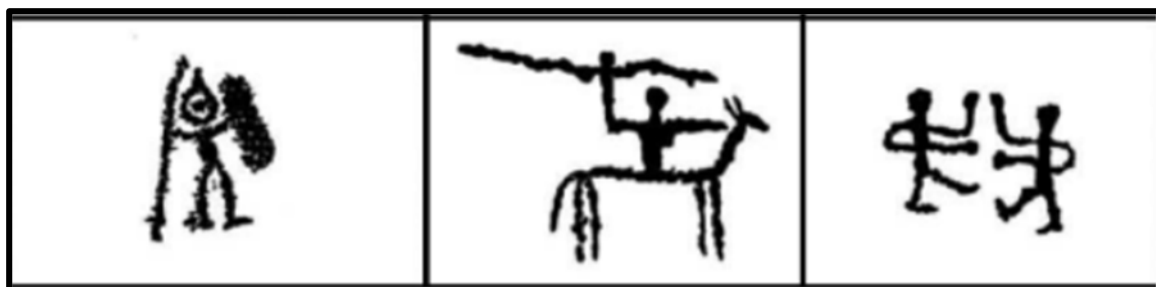*Figure 17. Weaving loom tracing and building structure (after Anati 2009)*

Figure 18. The "warrior" (after Fossati 2015, part of Fig.3 showing figures relating to FBA)

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[320] See Chapter Three, footnote. 212
[321] (A.E. Fossati 2015a, Fig. 3)

iv. Between two poles

Other dispersions of rock art in the Alpine region constitute a noticeable corpus that contributes to the peculiar patterns and phenomena developing during the Neolithic, Copper, Bronze and Iron ages. However, as the similarities between the two poles have already shown, these traditions are not so distinct that they are removed from one another. Indeed, some of the same stylistic trends that are present in these smaller domains appear as if the same workers could have created them.

As has already been made clear from reviewing the two main hubs of rock art in the region, the earlier periods seem to show a great unity amongst the elements of style. Indeed, there are more connections to be made between sites from the Neolithic period to the Early Bronze Age as there exists such a substantial similarity in the style and figurative approach of the various rock art groups across the Alpine area.[322] However, the difference in subject matter and concepts does grow increasingly apart as time goes on, ultimately defining the 'character' of each significant concentration of rock art across the Alps, perhaps as different relationships grow and decline. This suggests (at least initially) that the rock artists of Alpine art were intimately connected or at least shared the same motivations and knowledge that a person travelling from one Alpine area to another would not find the area and the society within so alien from their own. However, rock art's more locally distinctive features indicate each group's differing experiences, influences (internal and external), exchanges, and developments. As can be witnessed from the comparison of Monte Bego and Valcamonica, the most significant evidence for the east-west division in the art appears most noticeably during Bronze Age Transition (1200 BCE) when any new additions between the two poles are confined to Valcamonica, where the practice seems to take on new and expansive life. However, while this might suggest that the western practice of creating rock art has disappeared, the reality is that this only seems to apply to the Monte Bego area. Indeed, scholars have identified rock art sites in the western sphere for periods relating to the FBA/EIA (ca. 1200 – 500 B.C.E) and onwards.

Nevertheless, these western based sites do not seem to follow the same style and monothematic structure of Monte Bego's practices. Instead, these sites pertain to the Eastern tradition in style, motif type and composition, and application technique.[323] Indeed, these Western-based sites are produced by pecking and filiform practices like those found in Valcamonica.[324] As a result, from the Bronze Age onwards, Alpine rock art, both in the

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[322] (Arcà 2004a) (EuroPreArt 2000)
[323] (Arcà 2004a; EuroPreArt 2000)
[324] Except in the cases of paintings which this thesis does not address.

eastern and western spheres, can be seen to follow the practices embodied within the Valcamonica tradition attesting to a larger domain of knowledge shared throughout the region.[325] Therefore, from the transitional phase beginning ca. 1200 B.C.E, it seems no longer prudent to speak of an east vs west division in the rock art as the eastern tradition becomes widespread and the site that was once the western base (Monte Bego) can be considered the variation in an otherwise unified community of practice. However, while there is a great tendency of the western sites for eastern disposition, these sites retain a degree of regional delimitation and local variations that would suggest a local leadership and learning network was still in place.[326] Thus these sites should continue to be viewed as part of the large constellation that is the practice of rock art. Nevertheless, it is clear that, to a certain degree, the interactions between the members of these communities were overlapping more regularly, resulting in the expression of shared knowledge that had been transmitted from one person to the next, one site to the next. Indeed, having examined the area around these sites in the archaeological chapter, it is worth noting that they possess relative proximity to the Saint Venan smelting and mining sites.[327] The slag types of this mining site can be recognised for their considerable dispersed around the Euro-Mediterranean and Alpine region.[328] This recognition may support the assumption made above that these stylistic changes represented in the FBA and EIA rock art could be due to the trade and bronze age industry being the supporting structure around the practice of rock art. As a result, there could be evidence to suggest here that these sites were starting to develop a co-dependence that was resulting in the expression of a style that was becoming somewhat "mainstream" across the region, with each of the rock art sites act as domains for the prevailing practice. Now that the rock art phenomenon's theoretical, physical and 'cultural' assemblages have been fully established, and elements of practice and constellation have been determined, this thesis will now discuss what there is and how it exists in relation to the continuities, discrepancies and shifts within and between these communities of practice during the FBA.

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[325] (Arcà 2004a; EuroPreArt 2000)

[326] Indeed, some Western rock art sites even appear outside of the usual open-air complexes, and painted shelters seem to penetrate the high altitudes of the Western Alps more prevalently than the East, where engravings dominate. These divergent finds only further highlight the need for us to consider not only the stylistic elements of rock art but the space in which they have come into being.

[327] Refer Chapter Three ref 198-202

[328] Ibid.

V. COMBINING THE ASSEMBLAGE (LEVEL 4)

Having investigated and presented the different levels of the assemblage, this chapter will combine these together to examine and discuss the patterns and interactions between and within the rock art phenomenon as a community of practice during the FBA. More specifically, having looked at what there is and how it exists at each of the previous levels, this chapter seeks to offer suggestions as to why these practices might have evolved, adapted, endured or faded during the FBA and further suggest the potential factors that seem to precipitate and encourage these transformations. In the methodology of this thesis, we outlined the two motivating factors that might have precipitated or encouraged the adaptations, evolutions and 'disappearance' of practices in the FBA. These factors were organisational change and knowledge domain change. Thus, this chapter will review these motivators in relation primarily to the two most noticeable reactions in the rock art assemblage and suggest how these motivators may have impacted the developments of the practices during the FBA. The two most noticeable reactions recognised by this author are:

1. The Valcamonica (eastern pole) community of rock art practice seems to have evolved, increased, and expanded its practice.
2. The Monte Bego (western pole) community of rock art practice appeared to cease any new productions and seemed to 'disappear'.

While these occurrences are easily recognisable in examining rock art alone, understanding the patterns and motives behind why these transpired is considerably more challenging and necessitates using all the assemblage levels to achieve a more comprehensive understanding of the phenomenon. The framework of communities of practice and constellations of practice that has further embodied our understanding of the rock art phenomenon through this thesis provides the necessary tools for applying such an approach as the communities of practice look at the local level and the constellation of practice reviews the regional level. Thus, this chapter will begin by zooming in on the more local interactions between the sites that may have contributed to the reactions witnessed above in the FBA and then zoom out to make some hypotheses about the region in a discussion and application of this theory to the Alpine region. Therefore, by working back through the chains that produced and supported them, this chapter will extend and expose the relationships within rock art, bringing it out of isolated studies into a fuller and richer assemblage.

i. The Rock Art Phenomenon

Through each of the different levels of the assemblage, this thesis has suggested the existence of some of the potential organisation structures that appeared to have supported or interacted with, directly or indirectly, the practices of rock art. Having determined that these organisational structures may refer to the economic, social, or physical spheres, this thesis identified the most prominent elements in the archaeological and rock art record. These elements primarily referred to trade, industry, agriculture, pastoralism and environment. Each of these elements was seen to have an additional impact on how the domains of knowledge came together. The most recognisable organisational changes throughout this thesis were those connected to the physical, specifically environmental, changes. The climatic changes that overcast the prehistoric periods seemed to have been felt most prevalently in the western sphere at Monte Bego.

During the FBA, the physical (environmental) structure that can be seen to support the use of Monte Bego as a domain of knowledge may have turned hostile and obstructive to the communities of practice in this region. Indeed, the cold climatic shift caused by the Leobban glaciers meant that those areas located at higher elevation points of the Alps, such as Monte Bego, would have experienced a colder and much harsher environment than was previously experienced.[329] It has already been noted that, likely six-nine months of the year, the area around Monte Bego was covered by snow, suggesting the visitations to the site were mainly seasonal in nature. As the climate became colder, it was more likely that Monte Bego was no longer accessible even during these more seasonal months.[330] While it can be recognised that environmental determinism discourses associated with Alpine archaeology may be flawed, the colder climate around Mont Bego may have made traversing and engaging in these economic pursuits of this area much less likely due to increased snow and ice terrain.[331] Subsequently, an interruption to the seasonal pasture may have likewise brought with it the end of the engraving practice in Monte Bego. Even if pastoralism was not the driving factor for venturing into this area, the site itself would have been difficult for humans or animals to navigate.[332] Thus, due to an inability to access this domain of knowledge, this community 'disappears'. By using the term 'disappears', this thesis acknowledges that the community is no longer an operational entity with an active network or domain of knowledge.[333] However, this should not imply that the community ceases to exist or that all knowledge of its existence is obliterated. Yet under this understanding, why do we not see new domains of Monte Bego

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[329] (Bianchi 2016)

[330] Remarkably, the climatic changes and concomitant deforestation would have likely contributed to high-altitude pastoralism in the proceeding periods and during this period (at lower elevations).

[331] (K. Walsh and Mocci 2011; Kevin Walsh 2014)

[332] (K. Walsh and Mocci 2011, 95)

[333] (Gongla and Rizzuto 2003)

rock art appearing in other accessible domains? Indeed, as this thesis pointed out, the areas around Monte Bego were scattered with a vast expanse of rocks that would have appeared nearby at lower and kinder elevation points and provided the canvas necessary to continue the practice. Yet, there are no recorded findings of such engravings at these lower valley points around Monte Bego. So perhaps there is more agency here than simply a change in the physical structure or access to the domain of knowledge.

Although the western sphere has not provided up to date a solid archaeological record or any rock art from which to draw during the FBA period, the connective basis that has bound the Eastern and Western practices together may provide the foundation on which to draw some assumptions about the patterns occurring in Monte Bego, which do not rely upon environmental determinism. As the archaeological record of this thesis has shown, the people living in this region had a considerable capacity to adapt to their environment. More than simply adapting, they capitalised upon it. During the early periods of the colder European sub-boreal phase (ca. 3500 BCE), the archaeological record, as outlined in this thesis, began to reflect this capitalisation in the form of assisted land clearings to make way for agriculture and pastoralism.[334] Moreover, if we accept the representations of the ploughing, hoe technologies, animals and posited topography motifs, the rock art in both regions seems to fit within our understanding of what is occurring in the archaeology. Indeed, what we see reflected in these different assemblages is a community functioning around agriculture and pastoral motivations. Moreover, similar relations between the areas seemed to have persisted even as new elements arose in the Copper Age when similar copper age weapons and tools became prevalent in the art and the archaeological record. During the Bronze Age, it is clear new relationships may have been formed based on the increased evidence of trade and industry in the East. However, we can also see connections reform between the east and the west in the FBA. This reconnection is made evident by both the rock art and copper slags found within and between Valcamonica and the smaller western rock art sites clustered around the Saint Veran mining site.[335] Therefore, although interconnections between the eastern and western spheres can be seen to fluctuate due to changes, perhaps in the strength of current relationships or the formation of new ones, it is possible that a degree of interconnection may still have existed, albeit in a modified form. Such connections may have been maintained due to the shared and overlapping constellations of factors that this thesis has identified throughout the archaeological and rock art record. Thus, it may be plausible to assume that the changes in priorities and the organisational structures observed in the east

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[334] See Chapter Three, footnotes 175-179
[335] See Chapter Three, footnotes 191-195

could have a correlative impact on the West under this constellation of practice framework. Consequently, by now analysing the developments and patterns that seemed to have emerged from Valcamonica and the eastern archaeology of this period, this thesis might then suggest why the practice of Monte Bego seems to disappear.

In the eastern sphere, similar somewhat to Monte Bego, the FBA period begins with the abandonment of settlement sites.[336] However, unlike Monte Bego, the archaeological record reflects that new sites were created in their place. Although not exactly in the same place, as these sites can be seen to now dominate critical points in the landscape, potentially affecting the flow of travel and trade throughout this part of the region. While the movement of these sites may have resulted from the referenced climatic changes, the positioning in the landscape suggests that additional motivations may have precipitated the change. Indeed, the archaeology reflects a markable growth in the sizes of these new sites, suggesting that while fewer settlement sites had emerged in the FBA, they had emerged bigger.[337] Under the assumption that the previous smaller sites had combined to form these more significant sites, it would be plausible to assume that such nucleation would have brought together members from similar but perhaps slightly removed communities. Such organisational changes to the social and economic structures could have prompted new priorities and knowledge of the practice. Directly or indirectly, the rock art would have been involved in these processes of realignment between different communities in different domains around the valley. This would appear to be the case in reviewing the rock art of the Valcamonica complexes, as new motifs emerged to reflect not only additional technologies, like looms with weavers and metallurgists, but also new ways of ornamentation for anthropomorphs not previously reflected in the rock art. At this point in time, ornamentation is also matched in the archaeology, with swords and jewellery discovered in burials, suggesting there was a motivation across different practices to reflect these elements of anthropomorphic portrayal.[338] Furthermore, these new settlements sites reflect deposits of luxurious goods and almost a commercialised industry based on metallurgical productions, which suggest a higher degree of social organisation, if not in hierarchical terms, at least in terms of the management and deployment of resources across larger areas.[339] If these settlement sites around the Valcamonica complexes were heavily involved in the production of rock art, the control and diversification of trade could have been one of the means by which the rock art can be further seen to appear throughout the region. Indeed, by trespassing slightly into the Iron Age, this thesis has shown that there were new appearances of rock art sites in the western sphere that

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[336] (Rondini 2022, 339-363)
[337] This is also based on the fact that there is no population reduction seen in these areas. (Cupitò et al. 2011)
[338] (Cardarelli 2015; Cavazzuti et al. 2019; Harding 1999, 2000)
[339] (A. Dolfini 2014; Paolo Bellintani 2015; Cavazzuti et al. 2019; Pearce 2019; Pearce, Bellintani, and Nicolis 2020)

showed the same stylistic tendencies of Valcamonica. These stylistic elements were not only in the motifs and compositions of the images but in the technical application of the typical pecking style used in Valcamonica complexes. Thus, as these sites contract, they seem to bring with them other communities of practice or at least new members who evolve the current practices and goals by setting new priorities and redeploying resources. As a result, old relationships may be amalgamating with new ones, others are perhaps fading away, and some are becoming more prominent.

Under the premises of what is happening in Valcamonica, we could perhaps now view the abandonment of Monte Bego not as a direct result of environmental determinism but instead as a result of similar changes occurring in the organisational spheres. These changes could have likewise caused old relationships to become weaker and new ones to become stronger but in a different way from the east. This thesis has taken the view that rock art sites could have acted as a potential brokerage point around which communities interacted, explored and transmitted their knowledge. Indeed, this thesis has presented rock sites as sitting in a critical junction in the dynamic landscape whose permanence allows for a domain of knowledge that can be maintained to allow for such knowledge to be learned, adapted, evolved and continued. However, when that domain is lost, what happens to the knowledge? Perhaps similar to how the contraction of sites in the east seemed to bring new elements into the Valcamonica areas, this contraction of sites could have led the people of Monte Bego away from the site or removed those relationships or members that had been most prominent in practice. Indeed, the appearance of the new Iron Age rock art sites is notably above the Po River line. Below the Po River line, the archaeology shows that abandonment and subsequent depopulation occurred in this part of the region, suggesting those peoples below the Po, perhaps like those in the Monte Bego areas, were relocating.[340] In so doing, this mobility may have led to the absorption of this knowledge in other domains leading to the distinctive disappearance of the Monte Bego tradition. Indeed, spurred by the environmental aspects that limited access to this site, the changes occurring in the region may have resulted in another phenomenon emerging. Removed from their original domain of knowledge, these people may have found themselves interacting with new communities of practice that were supported by alternative structures. As a result, the traditional role of rock art as a form of expression may have diminished or ceased entirely, with new practices assuming greater significance. In this way, rock art may have been supplanted by other forms of practice that were more fitting to the new motivations shaping the region during the FBA, as their relations were contingent upon one another under this broader scope.

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[340] (Iacono 2022)

Instead of drawing conclusions surrounding the interpretive bases of the rock art, the inclusion of these patterns and interaction between and within the rock art phenomenon during the FBA allows rock art to be taken out of isolation and presents new possibilities for it to be explored. The use of the community and constellations of practice frameworks has enabled a discussion regarding why practices of rock art might have evolved, adapted, endured or faded during the FBA and further suggest the potential factors that seem to precipitate and encourage these transformations. As shown in Chapter One, Alpine rock art is one which has largely evolved around two specified poles, forming a perpetuating tradition of relative isolation. However, when these areas are considered in a more panoramic approach, new connections start to become prevalent. In the methodology of this thesis, it was proposed that two motivating factors may have precipitated the changes in practices. By considering these factors in connection with the physical and cultural context of this phenomenon, multiple paths of analytical approaches start to appear. However, the focus and approach taken in this chapter are only one form of analysis that could be made from this recontextualised assemblage of the rock art phenomenon. It is important to stress that this discussion does not attempt to provide definitive conclusions regarding the archaeological shifts or the changes in the rock art. Instead, the purpose here is to outline how such an approach founded in ontology and assemblage theory can bring Alpine rock art out of disciplinary isolation and further provide new avenues of analysis.

VI. CONCLUSION

Rock art is a difficult and, at times, frustrating corpus of evidence that, due to the challenges in interpretation, can often be overlooked or remain tantalisingly untapped. Existing in the academic peripheries, Alpine rock art has developed a near self-perpetuating tradition of focussed approaches, which has distanced and detached the discipline from the broader discussions of the Euro-Mediterranean region. However, this thesis shows that this does not need to be a perpetual state. The purpose of this thesis has been to remove the barriers that have in the past led to its isolation and fragmentation in archaeological discourse. As a result, this has not been a cautious, in-depth approach to one rock art site but has considered the broader scope of both Alpine traditions (east and west) and the communities in which they have functioned. By exploring interactive community patterns across the region, this thesis has developed a model for effectively bringing Alpine rock art out of isolated studies and into archaeological discourse.

The theoretical model employed here has been both inter and intra-disciplinary based. Drawing upon relational ontology, assemblage and community of practice theory, this thesis developed a critical framework for investigating the different relational aspects of Alpine rock art and applied this approach towards examining the continuities, variances and adaptions during a point of transition (FBA). The use of four different levels of analysis allowed for a recontextualization of the physical and cultural aspects of the rock art phenomenon in the two main "poles" of the Alpine region: Valcamonica and Monte Bego. In recontextualising the physical elements within the phenomenon, this thesis, using a top-down approach, examined how the interplay of topography and human agency led to intense trans-regional connectivity between communities that created and sustained the basis for constellations of practice across the region. Building upon this notion of constellations, this thesis then examined the two main poles of the Alpine region to highlight how the same practice developed in two distinct yet similar ways. This provided the metric to discuss and follow rock art practice through time and space, illustrating the potential paths of mobility and practice exchange during the Final Bronze Age. By using this approach, it became possible to explore the phenomenon's various facets, allowing the patterns and interactions of the LBA to emerge in the combined assemblage. There has been a degree of optimism here in reassembling two sites from historically divided disciplines. However, in so doing, this thesis has been able to stress the different affinities of the discipline and establish a network of connections across the region. Indeed, through the framework of this thesis, routed in relational ontology, assemblage and community of practice theories, the current assumptions of prehistoric societies living in the Alpine region have been further explored.

Relational ontology and Assemblage theory can, to some degree, create no end point for the relationships that can be explored within. Under this notion, there is no right and wrong, but only what we can understand and reasonably conclude at each point in the analysis. Every new interaction, every new piece of evidence that we uncover and that we make will revise and provide new conclusions. While this flexible nature can at times appear like 'fence sitting' between arguments, in actuality, it is another post hole in the fence, the next mechanism in line that will push the conversation forward. However, this is not a surrender to extreme relativism, as it matters exactly how the assemblage is configured. Instead, it falls to us (both as the reader, researcher, writer, and scholar) to comprehend the structure of the assemblage and the specific character and form of the events that occur temporarily while the core remains. The emphasis on the topic of change and persistence in relation to rock art at two distinct locations along the Alpine Arc, within this thesis, has advanced the understanding of the interconnectedness of prehistoric reality, highlighting the relational nature of this concept. As a result, I believe a host of different avenues for understanding this phenomenon have opened, laying the groundwork for a more detailed and systematic comparison between other rock art sites and the archaeological within the region. The purpose of this study has not been to criticise those studies that have come before us but to highlight the worth and capacity of theoretical studies in pushing the conversation forward in our discussion of prehistoric Europe. Indeed, this thesis has been a starting point for rethinking empirically and theoretically the complexity of Alpine connections and mobility within the ongoing debate on human and cultural mobility, integration, continuity, and rejection.

BIBLIOGRAPHY

Abadía, O.M., and M. Porr. 2021. "Introduction: Ontology, rock art research, and the challenge of alterity " In *Ontologies of Rock Art : Images, Relational Approaches, and Indigenous Knowledges*, edited by Abadía Oscar Moro and Porr Martin, 11-31. Abingdon: Routledge.

Alberti, B. 2016. "Archaeologies of Ontology." *Annual Review of Anthropology* 45: 163-179.

Alberti, B., S. Fowles, M. Holbraad, Y. Marshall, and CL. Witmore. 2011. "Worlds Otherwise'. Archaeology, Anthropology, and Ontological Difference." *Current Anthropology* 52 (6): 896–911.

Alberti, B., AM. Jones, and J. Pollard. 2013. *Archaeology After Interpretation: Returning Materials to Archaeological Theory*. California: Left Coast Press.

Alexander, C. 2009. "14. Power in place: The case of superimposition of Rock-Art images at Pia D'Ort, Valcamonica." In *The Archaeology of People and Territoriality*, edited by George Nash & Dragos Gheorghiu, 269-286. Budapest: ARCHAEOLINGUA ALAPÍTVÁNY.

Allen, Christopher. 2021. "Facing the Past: Engendering the Study of Iron Age Celtic Human Imagery in Continental Europe." M.S., The University of Wisconsin - Milwaukee (28498809).

Anati, E. 1966. "Origins and Evolution of the Camunian Civilization." *Cahiers d'Histoire Mondiale. Journal of World History. Cuadernos de Historia Mundial* 10 (1): 293.

---. 1976. *Evolution and style in Camunian rock art : an inquiry into the formation of European civilization*. 1st English ed.. ed. Capo de Ponte: Capo de Ponte : Edizioni del centro 1976.

---. 2000. "L'art rupestre post-glaciaire des Alpes." Préhistoire de l'Europe : des origines à l'Âge du Bronze. Actes du 125e Congrès national des sociétés historiques et scientifiques, Lille.

---. 2004. "Introducing the World Archives of Rock Art (WARA): 50.000 years of visual arts."

---. 2009a. "L'art rupestre du Valcamonica : évolution et signification. Une vision panoramique d'après l'état actuel de la recherche." *L'Anthropologie* 113 (5, Part 2): 930-968.

---. 2009b. "The Way of Life Recorded in the Rock Art of Valcamonica." *Adoranten*: 13-35.

---. 2014. "Valcamonica Rock Art." In *Encyclopedia of Global Archaeology*, edited by Claire Smith, 7583-7587. New York, NY: New York, NY: Springer New York.

---. 2016. *Evolution and style in Camunian rock art. An inquiry into the formation of European civilization* Vol. 6. Italy: Edizioni del Centro.

Arcà, A. 2001. "Chronology and Interpretation of "Praying Figures" in Valcamonica Rock Art." In *Archeologia e arte rupestre: l'Europa - le Alpi - la Valcamonica,secondo convegno internazionale di archeologia rupestre.*, 185-198. Milano: Darfo Boario terme.

---. 2004a. "Rock art in the western Alps: research, methods, data and discoveries." Actes du XIVème congrès UISPP, Université de Liège, Belgique, 2-8 septembre 2001., Belgique.

---. 2004b. "The topographic engravings of Alpine rock-art: fields, settlements and agricultural landscapes." In *Pictures in place: the figured lanscapes of Rock Art*, edited by C. Chippindale and G. Nash, 318-349. Cambridge.

---. 2009. "Monte Bego e Valcamonica, confronto fra le piu antiche fasi istoriative. Dal Neolitico al Bronzo Antico, parallelismi e differenze tra marvegie e pitoti dei due poli dell'arte rupestre alpina." *Rivista di Scienze Preistoriche* LIX: 265-306.

---. 2013a. "L'arte rupestre nell'età del Rame: il Monte Bego." In *L'età del Rame. La pianura padana e le Alpi al tempo di Ötzi*, edited by Raffaele de Marinis, 141-160. Compagnia della Stampa. Massetti Rodella Editori.

---. 2013b. "Valcamonica e Monte Bego: confronto tra i poli alpini dell'iconografia rupestre." *Bulletin du Musée d'Anthropologie Préhistorique de Monaco*, no. 4: 161-175.

---. 2015. "Footprints in the Alpine rock art, diffusion, chronology and interpretation." In *Symbols in the Landscape: Rock Art and its Context, Proceedings of the XIX International Rock Art Conference IFRAO 2015 (Cáceres, Spain, 31 August - 4 September 2015), ARKEOS, perspectivas em diálogo, 37, Tomar*, edited by GARCÍA ARRANZ J.J. COLLADO GIRALDO H., 369-386. Tomar.

---. 2020. "Naquane, Valcamonica, the *Great Rock,* from discovery to the online virtual tour." *TRACCE Online Rock Art Bulletin* 46.

Archaeology, South Tyrol Museum of. 2016. "The Iceman." Accessed 20/03/2023. https://www.iceman.it/en/the-iceman/.

Armstrong, F., A. Troncoso, and F. Moya-Cañoles. 2018. "Rock art Assemblages in North Central Chile: Materials and Practices through History." In *Archaeologies of Rock Art: South American Perspectives*, edited by A. Troncoso, F. Armstrong and C. Nash, 241-264. New York: Routledge.

Armstrong, J., and S. Cohen, eds. 2022. *Production, trade, and connectivity in pre-Roman Italy*, *Routledge monographs in classical studies*. London: Routledge.

Arnett, C. 2016. "Rock art of Nlaka'pamux: Indigenous theory and practice on the British Columbia Plateau." PhD diss., University of British Columbia.

Bagolini, B., and A. Pedrotti. 1998. "L'Italie septentrionale." In *Atlas du Ne´olithique europe en L'Europe occidentale, 2A*, edited by Universite de Liege, 233 –341 Liege: Etudes et Recherches Arche´ologiques de l'Universite de Liege.

Bahn, P.G. 2010. *Prehistoric rock Art: Polemics and Progress*. Cambridge: Cambridge University Press.

Bahrani, Z. 2014. *The Infinite Image: Art, Time and the Aesthetic Dimension in Antiquity*. London: Reaktion Books.

Balista, C. 2013. "Dal Po di Adria al fiume Tartaro : trasformazioni paleoidrografiche tra l'età del Bronzo e l'età del Ferro attraverso le evidenze petrografiche dei sedimenti del sito dell'Amolara di Adria (RO)." *Padusa* XLIX.

Barad, K.M. 2007. *Meeting the universe halfway : quantum physics and the entanglement of matter and meaning*. Durham: Duke University Press.

Bartoloni, G., and F. Delpino, eds. 2005. *Oriente e Occidente: Metodi e discipline a confronto. Riflessioni sulla cronologia dell'Età del Ferro italiana*. Rome: Istituto Editoriali e Poligrafici.

Basso, E., D. Binder, B. Messiga, and M. Riccardi. 2006. "The Neolithic pottery of Abri Pendimoun (Castellar, France): A petro-archaeometric study." *Geological Society, London, Special Publications* 257: 33-48.

Bednarik, R. 2013. "Myths about rock art." *Journal of Literature and Art Studies* 3 (8): 482-500.

---. 2014. "Data and interpretation in the Côa valley, Portugal." *Rock Art Research* 31: 107–110.

Bellintani, P, and M Saracino. 2015. "Rivers, Human Occupation and Exchanges Around the Late Bronze Age Settlement of Frattesina (ne Italy)." In *Rivers in Prehistory*, edited by Andrea Vianello, 77-89. Oxford: Archaeopress Publishing.

Bellintani, Paolo. 2015. "Baltic amber, alpine copper and glass beads from the Po plain: Amber trade at the time of Campestrin and Frattesina." *Padusa* III-I39: 111-139.

Bettelli, M., Cupitò, M., Levi, S.T., Jones, R., Leonardi, G. 2015. "Tempi e modi della connessione tra mondo egeo e area padano-veneta. Una riconsiderazione della problematica alla luce delle nuove ceramiche di tipo miceneo di Fondo Paviani (Legnago, Verona)." In *Preistoria e protostoria del Veneto*, edited by G. Leonardi, Tinè, V., 377-388. Firenze: Istituto Italiano di Preistoria e Protostoria.

Bevan, Lynne. 2006. *Worshippers and warriors: reconstructing gender andgender relations in the prehistoric rock art ofNaquane National Park, Valcamonica, Brescia, Northern Italy*. Oxford: British Archaeological Reports.

Bianchi, N. 2010. "Mount Bego prehistoric rock carvings." *Adoranten*: 70-80.

---. 2016. "Gravures linéaires et schématiques-linéaires de la région du mont Bego (Tende, Alpes Maritimes, France)." Post-Palaeolithic Filiform Rock Art in Western Europe: Proceedings of the XVII UISPP World Congress, Spain.

Bicknell, Clarence. 1913. *A guide to the prehistoric rock engravings in the Italian Maritime Alps*. Bordighera: Bessone.

Bietti-Sestieri, AM. 2009. l'anomalia strutturale rappresentata da Frattesina, che si configura, per la prima volta in Italia, come un vero e proprio complesso industriale/commerciale. edited by Museo Archeologico Nazionale di Fratta Polesine. Veneto: Ministero per i Beni e le Attività Culturali.

Bietti-Sestieri, AM., P. Bellintani, L. Salzani, I. Angelini, B. Chiaffoni, J. De Grossi Mazzorin, C. Giardino, M. Saracino, and F. Soriano. 2015. "Frattesina: un centro internazionale di produzione e di scambio nell'età del Bronzo del Veneto." *Atti della xlviii Riunione Scientifica dell'Istituto Italiano di Preistoria e Protostoria*: 427-436.

Bietti-Sestieri, AM., and J. De Grossi Mazzorin. 1995. "Importazione di materie prime organiche di origine esotica nell'abitato protostorico di Frattesina (ro), ." 367-370. Padusa Quaderni.

Bietti-Sestieri, AM., L. Salzani, C. Giardino, and G. Verly 2013. "Ritual treatment of weapons as a correlate of structural change in the Italian LBA communities: the Bronze hoard of Pila del Brancon (Nogara, Verona)." *Rivista di Scienze Preistoriche* LXIII: 156-169.

Blair, E. 2016. "Glass Beads and Constellations of Practice." In *Knowledge in Motion: Constellations of Learning across Time and Place*, 97-125.

Blake, E. 2014. *Social networks and regional identity in Bronze Age Italy*. New York, NY : Cambridge University Press. 2014.

Blake, E., and AB. Knapp. 2005. *The Archaeology of Mediterraean Prehistory*. Oxford: Blackwell Publishing.

Bonfante, L. 2011. *The Barbarians of Ancient Europe: Realities and Interactions*. Cambridge: Cambridge University Press.

Bourgarit, D., P. Rostan, E. Burger, L. Carozza, B. Mille, and G. Artioli. 2008. "The beginning of copper mass production in the western Alps: The Saint Véran mining area reconsidered." *Historical Metallurgy* 42: 1-11.

Bourgarit, D., P. Rostan, L. Carozza, B. Mille, and G. Artioli. 2010. "Vingt ans de recherches à Saint-Véran, Hautes Alpes: état des connaissances de l'activité de production de cuivre à l'â ge du Bronze ancien." *Trabajos de Prehistoria* 67: 269-285.

Bradley, R. 1988. "Hoarding, Recycling and the Consumption of Prehistoric Metalwork: Technological Change in Western Europe." *World Archaeology* 20 (2): 249-260.

---. 1997. *Rock Art and the Prehistory of Atlantic Europe: Signing the Land*. London: Routledge.

---. 2001. "The authority of abstraction: Knowledge and power in the landscape of prehistoric Europe." In *Art and Contestation: Theoretical Perspectives in Rock Art Research*, edited by K. Helskog, 227–241. Oslo: Novus Forlag.

---. 2006. "Danish razors and Swedish rocks. Cosmology and the Bronze Age landscape." *Antiquity* 80: 372–389.

---. 2009. *Image and audience: rethinking prehistoric art*. Oxford: Oxford University Press.

---. 2020. *A Comparative Study of Rock Art in Later Prehistoric Europe.Elements in the Archaeology of Europe*. Cambridge: Cambridge University Press.

Broodbank, Cyprian. 2013. *The making of the Middle Sea : a history of the Mediterranean from the beginning to the emergence of the classical world*. Farnborough: Thames & Hudson Ltd.

---. 2016. "The Transmitting Sea: A Mediterranean Perspective." In *Human Mobility and Technological Transfer in the Prehistoric Mediterranean*, edited by Carl Knappett and Evangelia Kiriatzi, In British School at Athens Studies in Greek Antiquity, 18-30. Cambridge: Cambridge University Press.

Bruno, D., and I. McNiven, eds. 2017. *The Oxford handbook of the archaeology and anthropology of rock art*, *Archaeology and anthropology of rock art*. New York: Oxford University Press.

Budden, S., and J. Sofaer. 2009. "Non- discursive Knowledge and the Construction of Identity. Potters, Potting and Performance at the Bronze Age Tell at Százhalombatta, Hungary. ." *Cambridge Archaeological Journal* 19 (2): 203-220.

Burns, Robert K. 1963. "The Circum-Alpine Culture Area: A Preliminary View." *Anthropological quarterly* 36 (3): 130-155.

Capuzzo, G., M. Zanon, M. Dal Corso, W. Kirleis, and JA. Barceló. 2018. "Highly diverse Bronze Age population dynamics in central-southern Europe and their response to regional climatic patterns." *PLoS One* 13.

Carancini, G.L, and R. Peronia. 1999. "L'età del bronzo in Italia: Per una cronologia della produzione metallurgica." *Quaderni di Protostoria* 2: 1-86.

Cardarelli, A. 2009. "The Collapse of the Terramare Culture and Growth of New Economic and Social Systems during the Late Bronze Age in Italy." *Scienze dell'Antichita* 15: 449-520.

---. 2015. "Different Forms of Social Inequality in Bronze Age Italy." *Origini* XXXVIII (2): 151-200.

Casini, S. 2013. "The Valtellina and Valcamonica Statue-menhirs: their Characters,Chronology and Contexts." The Bronze Age Art Proceedings of International Symposium, Stralsynd Germany.

Cavazzuti, C. 2020. "The Bioarchaeology of Social Stratification in Bronze Age Italy." *Archeo* 37: 69-105.

Cavazzuti, C., A. Cardarelli, F. Quondam, L. Salzani, M. Ferrante, S. Nisi, A. Millard, and R. Skeates. 2019. "Mobile elites at Frattesina: flows of people in a Late Bronze Age 'port of trade' in northern Italy." *Antiquity* 93 (369): 624-644.

Cavazzuti, C., L. Salvadei, and L. Salzani. 2015. "Analisi antropologiche sui resti cremati della necropoli del Bronzo medio e recente di Scalvinetto di Legnago (Verona)." In *Studi di Preistoria e Protostoria, 2. Preistoria e Protostoria del Veneto*, edited by G. Leonardi & V. Tiné, 793–798. Istituto Italiano di Preistoria e Protostoria.

Chippendale, C. 2004. "From millimtre up to kilometre: a Framwork of space and of scale for reporting and styding rock-art in its landscape." In *The figured landscapes of rock art: looking at pictures in place*, edited by C. Chippindale and G. Nash, 102-117.

Chippindale, C. 2019. "Alpine rock art: then and now, and into the future?" *Antiquity* 93 (371): 1378-1380.

Chippindale, C., and F. Baker. 2012. *PITOTI: digital rock-art from prehistoric Europe: heritage, film, archaeology*. Milano: Catalogo della Mostra.

Chippindale, C., and G. Nash. 2004. *Pictures in Place. The Figured Landscapes of Rock Art*. Cambridge: Cambridge University Press.

Chippindale, C., and PSC. Tacon. 1998. "The many ways of dating Arnhem Land Rock Art, North Australia." In *The Archaeology of Rock Art*, edited by C. Chippindale and PSC. Tacon, 90-111. Cambridge: Cambridge University Press.

Cicolani, Veronica, and Lorenzo Zamboni. 2023. "Alpine Connections: Iron Age Mobility in the Po Valley and the Circum-Alpine Regions." In *Rethinking Migrations in Late Prehistoric Eurasia*, edited by Manuel Fernandex-Gotz, Courtney Nimura, Phillip W. Stockhammer and Rachel Cartwright, 258-279. Oxford: Oxford University Press.

Cierny, J., F. Marzatico, R. Perini, and G. Weisgerber. 2004. "La riduzione del rame in località Acqua Fredda del Redebus (Trentino) nell'età del Bronzo Recente e Finale." In *Alpenkupfer—Rame delle Alpi*, edited by G. Weisgerber & G. Goldenberg, 125-154. Bochum: Bergbau-Museum.

Cline, Eric H. 2014. *1177 B.C. : the year civilization collapsed.Year civilization collapsed*: Princeton : Princeton University Press. 2014.

Conkey, Margaret W. 2019. "Interpretative Frameworks and the Study of the Rock Arts." *The Oxford Handbook of the Archaeology and Anthropology of Rock Art*Oxford University Press.

Conkey, MW., O. Soffer, D. Stratmann, and NG. Jablonski. 1997. *Beyond Art: Pleistocene Image and Symbol*. San Francisco: California Academy of Sciences.

Conneller, C. . 2011. *An Archaeology of Materials: Substantial Transformations in Early Prehistoric Europe*. London: Routledge.

Convention, The Alpine. 2023. "Surface area and population of the scope of the Alpine Convention, shares of the contracting states." The Alpine Convention. Accessed 22/03/2023. https://www.alpconv.org/en/home/organisation/contracting-parties/.

Creese, J. 2011. "Algonquian Rock Art and the Landscape of Power." *Journal of Social Archaeology* 11 (1): 3-20.

Cremaschi, M., AM. Mercuri, P. Torri, A. Florenzano, C. Pizzi, M. Marchesini, and A. Zerboni. 2015. "Climate change versus land management in the Po Plain (NorthernItaly) during the Bronze Age: New insights from the VP/VG sequenceof the Terramara Santa Rosa di Poviglio." *Quaternary Science Reviews* 136: 153-172.

Cunliffe, B. 2008. *Europe Between the Oceans: Themes and Variations: 9000 BC - AD 1000*. London: Yale University Press.

Cunliffe, BW. 2001. *The Oxford illustrated history of prehistoric Europe.Prehistoric Europe*. Oxford: Oxford University Press.

Cupitò, M., E. Dalla Longa, V. Donadel, and G. Leonardi. 2011. "Resistances to 12th Century BC Crisis in the Veneto Region: the Case studies of Fondo Paviani and Montebello Vicentino." Collapse or Continuity? Environment and Development of Bronze Age Human Landsacpes Kiel.

Cupitò, M., and G. Leonardi. 2003. "La Necropoli Di Olmo Di Nogara e Il Ripostiglio Di Pila Del Brancon. Proposte Interpretative Sulla Struttura e Sull'Evoluzione Sociale Delle Comunita Della Pianura Veronese Tra Bronzo Medio e Bronzo Recente." Communities and Settlements from the Neolithic to the Early Medieval Period, Proceedings of 6th Conference in Italian Archaeology, Groningen.

Cupito, Michele. 2011. "Un torques Canegrate dal sito di Fondo Pavani (Verona). Spunti per la lettura dei rapporti tra l'Italia nord-occidentale e il mondo palafitticolo-terramaricolo nell'età del bronzo recente." In *Tra protostoria e storia: Studi in onore di Lorendana Capuis*, 19-33. Università degli Studi di Padova.

David-Elbiali, M. 2013. "La chronologie nord-alpine du Bronze final (1200–800 av. J.–C.): Entre métal, céramique et dendrochronologie." In *Échanges de bons proceeds: La céramique du Bronze Final dans le nord-ouest de l'Europe,*, edited by W. Leclercq and E. Warmenbol, 181-197. Brussels: Université Libre De Bruxelles.

David, B. 2002. *Landscapes, Rock-art, and the Dreaming: An Archaeology of Preunderstanding*. London: Leicester University Press.

Davison, K., Dolukhanov, P., Sarson, G., & Shukurov, A. 2006. "The role of waterways in the spread of the Neolithic." *Journal of Archaeological Science* 35 (5): 641-652.

De Lumley, H. 2003. *Le Mont Bego: Vallees des Merveilles et de Fontanalba.Guides archaeologiques de la France*. Nice: Centre des monuments nationaux.

De Lumley, H., and A. Echassoux. 2009. "Les gravures rupestres du Chalcolithique et de l'âge du Bronze ancien de la région du mont Bego. Les mythes cosmogoniques des premiers peuples métallurgistes des Alpes méridionales." *L'Anthropologie* 113 (5, Part 2): 969-1004.

De Lumley, H., A. Echassoux, O. Romain, D. Barsky, S. Grégoire, and T. Saos. 2010. "Une lame de faucille sous la stèle gravée Chalcolithique dite du « Chef de tribu », Vallée des Merveilles, région du Mont Bego, Tende, Alpes-Maritimes." *L'Anthropologie* 114 (4): 445-468.

de Marinis, RC. 2001. "L'età del Ferro in Lombardia: stato attuale delle conoscenze e problemi aperti." In *La protostoria in Lombardia, Atti del Convegno*, 27,76. Como: Società archeologica comense.

---. 2005. "Cronologia relativa, cross-dating e datazioni cronometriche tra Bronzo Finale e Primo Ferro: qualche spunto di riflessione metodologica." Oriente e Occidente: metodi e discipline a confronto. Riflessioni sulla cronologia dell'età del Ferro italiana, Atti dell'Incontro di Studio, Rome.

---. 2006. "Aspetti della metallurgia dell'età del Rame e dell'antica età del Bronzo in Toscana." *Rivista di Scienze Preistoriche* 56: 211–272.

De Saulieu, G. 2012. "Rock Art of the Alpine Region, 2005-2009." In *Rock Art Studies: News of the World IV*, edited by P.G. Bahn, N. Franklin and M. Strecker, 60-64. Oxford: Oxbow Books.

Defrasne, C. 2018. "Stone bodies between social constructions and ontology: The Copper Age statues-menhirs from the central Alps." In *Neolithic Bodies*, edited by Penny Bickle and Emilie Sibbesson, 113-31. Havertown, UNITED STATES: Oxbow Books, Limited.

---. 2021. "Rock Art Studies in the Alps (2015–2019)." In *Rock Art Studies: News of the World VI*, edited by Paul Bahn, Natalie Franklin and Matthias Strecker, 50-62. Archaeopress.

DeLanda, Manuel. 2016. *Assemblage Theory*. Edinburgh: Edinburgh University Press.

Delfino, D., and A. Del Lucchese. 2020. "Terraced-walled settlements in Bronze Age Liguria (north-western Italy): can we speak of Iron Age 'castellari'?" Late Prehistoric Fortication in Europe: Defensive, Symbolic and Territorial Aspects from the Chalcolithic to the Iron Age, Portugal.

Delfino, Davide. 2014. "Bronze Recycling during the Bronze Age: some considerations about two metallurgical regions." *Antrope* 120-143.

dell'Uomo, Orme. 2016. "Rupestre.net." Accessed 2023. http://www.rupestre.net/index.html.

Della Casa, P. 2005. "Lithic Resources in the Early Prehistory of the Alps." *Archaeometry* 47 (2).

Dickinson, O. 2012. "The Collapse at the End of the Bronze Age." In *The Oxford Handbook of the Bronze Age Aegean*. Oxford Handbooks Online: Oxford University Press.

Dietre, B., C. Walser, W. Kofler, K. Kothieringer, I. Hajdas, K. Lambers, T. Reitmaier, and JN Haas. 2016. "Neolithic to Bronze Age (4850–3450 cal. BP) fire management of the Alpine Lower Engadine landscape (Switzerland) to establish pastures and cereal fields." *The Holocene* 27 (2): 181-196.

Dobrez, Livio. 2011. "Rock art, Perception and the subject/object binary." *Rock Art Research* 28 (1): 71-84.

Dolfini, A. 2014. "Early Metallurgy in the Central Mediterraean " In *Archaeometallurgy in Global Perspective: Methods and Syntheses*, edited by B. Roberts and C. Thornton, 473-506. New York: Springer.

Dolfini, Andrea. 2018. *Prehistoric warfare and violence : quantitative and qualitative approaches*. Cham, Switzerland : Springer. 2018.

---. 2020. "From the Neolithic to the Bronze Age in Central Italy: Settlement, Burial, and Social Change at the Dawn of Metal Production." *Journal of Archaeological Research* 28 (4): 503-556.

Dorn, R. 2001. "Chrometric techniques: Engravings." In *Handbook of Rock Art Research*, edited by D.S. Whitley, 167-189. California: AltaMira Press.

Elder, Pliny the. 1942. *Natural History, Volume II: Books 3-7*. Translated by H. Rackham. MA: Loeb Classical Library 352.

EuroPreArt. 2000. European Prehistoric Art Online Database. http://www.europreart.net/.

Fedele, F. 2008. "Statue-menhirs, human remains and mana at the Ossimo 'Anvoia' ceremonial site, Val Camonica." *Journal of Mediterranean Archaeology* 21: 57–79.

Fedele, F. 2007. "Ricerca del contesto e "arte rupestre". Alcuni appunti, guardando al futuro." In *La Castagna della Vallecamonica*, edited by AE. Fossati, 123-134. Paspardo: Orme dell'Uomo.

Festi, D., A. Putzer, and K. Oeggl. 2014. "Mid and late Holocene land-use changes in the Ötztal Alps, territory of the Neolithic Iceman "Ötzi"." *Quaternary International* 353: 17-33.

Finsinger, W. . 2001. "Vegetation history and human impact at the Lago del Vei del Bouc (Argentera Massif, Maritime Alps)." *Quaternaire* 12 (4): 223-233.

Fokkens, H., and A. Harding, eds. 2013. *The Oxford Handbook of the European Bronze Age*. Oxford Handbooks Online: Oxford Handbooks.

Fokkens, H., A. Harding, and R. Bradley. 2013. Hoards and the Deposition of Metalwork. Oxford: Oxford University Press.

Forni, Gaetano. 1997. "The characteristics of the Iron Age Shares in Adige Region, in the context of the Alpine range of Northern Itlay." *Preistoria Alpina* 33: 177-189.

Fossati, A. E. 1996. "Southern Europe: Rock Art in the Alps, Italy and the Balkans 1990-1994: New discoveries, comparisons, chronological and interpretational revisions." In *Rock Art Studies: NEws of the World I* edited by Paul G Bahn and Angelo Fossati, 40-58. Oxbow.

---. 2015a. "The motif of the boat in Valcamonica rock art - problems of chronology and interpretation." In *Ritual Landsacpes and Boarders within Rock Art Research: Papers in Honour of Professor Kalle Sognnes*, edited by H. Stebergløkken, B. Ragnhild, E. Lindgaard and H.V. Stuedal, 119-140. Oxford: Archaeopress Publishing.

---. 2015b. "The Rock Art Tradition of Valcamonica–Valtellina During the Neolithic Period." In *The Oxford Handbook of Neolithic Europe*, edited by Jan Harding & Daniela Hofmann Chris Fowler. Oxford handbooks online: Oxford University Press.

---. 2017. "Figures and Male Sites in the Rock Art of Valcamonica , Italy cognisable weapons."

Fossati, AE. 1991. "L'eta del Ferro nelle Incisioni Rupestri della Valcamonica." In *Immagini di una Aristocrazia dell'Eta del Ferro nell'Arte Rupestre Camuna: Contributi in Occasione della Mostra Castello Sforzesco Aprile 1991-Marzo 1992.*, edited by R. La Guardia, 11-71. Settore Cultura e Spettacolo: Milano.

---. 2011. "L'utilizzo delle accidentalita' naturali delle rocce nell'arte rupestre della Valcamonica." *Bulletin d'etudes prehistoriques et archaeologiques Alpines* 22: 245-260.

Fowler, C. 2013. *The Emergent Past: A Relational Realist Archaeology of Early Bronze Age Mortuary Practices*. Oxford: Oxford University Press.

---. 2014. "Dynamic assemblages, or the past is what endures: change and the duration of relations." In *Archaeology after Interpretation: Returning Materials to Archaeological Theory*, edited by B. Alberti, A. M. Jones and J. Pollard, 235-256. California: Left Coast Press Inc.

Freund, Kyle P., and Zack Batist. 2014. "Sardinian Obsidian Circulation and Early Maritime Navigation in the Neolithic as Shown Through Social Network Analysis." *Journal of island and coastal archaeology* 9 (3): 364-380.

Frisia, S., A. Borsato, C. Spötl, I. M. Villa, and F. Cucchi. 2005. "Climate variability in the SE Alps of Italy over the past 17 000 years reconstructed from a stalagmite record." *Boreas* 34: 445-455.

Gallay, A. 2014. "Quelques reflexions sur le concept de culture." Le Chasseen, des Chasseens. Retour sur une culture nationale et ses paralleles, Sepulcres de fossa, Cortaillod, Lagozza. Programme et resumes du Colloque, Paris.

Gelfi, N. 2021. "Weaving in the alpine area through Valcamonica rock art." *Bulletin du Musée d'Anthropologie Préhistorique de Monaco* 60: 75-80.

Ghislandi, S. 2011. "Geoarcheologia in Valcamonica. Stato della ricerca e nuove prospettive." *Bullettin d'Etudes Préhistoriques et Archeologiques Alpines* 22: 239-244.

Ghosh, Diptarka. 2021. "Alps Mountain Range." World Atlas. Accessed 23/03/23. https://www.worldatlas.com/mountains/alps-mountain-range.html.

Goldenberg, G. 2004. "Ein Verhüttungsplatz der mittleren Bronzezeit bei Jochberg (Nordtirol)." In *Alpenkupfer—Rame delle Alpi* edited by G.Weisgerber & G. Goldenberg, 199-211. Bochum: Bergbau-Museum.

Gongla, P., and C. Rizzuto. 2003. "Where Did That Community Go? Communities of Practice That "Disappear"." In *Knowledge Networks: Innovation Through Communities of Practice*, edited by P. Hildreth and C. Kimble, 295-307. Panama: IGI Global.

Gustafsson, A., and H. Karlsson. 2008. "Places of Power: Control, Public Access and Authenticity at Rock Carvings in Tanum, Sweden and Val Camonica, Italy." *Public archaeology* 7 (3): 174-198.

Hamilakis, Y., and A. Jones. 2017. "Archaeology and Assemblage." *Cambridge Archaeological Journal* 27 (1): 77-84.

Harding, A. 1999. "Warfare: A Defining Characteristic of Bronze Age Europe?" In *Ancient Warfare*, edited by Harding A Charman J, 157-172. Sutton: Stroud.

---. 2000. *European Societies in The Bronze Age*. Cambridge: Cambridge University Press.

---. 2013. "World Systems, Cores, and Peripheries in Prehistoric Europe." *European Journal ofArchaeology*: 1–23.

Harman, G. 2009. *Prince of Networks: Bruno Latour and Metaphysics*. Melbourne: re.press.

Harris, O. 2013. "Relational communities in prehistoric Britain." In *Relational Archaeologies*, edited by C. Watts. London: Routledge.

---. 2014. "(Re)assembling Communities." *Journal of Archaeological Method and Theory* 21 (1): 76-97. http://www.jstor.org.ezproxy.auckland.ac.nz/stable/43654892.

---. 2017. "Assemblages and Scale in Archaeology." *Cambridge Archaeological Journal* 27 (1): 127–139.

Harris, O., and J. Robb. 2012. "Multiple Ontologies and the Problem of the Body in History." *American Anthropologist* 114 (4): 668-679.

Harris, S., and K.P. Hofmann. 2014. "From Stones to Gendered Bodies: Regional Differences in the Production of the Body and Gender on the Copper Age Statue-Menhirs of Northern Italy and the Swiss Valais." *European Journal of Archaeology* 17 (2): 264-285.

Harris, WV. 2005. *Rethinking the Mediterranean*. Oxford: Oxford University Press.

Harrison, R. . 2004. *Symbols and Warriors: Images of the European Bronze Age*. Bristol: WASP.

Herbich, I., and M. Dietler. 2009. "Domestic Space, Social Life and Settlement Biography: Theoretical Reflections from the Ethnography of a Rural African Landscape." L'espai domèstic i l'organiraticó de la societat a la protohistòria de la Mediterrània occidental (ler mil.lenni aC). Actes de la IV Reunió Internacional d'Arqueologia de Calafell, Barcelona.

Heyd, T. . 2005. "Aesthetics and Rock Art: An Introduction." In *Rock Art and Aesthetics*, edited by T. Heyd and J. Clegg, 1-17. Aldershot: Ashgate.

Hirsch, E. 2006. "Landscape, myth and time." *Journal of Material Culture* 11: 151–165.

Hodder, I. 2000. "Agency and individuals in long-term process." In *Agency in Archaeology*, edited by MA. Dobres and J. Robb, 21-33. Routledge.

---. 2012. *Entangled: An Archaeology of the Relationships Between Humans and Things*. Malden: Wiley-Blackwell.

Hodos, Tamar. 2020. *The Archaeology of the Mediterranean Iron Age: A Globalising World c. 1100-600 BCE*. Cambridge: Cambridge University Press.

Holbraad, M., and MA. Pedersen. 2017a. "The Ontological Turn. An Anthropological Exposition." Cambridge: Cambridge University Press.

---. 2017b. *The ontological turn: An anthropological exposition*. Cambridge University Press.: Cambridge.

Holdaway, Simon, and LuAnn Wandsnider. 2008. *Time in archaeology : time perspectivism revisited*. Salt Lake City: University of Utah Press.

Horden, Peregrine, and Nicholas Purcell. 2000. *The corrupting sea : a study of Mediterranean history*. Edited by Nicholas Purcell. Oxford: Blackwell.

Huet, T. 2012. "Organisation spatiale et sériation des gravures piquetées du mont Bego." These de Doctorat Nouveau Regime, UFR Lettres, Sciences Humaines et Sociales, Universite de Nice-Sophia Antipolis.

---. 2017. "New Perspectives on the Chronology and Meaning of Mont Bégo Rock Art (Alpes-Maritimes, France)." *Cambridge Archaeological Journal* 27 (2): 199-221.

Huet, T., and C. Alexander. 2015. "Methodes informatiques pour l'etude des gravures upestres: les exemples du Valcamonica (Italie) et du mont Bego (France)`." *Journee d'etude APRAB* 1.

Huet, T., and N. Bianchi. 2016. "A study of the Roche de l'Autel's pecked engravings, Les Merveilles sector, Mont Bego area (Alpes-Maritimes, France)." *Journal of Archaeological Science: Reports* 5: 105-118.

Iacono, F., Borgna, E., Cattani, M. et al. 2022. "Establishing the Middle Sea: The Late Bronze Age of Mediterranean Europe (1700–900 BC)." *Journal of Archaeological Research* 30: 371–445.

Iaia, C. 2009. "Warrior Identity and the materialisation of power in Early Iron Age Etruria." Accordia Research Papers University of London.

Iaia, Christian. 2020. "Spheres of Consumption of Metalwork and Trans-regional Interactions at the Onset of the Urban Phenomenon in Northern Italy." In *Crossing the Alps. Early Urbanism between Northern Italy and Central Europe (900-400 BC)*, edited by M. Fernández-Götz & C. Metzner-Nebelsick L. Zamboni, 109-122. Leiden: Sidestone Press.

Iglesias, B. 2008. "The Chalcolitic and ancient-Bronze age engravings of the Mont Bego region: analysis and comparison of the zone IV group I of the whole valley of the Merveilles and the region of the Mont Bego (Tende, Maritime Alps, France). ." *Annali dell'Università di Ferrara*: 123-128.

Ingold, T. 2000. *The Perception of the Environment. Essays in Livelihood, Dwelling and Skill*. London and New York: Routledge.

---. 2010. "Ways of mind-walking: Reading, writing, painting." *Visual Studies* 25 (1): 15-23.

Insoll, Timothy, ed. 2011. *The Oxford handbook of the archaeology of ritual and religion*, *Archaeology of ritual and religion*. Oxford: Oxford University Press.

Janik, L., and J. Cooney Williams. 2018. "Community Art: Communities of Practice, Situated Learning, Adults and Children as Creators of Cave Art in Upper Palaeolithic France and Northern Spain." 4 (1): 217-238.

Jennings, Benjamin. 2014. *Breaking with Tradition : Cultural influences for the decline of the Circum-Alpine region lake-dwellings*. Leiden, NETHERLANDS, THE: Sidestone Press.

---. 2015. "Bronze Age trade and exchange through the Alps: influencing cultural variability?" In *The end of the lake-dwellings in the Circum-Alpine region*, edited by Francesco Menotti. Oxford: Oxbow Books.

Jones, AM. 2017. "Rock Art and Ontology." *Annual Review of Anthropology* 46: 167-181.

Jones, AM., and A. Cochrane. 2018. *The archaeology of art: methods, practices, affects*. Abingdon: Routledge.

Jung, Reinhard, Mathias Mehofer, and Ernst Pernicka. 2011. "Metal Exchange in Italy from the Middle to Finale Bronze Age (14th-11th Century BCE)." In *Metallurgy: Understanding how, learning why*, edited by Phillip Betancourt and Susan Ferrence, 231-. Philadelphia: INSTAP Academic Press.

Kardulias, PN. 2007. "Negotiation and incorporation on the margins of world-systems: Examples from Cyprus and North America." *Journal of World-Systems Research* 13: 55-82.

Karnapke, M., and F. Baker. 2018. "Digital Heritage and 3D Printing: Trans-media Analysis and the Display of Prehistoric Rock Art from Valcamonica." Digital Cultural Heritage, Slovenia.

Keyser, J. 2001. "Relative Dating Methods." In *Handbook of rock art research*, edited by DS. Whitley. Walnut Creek: AltaMira Press.

Kharbouch, M. . 2000. "L'homme et la végétation dans la région du mont Bego (Tende, Alpes-Maritimes) depuis des millénaires " *Comptes-rendus de l'Academie des Sciences* 331: 889-894.

Knappett, C. 2011. "Meso-networks: Communities of Practice." In *An Archaeology of Interaction: Network Perspectives on Material Culture and Society*, edited by C. Knappett. Oxford: Oxford Academic.

Kneisel, Jutta, Wiebke Kirleis, Marta Dal Corso, and Nichole Taylor. 2011. "Collapse or Continuity? Concluding remarks on the Environment and Dvelopment of Bronze Age Human Landscapes." Socio-Environmental Dynamics over the Last 12,000 Years: The Creation of Landscapes II (14-18th March), Kiel.

Kohn, E. . 2015. "Anthropology of Ontologies." *Annual Review of Anthropology* 44: 311-317.

Krause, R. . 2003. *Studien zur kupfer- und frühbronzezeitlichen Metallurgie zwischen Karpatenbecken und Ostsee*. Vol. 24.*Vorgeschichtliche Forschungen*. Rahden: Leidorf.

Kristiansen, Kristian. 1998. *Europe before History*. Cambridge: Cambridge University Press.

---. 2013. "Theorising exchange and interaction in the Bronze Age." In *Exchange networks and local transformations : interaction and local change in Europe and the Mediterranean from the Bronze Age to the Iron Age*, edited by Maria Emanuela Alberti, Serena Sabatini and Kristian Kristiansen. Oxford: Oxbow Books.

---. 2016. "Interpretating Bronze Age Trade and Migration." In *Human Mobility and Technological Transfer in the Prehistoric Mediterranean*, edited by Evangelia Kiriatzi and Carl Knappett, 154-80. Cambridge: Cambridge University Press.

Kristiansen, Kristian, and Paulina Suchowska-Ducke. 2015. "Connected Histories: the Dynamics of Bronze Age Interaction and Trade 1500–1100 BC." *Proceedings of the Prehistoric Society* 81: 361-392.

Kuhn, M., and A. Heitz-Weniger. 2015. "Vegetation history and plant economy in the Circum-Alpine region Bronze Age and early Iron Age environments: stability or major changes?" In *The end of the lake-dwellings in the Circum-Alpine region*, edited by Francesco Menotti, 125-178. Oxford: Oxbow Books.

Lachenal, T. 2014. "Le village évanescent. Formes de l'habitat à l'âge du Bronze en France méditerranéenne." *Archéopages* 40: 26-35.

---. 2018. "Les établissements de hauteur de l'âge du Bronze en Provence." *Documents d'Archéologie Méridionale* 40: 145-162.

Laing, M. 2022. "Young hands at work. Using finger impressions to explore the demographic constitution of early and middle bronze age pottery-making communities of practice." *Oxford Journal of Archaeology* 41 (4): 350-372.

Latour, B. 2005. *Reassembling the Social: An Introduction to Actor-Network-Theory*. New York: Oxford University Press.

Laue, Ghilraen. 2021a. "Birds and Blurred Boundaries: Communities of Practice and the Problem of Regions in San Rock Art." In *Perspectives on differences in Rock Art*, edited by JM. Gjerde and MS. Arntzen, 266-283. UK: Equinox Publishing.

---. 2021b. "Rock Art, Regionality and Ethnography: Variation in Southern African Rock Art." *Rock Art Research* 38 (2): 138-151.

Layton, R. 2003. "The Alawa totemic landscape: Ecology, religion and politics." In *The Archaeology and Anthropology of Landscape. Shaping your Landscape*, edited by Peter J. Ucko and Robert Layton, 221–241. London: Routledge.

Le Roy, M., K. Nicolussi, P. Deline, L. Astrade, JL. Edouard, C. Miramont, and F. Arnaud. 2015. "Calendar-dated glacier variations in the western European Alps during the Neoglacial: The Mer de Glace record, Mont Blanc massif." *Quaternary Science Reviews* 108: 1-22.

Lee, C.E. 2008. The Drawings on the Wall. In *The Master of Paspardo*: BBC.

Leonardi, G., M. Cupito, M. Baioni, C. Longhi, and N. Martinelli. 2015. "Northern Italy around 2200 CAL BC - From Copper Age to Early Bronze Age: Continuity and/or Discontinuity?" *Tagungen des Landesmuseums Fur Vorgeschichte Halle* 13: 284-304.

Lester, V. 2018. *Marvels: The Life of Clarence Bicknell, Botanist, Archaeologist, Artist*. London: Matador.

Lesure, Richard G. 2011. *Interpreting ancient figurines : context, comparison, and prehistoric art*. Cambridge: Cambridge University Press.

Ling, J., E. Hjarthner-Holdar, L. Grandin, Z. Stos-Gale, K. Kristiansen, A. Melheim, G. Artioli, I. Angelini, R. Krause, and C. Canovaro. 2019. "Moving Metals IV: Swords, metal sources and trade networks in Bronze Age Europe." *Journal of Archaeological Science* 26: 1-34.

Ling, Johan, Richard J. Chacon, and Kristian Kristiansen. 2022. *Trade before civilization : long-distance exchange and the rise of social complexity*. Cambridge ; New York, NY: Cambridge University Press.

Lombardi, D. 2006. "Revisione stratigrafica del membro della Pietra Simona. Permiano Inferiore. Prealpi bresciane." PhD Thesis, Università degli Studi di Pavia.

Longa, E. Dalla, M. Dal Corsob, D. Vicenzuttoa, C. Nicosiaa, and M. Cupitò. 2019. "The Bronze Age settlement of Fondo Paviani (Italy) in its territory. Hydrography, settlement distribution, environment and in-site analysis." *Journal of Archaeological Science* 28: 1-18.

Marchi, E. 1997. "The Graffiti in Camunnian Rock Art." *TRACCE Online Rock Art Bulletin* 6.

Marinis, R.C. De. 1999. "Towards a relative and absolute chronology of the Bronze Age in Northern Italy." *Notizie Archeologiche Bergomensi* 7: 23-100.

---. 2009. "Continuity and Discontinuity in Northern Italy from the Recent to the Final Bronze Age: A View from North-Western Italy." *Scienze dell'Antichita* 15: 536-545.

Marretta, A. 2013a. "The Abstract Mind: Valcamonica Complex Geometric Compositions in Light of New Discoveries." XXV Valcamonica Symposium: L'arte come sorgente di storia, Capo di Ponte.

---. 2013b. "Age of the heroes: a brief overview of Valcamonica rock art during the Iron Age." *Adoranten*: 1-14.

---. 2014. "Tecniche di incisione e metodi di documentazionedell'arte rupestre in area centro-alpina:una panoramica aggiornata." *Notiziario dell'Istituto Archeologico Valtellinese*: 7-20.

---. 2015. "Trading images: exchange, transformation and identity in Valcamonica rock-art between the Bronze Age and the Iron Age." In *Picturing the Bronze Age.*, edited by P. Skoglund & U. Bertilsson J. Ling, 105-119. Oxford: Oxbows.

---. 2016. "Enlightening a rock art masterpiece new research on Seradina I Rock 12." *adoraten*: 110-125.

Marretta, A., and T. Cittadini. 2011. *Valcamonica Rock Art Parks: Guide to Visiting Routes*. Translated by P. Stortini. Capo di Ponte: Edizioni Del Centro.

Martínez-Grau, H., R. Jagher, Xavier O., J. Barceló, S. Pardo-Gordó, and F. Antolín. 2020. "Global processes, regional dynamics? Radiocarbon data as a proxy for social dynamics at the end of the Mesolithic and during the Early Neolithic in the NW of the Mediterranean and Switzerland (c. 6200-4600 cal BC)." *Documenta praehistorica* 47: 170-191.

McGlade, J. 2003. "Archaeology and the evolution of cultural landcapes." In *The Archaeology and Anthropology of Landscape. Shaping your Landscape*, edited by Peter J. Ucko and Robert Layton, 459–484. London: Routledge.

Medici, T. 2019. "Branding the Copper Age. A new framework for interpreting depictions of copper daggers on anthropomorphic stelae and rock art in the Alpine region." Archaeology (MA/MSc), Faculty of Archaeology, Leiden University.

Mehofer, Mathias, Reinhard Jung, Peter M. Fischer, and Teresa BÜRge. 2017. "Weapons and Metals – Interregional Contacts between Italy and the Eastern Mediterranean during

the Late Bronze Age." In *"Sea Peoples" Up-to-Date*, In New Research on Transformation in the Eastern Mediterranean in 13th-11th Centuries BCE, 389-400. Austrian Academy of Sciences Press.

Melheim, Lene, and Anette Sand-Eriksen. 2020. "Rock Art and Trade Networks: From Scandinavia to the Italian Alps." *Open Archaeology* 6: 86-106.

Menotti, F. 2015. "The 3500-year-long lake-dwelling tradition comes to an end: what is to blame?" In *The end of the lake-dwellings in the Circum-Alpine region*, edited by F. Menotti, 236-250. Oxford: Oxbow Books.

Middleton, G. 2017. *Understanding Collapse: Ancient History and Modern Myths*. Cambridge: Cambridge University Press.

Mitchell, PJ. 2005. "Why hunter-gatherer archaeology matters: A personal perspective on renaissance and renewal in southern African Later Stone Age research." *South African Archaeological Bulletin* 60, no. 182: 64–71.

Moggridge, M. 1869. "The Meraviglie." International Congress of prehistoric Archaeology, transactions of the Third Session, London.

Molloy, B. 2022. "Was There a 3.2 ka Crisis in Europe? A Critical Comparison of Climatic, Environmental, and Archaeological Evidence for Radical Change during the Bronze Age–Iron Age Transition." *Journal of Archaeological Research*.

Molloy, B., C. Bruyere, and D. Jovanovic. 2023. "Rethinking Material Culture Markers for Mobility and Migration in the Globalising European Later Bronze Age: A Comparative View from the Po Valley and Pannonian Plain." In *Rethinking Migrations in Late Prehistoric Eurasia*, edited by Manuel Fernandex-Gotz, Courtney Nimura, Phillip W. Stockhammer and Rachel Cartwright, 142-169. Oxford: Oxford University Press.

Morandi, L. F., and N. P. Branch. 2018. "Long-range versus short-range prehistoric pastoralism. Potential of palaeoecological proxies and a new record from western Emilia, northern Apennines, Italy." In *People and the Mountains*, edited by A. Pelisiak, M. Nowak and C. Astalo. Archaeopress Publishing Ltd.

Motta, AP., PM. Veth, and Corporation Balanggarra Aboriginal. 2021. "Relational ontologies and performance: Identifying humans and nonhuman animals in the rock art from north-eastern Kimberley, Australia." *Journal of Anthropological Archaeology* 63 (101333): 1-15.

Mourey, JM., and N Bianchi. 2020. "Moving beyond the Bego God Some new remarks about the interpretation of the prehistoric engravings of the Vallée des Merveilles and the Val de Fontanalba (Tende, Alpes-Maritimes, France)." In *Shepherds Who Write*, edited by M. Bazzanella and G. Kezich. Oxford: BAR Publishing.

Mourey, JM., and N. Bianchi. 2021. "Le mont Bego à l'âge du Bronze final et à l'âge du Fer : un hiatus ?" *Bulletin du Musée d'Anthropologie Préhistorique de Monaco* 60: 175-182.

Müller, A., M. Jorda, and JM. Gassend. 2004. "L'occupation humaine de la vallée de l'Ubaye et les modalités du peuplement de la zone intra-alpine." *Méditerranée* 102: 95-108.

Mussi, Margherita. 2002. *Earliest Italy: An Overview of the Italian Paleolithic and Mesolithic.Interdisciplinary Contributions to Archaeology*. Boston, MA: Kluwer Academic Publishers.

Nash, G. 2000. *Signifying Place and Space: World perspectives of rock art and landscape*. Edited by G Nash. Vol. 902*BAR international Series*: British Archaeological Reports.

Nash, G. 2012. "Replicating Cultural Landscapes: Interpreting Rock-art in the Valcamonica, Lombardy, Italy." *Landscapes* 12: 1-19.

---. 2017. "Art and Environment: How Can Rock Art Inform on Past Environments?" In *The Oxford handbook of the archaeology and anthropology of rock art*, edited by B. David and IJ. McNiven. New York: Oxford University Press.

---. 2021. "Understanding landscape composition without rock art: a study of panel/canvas behaviour in the Valcamonica, Lombardy, Northern Italy." In *Indigenous Heritage*

and Rock Art: Worldwise Research in Memory of Daniel Arsenault, edited by C. Charette, A. Mazel and G. Nash, 32-42.

Nash, G., and C. Chippindale. 2002. *European Landscapes of Rock Art*. London: Routledge.

Nicolis, Franco. 2013. "Northern Italy." In *The Oxford Handbook of the European Bronze Age*, edited by Harry Fokkens and Anthony Harding, 693-705. Oxford Handbooks Online: Oxford University Press.

Norder, J. 2012. "The creation and endurance of memory and place among First Nations of Northwestern Ontario, Canada." *International Journal of Historical Archaeology* 16 (2): 385-400.

Nowell, A. 2015. "Learning to See and Seeing to Learn: Children, Communities of Practice and Pleistocene Visual Cultures." *Cambridge Archaeological Journal* 25 (4): 889-899.

Nyord, R. 2020. *Seeing Perfection: Ancient Egyptian Images beyond Representation*. Cambridge: Cambridge University Press.

P.J, Ucko. 1977. *Form in Indigenous Art : Schematisation In the art of Aboriginal Australia & Prehistoric Europe*. London: Gerald Duckworth.

Pacciarelli, M. 2001. *Dal villaggio alla città. La svolta protourbana del 1000 B.C nell'Italia tirrenica*. Vol. 4.*Grandi contesti e problemi della Protostoria Italiana*. Firenze: All'Insegna del Giglio.

Papadimitriou, N., and D. Kriga. 2013. "'Peripheries' versus 'cores': The integration of secondary states into the world-system of the Eastern Mediterranean and the Near East in the Late Bronze Age (1600–1200 BC)." In *Exchange Networks and Local Transformations*, edited by Maria Emanuela Alberti and Serena Sabatini, 9-21. Oxford: Oxbow Books.

Papaleo, L., G. Quercini, V. Mascardi, M. Ancona, A. Traverso, and H. De Lumley. 2011. "Agents and Ontologies for understanding and preserving the rock art of Mount Bego." Agents and Artificial Intelligence Third International Conference, ICAART, Rome.

Pare, C. 2008. "Italian Metalwork of the 11th - 9th Cneturies BC and the Absolute Chronology of the Dark Age Mediterranean." A New Dawn for the Dark Age? Shifting Paradigms in Mediterranean Iron Age Chronology, Lisbon.

---. 2013. "Weighing, Commodification, and Money, in The European Bronze Age." In *The Oxford Handbook of the European Bronze Age*, edited by Harry Fokkens and Anthony Harding. The Oxford Handbook Online: The Oxford Handbook

Pearce, M. 2020. "Aspects of Urbanism in Later Bronze Age Northern Italy." In *Crossing the Alps: Early Urbanism between Northern Italy and Central Europe (900-400 BC)*, edited by L. Zamboni, M. Fernández-Götz and C. Metzner-Nebelsick, 19-26. Leiden: Sidestone Press.

Pearce, M., P. Bellintani, and F. Nicolis. 2020. "Frattesina and the later Bronze Age – Early Iron Age metals trade: the absolute chronology of smelting sites in the Trentino – Alto Adige/Südtirol." *Padusa, Bolleteino de Centro Polesano* 55: 67-86.

Pearce, Mark. 1995. "Exchange northwards from peninsular Italy in the first millennium BC: the western Po Plain and the Alpine passes." In *Italy in Europe : economic relations, 700 B.C.--A.D. 50*, edited by Judith Swaddling, Susan Walker, Paul Roberts and Colloquium British Museum Classical, 145-157. London: British Museum.

---. 1997. "The copper supply in Frattesina." Metals Make the World Go Round: The Supply and Circulation of Metals in Bronze Age europe, University of Birmingham.

---. 2019. "Frattesina: la prospettiva europea." In *Frattesina: un centro internazionale di produzione e di scambio nella Tarda Età del Bronzo del Veneto*, edited by Paolo Bellintani & Claudio Giardino Anna Maria Bietti Sestieri, In Atti della Accademia nazionale dei Lincei. Classe di Scienze Morali, Storiche e Filiologiche, Memorie (ninth series), 337-352. Roma: Accademia Nazionale dei Lincei.

Perego, Elisa, and Rafael Scopacasa. 2016. *Burial and social change in first-millennium BC Italy : approaching social agents : gender, personhood and marginality*. Oxford: Oxbow Books.

Perego, Elisa, Rafael Scopacasa, and Silvia Amicone. 2019. *Collapse or Survival: Micro-dynamics of crisis and endurance in the ancient central Mediterranean*. Oxbow Books.

Perucchetti, L. 2017. *Physical barriers, cultural connections : a reconsideration of the metal flow at the beginning of the Metal Age in the Alps*. Oxford, England : Archaeopress. 2017 ©2017.

Perucchetti, L., P. Bray, A. Dolfini, and A. Pollard. 2015. "Physical Barriers, Cultural Connections: Prehistoric Metallurgy across the Alpine Region." *European Journal of Archaeology* 18 (4): 599-632.

Pétrequin, P., and AM. Pétrequin. 2016. "The Production and Circulation of Alpine Jade Axe-Heads during the European Neolithic: Ethnoarchaeological Bases of Their Interpretation." 47-76. Cham: Springer International Publishing.

Pini, R., C. Ravazzi, L. Raiteri, A. Guerreschi, L. Castellano, and R. Comolli. 2017. "From pristine forests to high-altitude pastures: an ecological approach to prehistoric human impact on vegetation and landscapes in the western Italian Alps." *Journal of Ecology* 105 (6): 1580-1597.

Poggiani-Keller, R. 2018. "Copper Age ancestral sanctuaries and landscapes in Valle Camonica." The Archaeology of Death, Proceedings of the Seventh Conference of Italian Archaeology National University of Ireland, Galway.

Ponel, P., V. Andrieu-Ponel, F. Parchoux, I Juhasz, and JL. De Beaulieu. 2001. "Late-glacial and Holocene high-altitude environmental changes in Vallée des Merveilles (Alpes-Maritimes, France) : insect evidence." *Journal of Quaternary Science* 16 (8): 795-812.

Porr, M. 2019. "Rock art as art." *Time and mind* 12 (2): 153-164.

Porr, M., and HR. Bell. 2012. "'Rock-art', 'animism' and two-way thinking: towards a complementary epistemology in the understanding of material culture and 'rock-art' of hunting and gathering people." *Journal of archaeological method and theory* 19 (1): 161–205.

Pr18, Vicente. 2018. "Bego (Mount) from les Mesches." Accessed 2023. https://www.gulliver.it/itinerari/bego-monteda-les-mesches/.

Priuli, A. 1994. "Le incisioni fusiformi per sfregamento ripetuto nel mondo alpino centro-occidentale." AA.VV., Atti della XXXI Riunione Scientifica dell'Istituto Italiano di Preistoria e Protostoria, Firenze.

---. 1997. "Analisi delle tecniche di incisione in Valle Camonica." Archeologia e arte rupestre. L'Europa, le Alpi, la Valcamonica. Secondo convegno internazionale di archeologia rupestre, Milano.

Radivojevic, M., B. Roberts, E. Pernicka, Z. Stos-Gale, M. Martinon-Torres, T. Rehren, P. Bray, D. Brandherm, J. Ling, J. Mei, H. Vandkilde, K. Kristiansen, S. Shennan, and C. Broodbank. 2019. "The Provenance, Use and Circulation of Metals in the European Bronze Age: The state of debate." *Journal of Archaeological Research* 27: 131–185.

Rajnovich, G. 1994. *Reading Rock Art: Interpreting the Indian Rock Paintings of the Canadian Shield*. Toronto: Natural Heritage/Natural History Inc.

Renfrew, C. 2005. "Archaeology and commodification: the role of things in societal transformation." In *Commodification : Things, Agency, and Identities: (The Social Life of Things Revisited)*, edited by W. M. J. v. Binsbergen and P. Geschiere, 85-97. Münster.

Robb, J. 2015. "Prehistoric Art in Europe: A Deep-Time Social History." *American Antiquity* 80 (4): 635-654.

---. 2020. "Art (Pre)History: Ritual, Narrative and Visual Culture in Neolithic and Bronze Age Europe." *Journal of archaeological method and theory* 27 (3): 454-480.

Roberts, B., M. Uckelmann, and D. Brandherm. 2013. "Old Father Time: The Bronze Age Chronology of Western Europe." In *The Oxford Handbook of European Bronze Age*, edited by A. Fokkens and H. Harding. Oxford Academic.

Robinson, DW. . 2016. "Transmorphic being, corresponding affect: ontology and rock art in South-Central California." In *Archaeology after Interpreation*, edited by B. Alberti, AM. Jones and J. Pollard, 59-78. New York: Routledge.

Rock Engravings Nature Reserve of Ceto, Cimbergo and Paspardo. 2023. "Foppe di Nadro." Accessed 30/03/2023. http://www.arterupestre.it/foto/foppe-di-nadro-gallery/.

Roddick, A. 2009. "Communities of Pottery Production and Consumption on the Taraco Peninsula, Bolivia, 200 BC–AD 300. ." Ph.D. dissertation, University of California.

Roncaglia, CE. 2018. *Northern Italy in the Roman World: From the Bronze Age to Late Antiquity* Baltimore: John Hopkins University Press.

Rondini, P. 2022. *Protostoria delle Valli Lombarde: Vol. I. Insediamenti e materiali dalle province di Bergamo e Brescia*. Edited by Paolo Rondini & Lorenzo Zamboni Mario Cesarano. Vol. I.*Reditus: Riflessioni di Archaeologia*. Roma: Edizioni Quasar di Severino Tognon S.r.l.

Rondini, P., and A. Marretta. 2021. "Dos dell'Arca e l'area dei Quattro Dossi (Capo di Ponte, BS): un aggiornamento." XXVII Valcamonica Symposium 2019, Capo di Ponte.

Rondini, P., and R. Poggiani-Keller. 2021. "The sanctuary of Cemmo: a tale of two monuments." *Preistoria Alpina* 51: 5-27.

Rondini, P., and L. Zamboni. 2020. "Another post in the fence. Proto-urban delimitations in Final Bronze Age and Early Iron Age Northern Italy " Late Prehistoric Fortifications in Europe: Defensive, Symbolic and Territorial Aspects from the Chalcolithic to the Iron Age, Guimarães.

Rowe, M. 2001. "Dating by AMS radiocarbon dating." In *Handbook of Rock Art Research*, edited by D.S. Whitley, 139-166. California: AltaMira Press.

Rupestre.net. 1996a. "Rock Art in the western Alps - ARchive Online project." http://www.rupestre.net/archiv/ar9.htm.

---. 1996b. "Rock Art in the western Alps - ARchive Online project." http://www.rupestre.net/archiv/2/ar27.htm.

Sansoni, U., C. Bettineschi, and S. Gavaldo. 2016. "Filiform figures in the rock art of Valcamonica from Prehistory to Roman age." Post-Palaeolithic Filiform Rock Art in Western Europe: Proceedings of the XVII UISPP World Congress, Spain.

Sassaman, KE. 2016. "A constellation of practice in the experience of sea-level rise." In *Knowledge in Motion: Constellations of Learning Across Time and Place*, edited by AP. Stahl Roddick, AB., 271-298. Tucson: University of Arizona Press.

Scarre, Christopher. 1998. *Exploring prehistoric Europe*. New York: New York : Oxford University Press 1998.

Schaafsma, P., ed. 2013. *Images and Power: Rock Art and Ethics*, *SpringerBriefs in Anthropology*. London: Springer.

Scholz, D., S. Frisia, A. Borsato, C. Spötl, J. Fohlmeister, M. Mudelsee, R. Miorandi, and A. Mangini. 2012. "Holocene climate variability in north-eastern Italy: Potential influence of the NAO and solar activity recorded by speleothem data." *Climate of the Past* 8: 1367–1383.

Sherratt, A, and S. Sherratt. 2001. "Technological change in the East Mediterranean Bronze Age:capital, resources and marketing " The social context of techno-logical change: Egypt and the Near East, 1650-1550 BC. , Oxford.

Sigari, D. 2022. *Palaeolithic rock art of the Italian peninsula*. Capo di Ponte: Centro Camuno di Studi Preistorici.

Skoglund, Peter, Johan Ling, and Ulf Bertilsson. 2015. *Picturing the Bronze Age*. Oxford: Oxbow Books.

Smith, B., and G. Blundell. 2004. "Dangerous ground: A critique of landscape in rock-art studies." In *Pictures in Place. The Figured Landscapes of Rock Art*, edited by C. Chippindale and G. Nash, 239–262. Cambridge: Cambridge University Press.

Smith, C. 2017. "Cultural Exchange in Northern Italy." *Ledizioni* 13 (2): 171-206.

Sognnes, K. 2001. *Prehistoric Imagery and Landscapes. Rock Art in Stjordal, Trondelag, Norway*. Oxford: BAR.

---. 2003. *Rock art in landscapes - landscapes in rock art*. Vol. 4. Trondheim: DKNVS Skrifter.

Soifer, A. 2022. "Art in the Community: The Role of Antefix Production in Archaic Central and Southern Italy." In *Ancient Art Revisited*, edited by C. Watts and C. Knappett, 221-242. London: Routledge.

Sorensen, L. 2016. "New theoretical discourses in the discussion of the Neolithisation process in South Scandinavia during the late 5th and early 4th millennium BC – an identification of learning processes, communities of practise and migrations." *Documenta Praehistorica* XLIII: 209-234.

Sorensen, MLS., and K. Rebay-Salisbury. 2006. "The impact of 19th century ideas on the construction of 'urnfield' as a chronological and cultural concept: tales from Northern and Central Europe." Construire le temps. Histoire et méthodes des chronologies et calendriers des derniers millénaires avant notre ère en Europe occidentale, Lille.

Stahl, A., and A. Roddick. 2016. *Knowledge in motion : constellations of learning across time and place.Amerind Series in Anthropology*. Tucson: The University of Arizona Press.

Tasca, Giovnni, Cristiano Putzolu, and David Vicenzutto. 2013. "Between the Po plain and middle-Danubian Urnfield cultures: Codroipo and the Friulian plain in 12th century BC." Inter-regional contacts during the first millenium B.C. in Europe: Proceedings from thes session organised during 19th Meeting of European Association of Archaeologists, Pilsen.

Taylour, William. 1958. *Mycenean pottery in Italy, and adjacent areas*. Cambridge: Cambridge University Press.

Thomas, J. 2003. "La symbolique des gravures rupestres du Mont Bego." *L'Anthropologie* 107 (2): 271-290.

Todd, Z. 2016. "An indigenous feminist's take on the ontological turn: 'Ontology' is just another word for colonialism." *Journal of Historical Sociology* 29 (1): 4–22.

Trentacoste, A., A. Nieto-Espinet, S. Guimarães, B. Wilkens, G. Petrucci, and S. Valenzuela-Lamas. 2021. "New trajectories or accelerating change? Zooarchaeological evidence for Roman transformation of animal husbandry in Northern Italy." *Archaeological and Anthropological Sciences* 13 (1): 25.

Trentacoste, A., A. Nieto-Espinet, and S. Valenzuela-Lamas. 2018. "Pre-Roman improvements to agricultural production: Evidence from livestock husbandry in late prehistoric Italy." *PLoS One* 13 (12).

Valdez-Tullet, Joana. 2021. "An integrated methodology for the study of Atlantic Rock Art." *Quaternary International* 572: 139-150.

Valsecchi, V., W. Tinner, W. Finsinger, and B. Ammann. 2006. "Human impact during the Bronze Age on the vegetation at Lago Lucone (northern Italy)." *Vegetation History and Archaeobotany* 15 (2): 99-113.

Vandkilde, H. 2016. "Bronzization: The Bronze Age as Pre-Modern Globalization." *Praehistorische Zeitschrift* 91 (1): 103-123.

Vannière, B., MJ. Power, N. Roberts, W. Tinner, J. Carrión, M. Magny, P. Bartlein, D. Colombaroli, AL. Daniau, W. Finsinger, G. Gil-Romera, P. Kaltenrieder, R. Pini, L. Sadori, R. Turner, V. Valsecchi, and E. Vescovi. 2011. "Circum-Mediterranean fire activity and climate changes during the mid-Holocene environmental transition (8500-2500 cal. BP)." *The Holocene* 21 (1): 53-73.

Vianello, A. 2011. *Exotica in the prehistoric Mediterranean*. Oxford: Oxbow Books.

---. 2015. "People of the Waters in Northern Italy." In *Rivers in Prehistory*, edited by Andrea Vianello, 89-102. Archaeopress.

Wallis, R. 2009. "Re-enchanting Rock Art Landscapes: Animic Ontologies, Nonhuman Agency and Rhizomic Personhood." *The journal of Archaeology, Consciousness and Culture* 2 (1).

Walsh, K., and F. Mocci. 2011. "Mobility in the Mountains: Late Third and Second Millennia Alpine Societies' Engagements with the High-Altitude Zones in the Southern French Alps." *European Journal of Archaeology* 14 (1-2): 88-115.

Walsh, Kevin. 2014. "Rivers and Wetlands." In *The Archaeology of Mediterranean Landscapes: human-environment interaction from the Neolithic to the Roman Period*, 68-118. New York: Cambridge University Press.

Wendrich, W., ed. 2013. *Archaeology and Apprenticeship: Body Knowledge, Identity, and Communities of Practice*. Tucson: The University of Arizona Press.

Wenger, E. 1998. *Communities of Practice: Learning, Meaning and Identity*. Cambridge: Cambridge University Press.

Wenger, E., and W. Snyder. 2000. "Communities of Practice: The Organizational Frontier." *Harvard Business Review*: 139-145.

Whitley, D. 2011. *Introduction to rock art research.Rock art research*. Walnut Creek: Left Coast Press

Whitridge, P. 2004. "Landscapes, houses, bodies, things: 'Place' and the archaeology of Inuit imaginaries." *Journal of Archaeological Method and Theory* 11 (2): 213–250.

Witelson, D. 2022. "The many meanings of "integration": Some thoughts on relating rock art and excavated archaeology in South Africa." *African Archaeological Review* 39: 221-240.

Zamboni, L., M. Fernández-Götz, and C. Metzner-Nebelsick, eds. 2020. *Crossing the Alps : Early Urbanism Between Northern Italy and Central Europe (900-400 BC)*. Leiden: Sidestone Press.

Zamboni, Lorenzo. 2021. "The Urbanization of Northern Italy: Contextualizing EarlySettlement Nucleation in the Po Valley." *Journal of Archaeological Research*.

Zawadzka, D. 2019. "Rock art and animism in the Canadian Shield." *Time and Mind* 12 (2): 79-94.

---. 2021. "Rock art and relational ontologies in Canada." In *Ontologies of rock art : images, relational approaches and indigenous knowledges*, edited by O. Moro Abadía and M. Porr, 264-282. Oxon: Routledge.

Zilhão, J. . 1995. "The age of the Coa valley (Portugal) rock-art: validation of archaeological dating to the Palaeolithic and refutation of 'scientific' dating to historic or proto-historic times." *Antiquity* 69 (266): 883–901.