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# SLA of Mandarin Nominal Syntax: Early Stages

Dr. Helen Charters
University of Auckland, New Zealand.
H.charters@auckland.ac.nz

## Outline

- Structures studied: nominals, sentences
- Processability: Theory & Methodology
- PT account of Mandarin emergence order
- Evaluation
  - Only partial success
- An alternative
  - Emergent Functional Grammar
- Conclusions
  - Contributors to processing demands



## Nominal structures

Pronoun	wo, nimen etc	我, 你们		
Noun	hua, shu, haizi	画,书,孩子		
Incorporated Locative	hubian	湖边		
'Adj'-N	da shu	大树		
Poss 0 (Affine)	wo mama	我妈妈		
de (Poss/Gen)	nide hua	你的画		
de (Att)	riben de shouyinji	日本的收音机		
de (Loc)	shu de houbian	树的后边		
de (Adj)	hen da de zixingche	很大的自行车		
de (RC)	da zuqiu de ren,	达足球的人		
	ta chang de ge	他唱的歌		
Num-Class N	yi ben shu	一本书		
Dem-Class N	na zhang zhuozi	那张桌子		



## Sentence structures

SVO tā hěn piàoliàng 她很漂亮

ADV/PP 1st míngtiān wǒ qù dàxué.明天我去大学

wǒ zai tushuguan kan shu. 我在图书馆我看书

Top <u>wǒ</u> Bēijīng méi qù 我北京没去

<u>biéde</u> wǒ dōu bú zhīdào 别的我都不知道

Ba *Tā bǎ xìn jìle* 他把信寄了

**Aspect** 

1。 Experiential *wo qu-guo Beijing* 我去过北京

2。 Progressive Zhengzai kan shu 正在看书

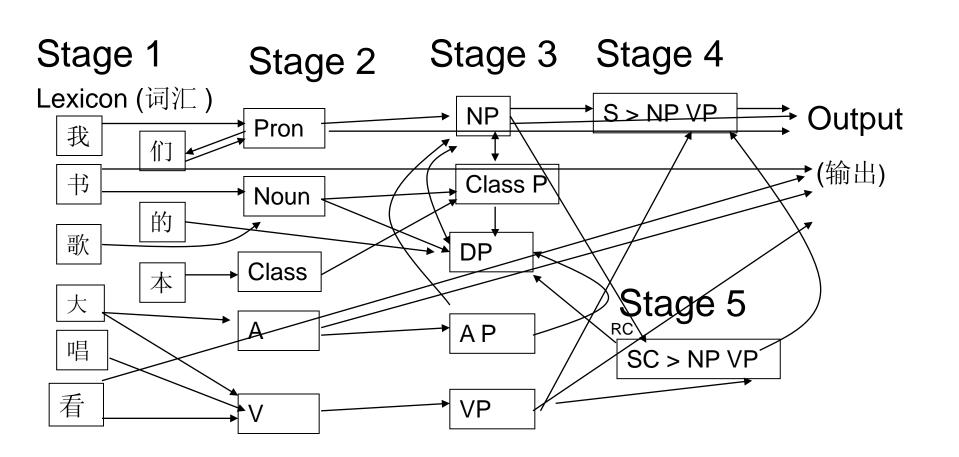
# Processability Theory (PT)

- Thinking for speaking (Levelt, 1989)
  - Lexical concepts activate lemmas
  - Lemmas encode syntactic information and link meanings to forms
  - Word forms compete: the best match wins
- Incremental Procedural Grammar (Kempen & Hoenkamp 1987)
  - Distinct procedures for each constituent type
  - Parallel processing
  - Output from one procedure feeds second procedure
- Lexical Functional Grammar (Bresnan, 1987)
  - Words in a structure share information (features)
  - Compatible features = Acceptable structures (unification)



## Procedural Grammar

Conceptual content (概念内容)





## Developmental Stages: Predictions

#### Morphology

- 1. 'Lemma': no variation in form wo 我; ni 你; hubian 湖边
- 2. Bound 'Lexical' morphs & function words women 我门, 三个
- 3. Agreement *within* phrase ben本 ~shu 书
- 4. Agreement *between* phrases [他们][ 互相]了解
- 5. Complementiser
  - ? 跑得谁都找不到[]

#### Syntax

- 1. Basic Alignment: 主题 =主词 我喜欢汉语
- 2. Categorial: (词类) Pron (代) vs N (名)
- 3. Phrasal (词组 ): modifier-head [我爸爸] [三个书] [三-本书]
- 4. S-procedure Marked order: 汉语我喜欢[] Subordinate clauses (从句)

Subordinate clauses (从句) <mark>她唱[Î的</mark>歌很好听



# Methodology

- Unplanned spoken output
- Elicitation targets key structures
- All output analysed (TL-like or not)
- Emergence criterion (2+ tokens)
- Tests for productivity (variability in tokens)
- Longitudinal (direct observation of order)
- Implicational scaling (co-occurrence)



# Results 1(PT)

	1 lem	2 category		3	3 phrasal 4 sim		simple	S	5 inter-phrasa		al	
tm	wk	Zha	ang		wk	Charte	ers	wk		Gao		stage
1_			-	=	71	N, Pron		3-7	7	SVO		1
2	5	Poss	s de		7	Num-Clas	SS			Poss 0> F	oss o	de 2
3	10	Num	-Clas	SS	10	Poss 0 >	Poss	s de 11	-17 🍴	Num-Clas	SS	3
						'Adj'-N						
4	12	Zher	ngzai	T		<u> </u>			A	DW/PP 1s	it	(4)
	13	de (	ADJ	RC) (D)					de	(ADJ)	_	
		Loc	de									
5	16	Den	n-Cla	SS	16	Dem-Cla	ISS					
						de (ATT)	/de	(ADJ)				
						Locative	comp	oound				
6	22	V-gu	Ю		25	Loc	de		21-25	de(AT	T)	
										Top		4
7	29	de (	ADJ/	RC) (S)		(*R	C)			Ba/ RC	,	5



## Evaluation of PT account

- What works?
  - Emergence order broadly similar in all studies,
  - Structures emerge in 5 rough steps
  - The stage 5 RC is late (or fails to emerge)
- What doesn't work?
  - PT's Stages 2,3 and 4 are not clearly distinct.
  - Stage 2 structures continued to emerge throughout
    - Locative de and V-guo are very late.
  - Same structures group differently
  - Ba and topicalisation emerged alongside RC.



# Zhang on De

- Stage 2 (lexical morphs)
  - de GEN (possessive N de N)
  - de (Att) (non-possessive N de N)
  - de (Adj) ('Adj' N)
    - "their insterion does not involve any feature unification with other constituents"
- Stage 5
  - de (RC) Clause de N
    - 'Syntactic and semantic information of the RC and the head noun is exchanged via the particle 'de (RC), making it an inter-phrasal morpheme as the information transfer occurs across phrasal boundaries between a clause and a noun.
    - 'de' 'represents the head noun in that it nominalizes the RC'; it is 'related to the within-clause function (or gap) on the one hand, and the head noun on the other.

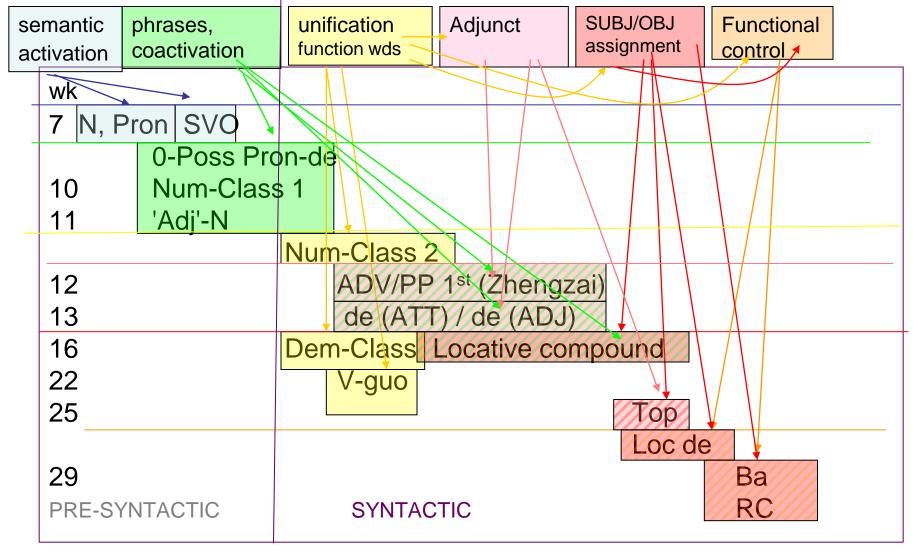


## Charters on De

- Stage 1
  - Possessive suffix
- Stage 3
  - Function word creating De P
  - Introduces an Adjunct Function (modifier)
    - 'Adj' introduces no syntactic function, freely fills adjunct slot
- Stage 5
  - Function- linking in DeP:
    - RC V and Locative Noun introduce Grammatical Functions (SUBJ-OBJ)
    - Thes must be formally linked to ADJUNCT GF.



Emergent Functional Grammar





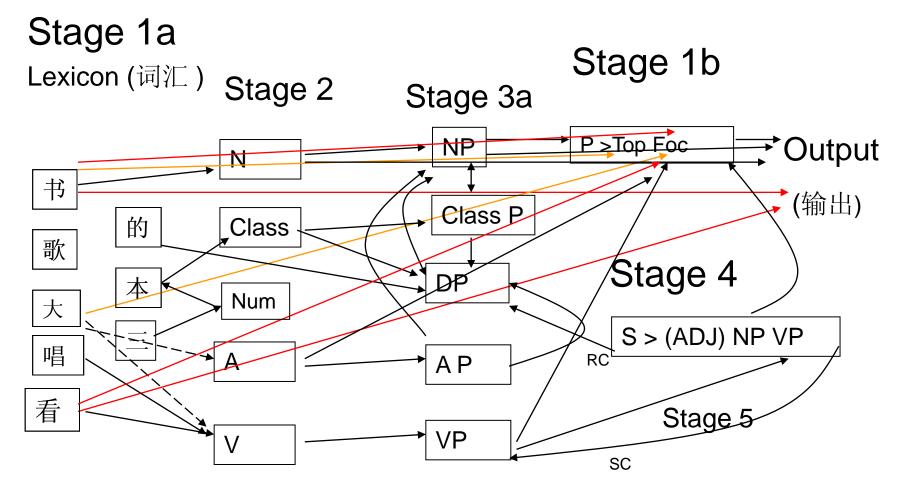
# **Emergent Functional Grammar**

- Early processing is semantic
  - Two lemmas may access one categorial procedure: compounds like hubian
  - Two lemmas may be activated by the same concept with no comparison in syntax: classifier and noun
- Structure building precedes agreement
  - Two unmarked words combine in a phrase, with semantic restrictions
  - Unmarked 'possession'
- Grammaticalisation reduces semantic restrictions
  - De supports all modifier types
- BUT it brings processing costs
  - Formal GFs require syntactic checking processes

## The END

# Development in EFG

Conceptual content (概念内容)





## Allocation to stages

#### Morphology

- 1. 'Lemma': no variation in form wo 我; *ni* 你; *houbian* 后边
- Bound 'Lexical' morphs & function words

#### wode 我的 sange 三个

- 3. Agreement *within* phrase shu 书 ~ ben本
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Subordinate clauses (从句) 她唱[i的歌很好听

### RC

```
(20) wŏ măi de shū hěn piányí.
(I buy _ de book very cheap
The book I bought is cheap)
 FOCUS [PRED 'SHU']
 SUBJ [PRED 'WO']
 OBJ [ ]
 PRED 'MAI <(SUBJ)(OBJ)>'
- Zhang (2001)
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