

# Double topicalization, I find really interesting.

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MIT Syntax Square | 24 October 2017

## Overview<sup>1</sup>

Whether Chinese topics are syntactically constrained remains a debatable issue. In this talk, I present on-going work suggesting that in double topicalization constructions, the base-generated topic must precede the moved topic, and if both topics are derived via movement, the two intersecting movement paths must be in a “nested” relation (i.e. the Path Containment Constraint, Pesetsky (1982)). This challenges the view that Chinese topics are only constrained by a semantic “aboutness” relation with the comment clause (cf. Xu and Langendoen, 1985), and provides new cross-linguistic evidence for PCC effects (see Appendix).

For the second part of this talk, I discuss a new puzzle regarding topicalization in embedded environments. Specifically, I observe that for certain predicates in non-asserted contexts (Hooper & Thompson, 1973; Miyagawa, to appear), embedded topicalization is possible only if the matrix subject binds a pronoun or a reflexive *ziji* in the embedded clause.

## 1 Background

- Mandarin Chinese: topic-prominent language
  - ◊ Extensive use of Topic-Comment constructions, many of which are not derived from any other base word order, i.e. “dangling topics” (Householder & Cheng, 1971; C. N. Li & Thompson, 1976, 1981; Y.-H. A. Li, 2000; Shi, 2000). We focus on nominal topics.

- (1) a. zhejian shi    wo piping le    ta  
          this-CL matter 1SG criticise PERF 3SG  
          ‘This matter, I criticised him/her because of (it).’  
      b. \*wo piping le    ta zhejian shi  
          1SG criticise PERF 3SG this-CL matter  
          Intended: ‘I criticised him/her because of this matter.’

### 1.1 Properties

- An “aboutness” relation with the comment clause (P. Chen, 1996; Hu & Pan, 2009; Shyu, 1995; Tan, 1991; Xu & Langendoen, 1985)
- Definite/generic, but not indefinite
- Optionally followed by a topic marker (glossed here as TOP) or a pause

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<sup>1</sup>Examples are my own unless otherwise stated; judgements are based on 10-15 native speakers. I thank Cater Fulang Chen, Mary Dalrymple, Fang Jackson-Yang, Shigeru Miyagawa, David Pesetsky, Norvin Richards, Alexander Williams, and Danfeng Wu for many helpful comments. All errors are mine.

## 1.2 Two types of topics

- Based-generated topics (C. N. Li & Thompson, 1981, p. 96)

(2) neichang huo, xingkuai xiaofangyuan lai de kuai  
that-CL fire luckily firefighter come DE fast  
'As for that fire, luckily the firefighters came quickly.'

- Moved topics

(3) a. xiongmao<sub>i</sub>, wo jian guo \_\_\_\_<sub>i</sub>  
panda 1SG see PERF  
'Pandas I have seen.'  
b. wo jian guo xiongmao  
1SG see PERF panda  
'I have seen pandas.'

◇ Alternatively: a based-generated topic + object dropping?

◇ Island effects? C. R. Huang (1992) suggests that (4) and (5) contrast sharply:

(4) \*neiben shu<sub>i</sub>, wo bu xiangxin kan-guo \_\_\_\_<sub>i</sub> de ren.  
that-CL book I NEG believe read-PERF DE person  
Intended: 'That book, I don't trust the people who have read (it).'

(5) zhejian shi<sub>i</sub>, wo bu zancheng ni chuli \_\_\_\_<sub>i</sub> de shiji.  
this-CL issue I NEG consent you deal DE timing  
'This issue, I do not consent to the timing of your dealing (with it).'

◇ But if (5) can be interpreted as involving a base-generated topic, then no island effects would be expected? We'll return to this point later.

## 2 Double Topicalization

- Two nominal topics appear in the clause-initial position, both preceding the subject.

◇ "In principle, there is no upper limit on the number of topics allowed, but in practice..... other factors intervene to restrict the number." (Miyagawa, to appear)

- "Long-distance topicalisation" (C.-T. J. Huang, 1982): a nominal constituent is moved to the clause-initial topic position:

◇ Suggesting a dependency relation between the moved topic and the gap, analogous to *wh*-dependencies (in languages with overt *wh*-movement).

◇ Question: How is the relative order of Chinese double topics syntactically constrained?

- Theoretical framework/assumptions:

◇ A recursive Topic Phrase (Gasde & Paul, 1996; Rizzi, 1997; Xu, 2000) above IP.

◇ A Larsonian (1988, 1990), binary-branching representation of VPs.

◇ A small-clause analysis of double objects (Beck & Johnson, 2004; Kayne, 1984).

## 2.1 Three possibilities

- Two base-generated topics

(6) zhongguo a, da chengshi ne, Beijing zui luan  
 China TOP big city TOP Beijing most chaotic  
 ‘China, big cities, Beijing is the most chaotic.’ (Gasde & Paul, 1996, p. 269)

- One base-generated topic + one moved topic

(7) hua, meigui-hua<sub>i</sub> ta zui xihuan \_\_\_\_<sub>i</sub>  
 flower rose-flower 3SG most like  
 ‘Flowers, roses, he/she likes them the most.’ (Paul, 2002, p. 710)

- Two moved topics

(8) zhejian shi<sub>i</sub>, lixiansheng<sub>j</sub>, wo gaosu guo \_\_\_\_<sub>j</sub> \_\_\_\_<sub>i</sub>  
 This-CL matter Mr.Li 1SG tell PERF  
 ‘This matter, Mr.Li, I have told (him) about (it).’ (Xu & Langendoen, 1985, p. 17)

## 2.2 S. Y. Chen (2017): Two observations

### 2.2.1 Base-generated topics >> moved topics

- The **base-generated** topic must precede the **moved** topic: locality (?)

*Context: David enters a flower shop. The shop assistant asks him what flower his wife likes.*

- (9) a. hua, meigui-hua<sub>i</sub>, ta zui xihuan \_\_\_\_<sub>i</sub>  
 flower rose-flower 3SG most like  
 ‘Flowers, roses she likes the best.’  
 b. \*meigui-hua<sub>i</sub>, hua, ta zui xihuan \_\_\_\_<sub>i</sub>  
 rose-flower flower 3SG most like  
 ‘Roses, she likes flowers best.’

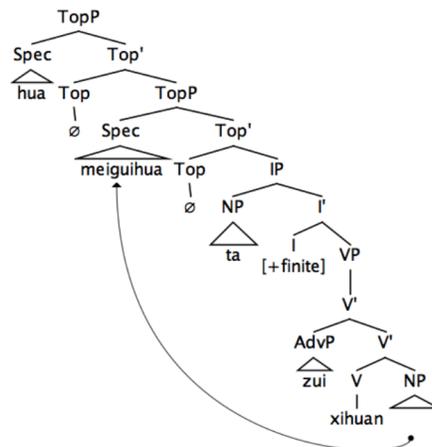


Figure 1: Movement path in (9a)

- Similar insights from Badan and del Gobbo (2011, p. 26), but the examples cited as evidence are unfortunately very unnatural, lending little actual support for their argument.

(10) \*wo suoyou de pengyou, dui Zhangsan, wo yijing shuohua.  
 1SG all DE friend to Zhangsan 1SG already speak  
 ‘Among all my friends, to Zhangsan, I already spoke.’

(11) \*wo de jia ren, ti baba, Zhangsan jiedao hen duo qian le.  
 1SG DE family for father Zhangsan borrow very much money PERF  
 ‘As for my family, for my father, Zhangsan already borrowed much money.’

- Not only bare NPs can be topicalized; Topics can come from within a Classifier Phrase, as in (12a). They can also cross clause boundary and be extracted from an embedded clause, as shown in (12b):

*Context: Shigeru asks Norvin if his daughter has bread for breakfast.*

(12) a. zaocan ne, mianbao<sub>i</sub> dehua, ta zhi chi yi-pian \_\_\_\_<sub>i</sub>  
 breakfast TOP bread TOP 3SG only eat one-CL  
 ‘As for breakfast, bread, she only eats one slice.’  
 b. zaocan ne, mianbao<sub>i</sub> dehua, wo guji ta zhi chi yi-pian \_\_\_\_<sub>i</sub>  
 breakfast TOP bread TOP 1SG figure 3SG only eat one-CL  
 ‘As for breakfast, bread, I figure that she only eats one slice.’

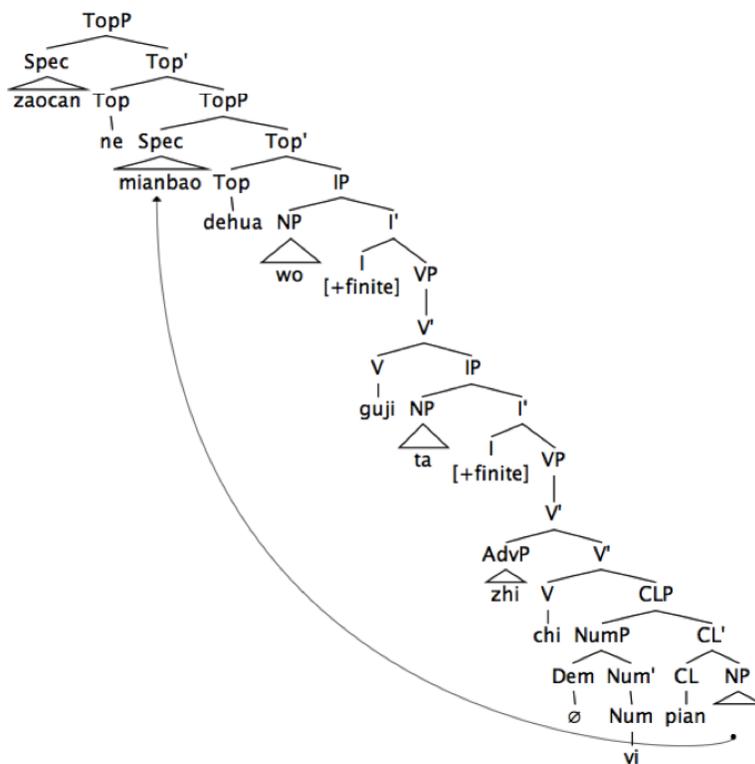


Figure 2: Movement path in (12b)

◇ But wait a second! Maybe it's a semantic constraint, i.e. a part-whole relation between Topic 1 and Topic 2?

*Context: An arsonist bribed the firefighters to make sure that he could burn down the building where his nemesis lived for revenge.*

- (13) a. neichang huo, xiaofangyuan<sub>i</sub>, ta zaojiu shoumai \_\_\_<sub>i</sub> le  
 that-CL fire firefighter 3SG already bribe PERF  
 'As for that fire, the firefighters, he already bribed (them).'
- b. \*xiaofangyuan<sub>i</sub>, neichang huo, ta zaojiu shoumai \_\_\_<sub>i</sub> le  
 firefighter that-CL fire 3SG already bribe PERF  
 'As for the firefighters, that fire, he already bribed (them).'

◇ But wait a second! Thinking about the relation in terms of events, perhaps *firefighter* can be conceptualized as participants of *that fire*?

- In this particular type of double topicalization constructions, all the observations we have been making so far are confounded by semantic factors. Is this a dead end?<sup>2</sup>
- For double topics that are not in this kind of part-whole relation, do they observe any other syntactic constraints?

## 2.2.2 Nested dependencies in Chinese topicalization

- When both topics are derived via **movement**, the intersecting movement paths between the two topics and their corresponding gaps must be “nested” (Fodor, 1978; Kaplan & Bresnan, 1982; Pesetsky, 1982; Rado, 1997).

◇ A little “warm-up” from English:

- (14) a. Violins this well crafted<sub>i</sub>, the sonatas<sub>j</sub> are easy to play \_\_\_<sub>j</sub> on \_\_\_<sub>i</sub>.  
 b. \*Sonatas this simple<sub>i</sub>, the violins<sub>j</sub> are easy to play \_\_\_<sub>i</sub> on \_\_\_<sub>j</sub>.

◇ Now back to Chinese topics:

*Context: The manager asks me if I have informed our clients of an urgent matter.*

- (15) a. zhejiang shi<sub>i</sub>, lixiansheng<sub>j</sub>, wo gaosu guo \_\_\_<sub>j</sub> \_\_\_<sub>i</sub>  
 This-CL matter Mr.Li 1SG tell PERF  
 'This matter, Mr.Li, I have told (him) about (it).'
- b. \*lixiansheng<sub>j</sub>, zhejiang shi<sub>i</sub>, wo gaosu guo \_\_\_<sub>j</sub> \_\_\_<sub>i</sub>  
 Mr.Li this-CL matter 1SG tell PERF  
 Intended: 'Mr.Li, this matter, I have told (him) about (it).'

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<sup>2</sup>Hint: no.

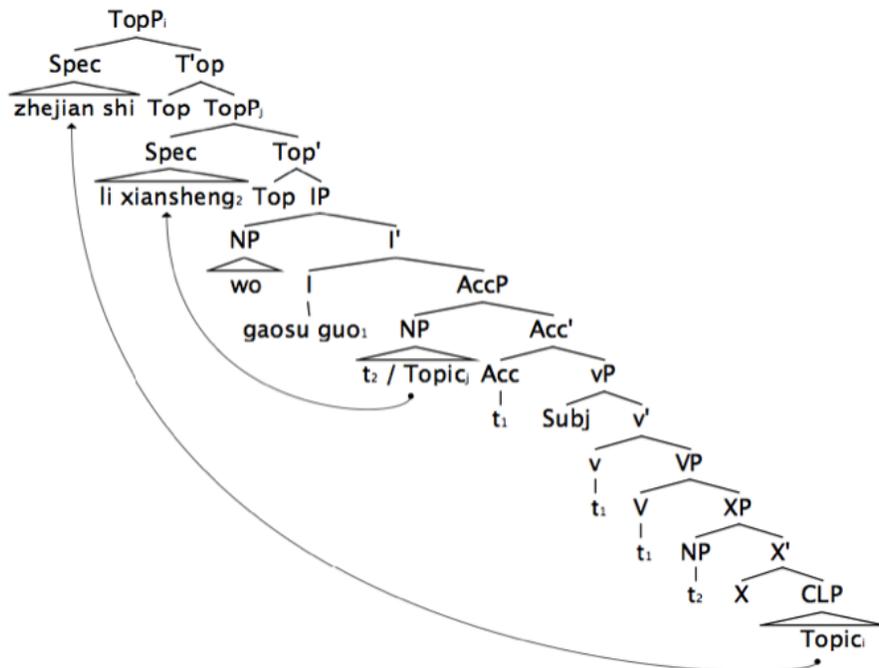


Figure 3: Contained paths in 15(a)

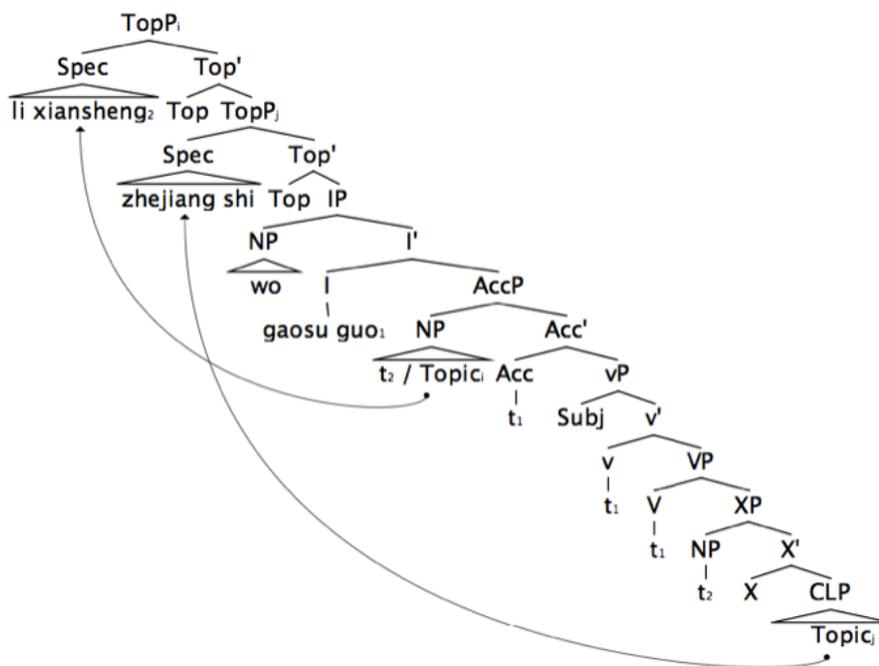


Figure 4: Crossed paths in 15(b)

◇ Salvaging the crossed paths by adding a base position pronoun that fills the gap:

- (16)  $lixiansheng_j, zhejiang\ shi_i, wo\ gaosu\ guo\ ta_j\ \_\_\_\_\_\_i$   
 Mr.Li this-CL matter 1SG tell PERF 3SG  
 ‘Mr.Li, this matter, I have told him about (it).’

- Some more data:

- (17) a. nage wenti<sub>i</sub>, liu laoshi<sub>j</sub>, wo wen guo \_\_\_<sub>j</sub> \_\_\_<sub>i</sub>  
 that-CL question Liu teacher 1SG ask PERF  
 ‘That question, Mr/Ms.Liu I have asked (him/her).’  
 b. \*liu laoshi<sub>i</sub>, nage wenti<sub>j</sub>, wo wen guo \_\_\_<sub>i</sub> \_\_\_<sub>j</sub>  
 Liu teacher that-CL question 1SG ask PERF  
 Intended: ‘Mr/Ms.Liu, that question, I have asked him/her about it.’
- (18) a. shengfan<sub>i</sub>, lubian xiao gou<sub>j</sub>, wo wei guo \_\_\_<sub>j</sub> \_\_\_<sub>i</sub>  
 leftover-rice streetside small dog 1SG feed PERF  
 ‘Leftovers, small dogs on the streetside, I have fed (the food to the dogs).’  
 b. ??lubian xiao gou<sub>i</sub>, shengfan<sub>j</sub>, wo wei guo \_\_\_<sub>i</sub> \_\_\_<sub>j</sub>  
 streetside small dog leftover-rice 1SG feed PERF  
 Intended: ‘Small dogs on the streetside, leftovers, I have fed (the food to the dogs).’
- (19) a. zhe-ge jiefaj<sub>i</sub>, na-ge ban<sub>j</sub>, Liu laoshi zhengzai jiao \_\_\_<sub>j</sub> \_\_\_<sub>i</sub>  
 this-CL solution that-CL class Liu teacher PROG teach  
 ‘This solution, that class, Mr/Ms Liu is teaching.’  
 b. \*na-ge ban<sub>i</sub>, zhe-ge jiefaj<sub>j</sub>, Liu laoshi zhengzai jiao \_\_\_<sub>i</sub> \_\_\_<sub>j</sub>  
 that-CL class this-CL solution Liu teacher PROG teach  
 Intended: ‘That class, this solution, Mr/Ms Liu is teaching.’

- Another caveat: Looking at all the data presented so far, Topic 1 is always inanimate and Topic 2 animate. Perhaps speakers can rely on semantic information to assign thematic roles? In that case, we still cannot be sure if syntax plays a role.

◇ What if both topics are animate?

*Context: Imagine we are now characters in the story “Life of Pi”.*

- (20) a. zhe-ge ren<sub>i</sub>, na-zhi laohu<sub>j</sub>, wo wei guo \_\_\_<sub>j</sub> \_\_\_<sub>i</sub>  
 this-CL person that-CL tiger 1SG feed PERF  
 ‘This person, that tiger, I have fed (it him/her).’ (= the tiger ate the person)  
 b. na-zhi<sub>i</sub> laohu<sub>j</sub>, zhe-ge ren<sub>j</sub>, wo wei guo \_\_\_<sub>j</sub> \_\_\_<sub>i</sub>  
 that-CL tiger this-CL person 1SG feed PERF  
 ‘That tiger, this person, I have fed (him/her it).’ (= the person ate the tiger)<sup>3</sup>

◇ It takes (significantly) more time and effort for speakers to arrive at the interpretation, but the point is they do arrive at the predicted interpretation! Semantic information facilitates disambiguation, but a syntactic constraint such as PCC determines the interpretation.

### 3 Summary

- The relative order of double topics in Mandarin Chinese is subject to syntactic constraints. This challenges the view that Chinese topics are only constrained by a semantic “aboutness” relation with the comment clause (cf. Xu and Langendoen, 1985).

<sup>3</sup>Disclaimer: no tiger or human was harmed during the making of this handout.

- A main challenge has been identifying the role of syntax and semantics (respectively) in determining the linear ordering and the interpretation of double topics.
- Double topicalization constructions show typical locality effects. Their interpretations can be facilitated by semantic factors, but is ultimately determined by syntactic constraints.

#### 4 A new puzzle: embedded topicalization and coreference

- Hooper and Thompson (1973): Embedded topicalization can only occur in environments with the meaning of assertion. In non-asserted environments, most typically clauses whose information is presupposed, placing emphasis on a phrase (e.g. topicalization) would be inappropriate.

◇ A classification of predicates whose complement is or is not compatible with assertion:

Non-factive			Factive	
A	B	C	D	E
say	suppose	be (un)likely	resent	realize
report	believe	be (im)possible	regret	learn
exclaim	think	be (im)probable	be surprised	know
assert	expect	deny	be sorry	find out
vow	imagine	doubt	be odd	recognize
etc.	etc.	etc.	etc.	etc.

Table 1: Hooper and Thompson’s classification of predicates

◇ This pattern of predicate sensitivity for embedded topicalization shows up in Japanese: the complements of classes A, B, and E (which can express assertion) allow the topic *-wa* phrase, while the complements of classes C and D do not. The same pattern also holds for English (Miyagawa, to appear):

- (21) I exclaimed that this book, I will never read. (A)
- (22) I think that this book, he read thoroughly. (B)
- (23) I found out that this book, no one is willing to read for the assignment. (E)
- (24) \*It’s likely that this book, everyone will read for the assignment. (C)
- (25) \*He was surprised that this book, I had not read. (D)

- Embedded topics in Chinese:

- (26) mali shuo zheben shu yuehan du guo (A)  
 Mary say this-CL book John read PERF  
 ‘Mary says that this book, John has read.’
- (27) mali xiangxin zheben shu yuehan hen xihuan (B)  
 Mary believe this-CL book John very like  
 ‘Mary believes that this book, John really enjoys.’

- (28) mali faxian zheben shu ban shang mei ren xiang du (E)  
 Mary discover this-CL book class LOC no people want read  
 ‘Mary discovers that this book, nobody in class wants to read.’
- (29) mali founen zheben shu yuehan du guo (C)  
 Mary deny this-CL book John read PERF  
 ‘Mary denies that this book, John has read.’
- (30) \*mali houhui zheben shu yuehan du guo (D)  
 Mary regret this-CL book John read PERF  
 Intended: ‘Mary regrets that this book, John has read.’

◇ Interestingly, changing *John* to a co-indexed reflexive *ziji* somehow rescues (30):

- (31) mali houhui zheben shu ziji du guo  
 Mary regret this-CL book self read PERF  
 ‘Mary<sub>i</sub> regrets that this book, she herself<sub>i</sub> has read.’

◇ Embedded topicalization with long distance binding of *ziji*:

*Context for local reading: In a promotion event, John and Mary each named a book that they had read, and whoever had read “the book of the month” could get a copy for free. John lost to Mary.*

*Context for long distance reading: ..... and the person who guessed which book the other person had read would win a prize. John lost to Mary.*

- (32) yuehan hen houhui zheben shu, mali shuo ziji du guo  
 John very regretful this-CL book mary say self read PERF  
 ‘John regrets that this book, Mary said he himself/she herself has read.’

• Is it just about reflexives? A co-indexed pronoun is also okay, and definitely much better than a non-coindexed pronoun:

- (33) mali houhui zheben shu ta du guo  
 Mary regret this-CL book 3SG read PERF  
 ‘Mary<sub>i</sub> regrets that this book, she<sub>i/\*j</sub> has read.’

◇ When the embedded subject doesn’t refer back to the matrix subject, but contains a reflexive/pronoun that is co-indexed with the matrix subject:

- (34) ?mali houhui zheben shu ziji de mama du guo  
 Mary regret this-CL book self POSS mom read PERF  
 ‘Mary<sub>i</sub> regrets that this book, her<sub>i</sub> mother has read.’
- (35) ?mali houhui zheben shu ta de mama du guo  
 Mary regret this-CL book 3SG POSS mom read PERF  
 ‘Mary<sub>i</sub> regrets that this book, her<sub>i/\*j</sub> mother has read.’

◇ Mixed judgements, but almost uniformly judged as better than (30).

• What is happening?

## Appendix: PCC effects across languages

• Chinese, English, and Hungarian favor nested dependencies over crossed dependencies. An example from Hungarian (Rado, 1997, p. 150)<sup>4</sup>:

- (36) a. Kati-tol<sub>i</sub>, Mari-tol<sub>j</sub> Tibor hallotta \_\_\_<sub>j</sub>, hogy Pista elvalt \_\_\_<sub>i</sub>.  
Kati-from Mari-from Tibor heard that Pista divorced  
'As for Mari<sub>j</sub>, Tibor heard from her<sub>j</sub> that Kati<sub>i</sub>, Pista divorced her<sub>i</sub>.'
- b. \*Kati-tol<sub>i</sub>, Mari-tol<sub>j</sub> Tibor hallotta \_\_\_<sub>i</sub>, hogy Pista elvalt \_\_\_<sub>j</sub>.  
Kati-from Mari-from Tibor heard that Pista divorced  
'As for Kati<sub>i</sub>, Tibor heard from her<sub>i</sub> that Mari<sub>j</sub>, Pista divorced her<sub>j</sub>.'

• In Bulgarian and many other Slavic languages, intersecting wh-movement paths obligatorily cross (i.e. "anti-PCC effect"; Richards 2001, p. 245):

- (37) a. Koj<sub>i</sub> se opitvat da razberat kogo<sub>j</sub> \_\_\_<sub>i</sub> e ubil \_\_\_<sub>j</sub>?  
who self try to find-out whom AUX killed  
'Who are trying to find out who he killed?'
- b. \*Kogo<sub>i</sub> se opitvat da razberat koi<sub>j</sub> \_\_\_<sub>j</sub> e ubil \_\_\_<sub>i</sub>?  
whom self try to find-out who AUX kill  
Intended: 'Who are trying to find out who he killed?'

• In Scandinavian languages (Norwegian example (38) from Maling & Zaenen 1982, p. 236; Swedish example (39) from Engdahl 1982, p. 170), both nested and crossed dependencies are permitted; preferences show a high degree of individual variability.

- (38) Denne gaven<sub>i</sub> vil du ikke gjette hvem<sub>j</sub> jeg fikk \_\_\_<sub>i</sub> fra \_\_\_<sub>j</sub>.  
this gift will 2SG not guess who 1SG got from  
'This gift, you cannot guess who I got from.'
- (39) Strömming<sub>i</sub> är den här kniven<sub>j</sub> omöjlig att rensa \_\_\_<sub>i</sub> med \_\_\_<sub>j</sub>.  
Herring is this here knife impossible to clean with  
'Herring, this knife is impossible to clean with.'

• An (unsuccessful) attempt to formulate an implicational universal

◇ Speakers figure out how to assign thematic roles based on morphosyntactic cues, such as morphological case marking and/or a syntactic constraint like PCC.

◇ If the language doesn't have a very rich inflectional morphological system, it is more likely to have PCC (e.g. Chinese and English), although there's nothing that stops a language from having both (e.g. Hungarian).

◇ Problem: The choice between PCC and anti-PCC seems almost arbitrary. But as far as we know, anti-PCC seems to be a lot more rare. That reason must come from somewhere else, e.g. parsing or computational complexity.

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<sup>4</sup>I thank Dóra Kata Takács for her judgement and clarification for the Hungarian examples.

## References

- Badan, L. & Gobbo, F. D. (2011). On the syntax of topic and focus in Chinese. *The Cartography of Syntactic Structures*, 5, 63–90.
- Beck, S. & Johnson, K. (2004). Double objects again. *Linguistic Inquiry*, 35(1), 97–123.
- Chen, P. (1996). Pragmatic interpretations of structural topics and relativization in Chinese. *Journal of Pragmatics: An Interdisciplinary Monthly of Language Studies*, 26(3), 389–406.
- Chen, S. Y. (2017). Movement constraints on the relative order of double topics in Mandarin Chinese. *Toronto Working Papers in Linguistics*, 38.
- Engdahl, E. (1982). Restrictions on unbounded dependencies in Swedish. In E. Engdahl & E. Ejerhed (Eds.), *Readings on unbounded dependencies in scandinavian languages* (pp. 151–174). Stockholm: Almqvist and Wiksell.
- Fodor, J. D. (1978). Parsing strategies and constraints on transformations. *Linguistic Inquiry*, 9(3), 427–473.
- Gasde, H.-D. & Paul, W. (1996). Functional categories, topic prominence, and complex sentences in Mandarin Chinese. *Linguistics*, 34(2), 263–294.
- Hooper, J. B. & Thompson, S. A. (1973). On the applicability of root transformations. *Linguistic Inquiry*, 4(4), 465–497.
- Householder, F. W. & Cheng, R. L. (1971). Universe-scope relations in Chinese and Japanese. *Hawaii Language Teacher*, 13(1), 34–50.
- Hu, J. & Pan, H. (2009). Decomposing the aboutness condition for Chinese topic constructions. *The Linguistic Review*, 26(2-3), 371–384.
- Huang, C.-R. (1992). Certainty in functional uncertainty. *Journal of Chinese Linguistics*, 247–288.
- Huang, C.-T. J. (1982). Move wh in a language without wh movement. *The Linguistic Review*, 1(4), 369–416.
- Kaplan, R. M. & Bresnan, J. (1982). Lexical-functional grammar: a formal system for grammatical representation. *Formal Issues in Lexical-Functional Grammar*, 29–130.
- Kayne, R. S. (1984). Unambiguous paths. In R. S. Kayne (Ed.), *Connectedness and binary branching* (pp. 129–164). Dordrecht: Foris.
- Larson, R. K. (1988). On the double object construction. *Linguistic Inquiry*, 19(3), 335–391.
- Larson, R. K. (1990). Double objects revisited: reply to Jackendoff. *Linguistic Inquiry*, 21(4), 589–632.
- Li, C. N. & Thompson, S. A. (1976). Subject and topic: a new typology of language in subject and topic. In C. N. Li (Ed.), *Subject and topic* (pp. 455–489). New York: Academic Press.
- Li, C. N. & Thompson, S. A. (1981). *Mandarin Chinese: a functional reference grammar*. Berkeley: University of California Press.
- Li, Y.-H. A. (2000). Topic structures and minimal effort. *Issues on topics (ZAS Papers in Linguistics 20)*, 1–20.
- Maling, J. & Zaenen, A. (1982). A phrase structure account of Scandinavian extraction phenomena. In P. Jacobson & G. K. Pullum (Eds.), *The nature of syntactic representation* (pp. 229–282). Springer.
- Miyagawa, S. (to appear). Topicalization. *Gengo Kenkyu (Linguistic Research)*, *Journal of the Linguistic Society of Japan*.

- Paul, W. (2002). Sentence-internal topics in mandarin chinese: the case of object preposing. *Language and Linguistics*, 3(4), 695–714.
- Pesetsky, D. M. (1982). *Paths and categories* (Doctoral dissertation, Massachusetts Institute of Technology).
- Rado, J. (1997). *Processing Hungarian: the role of topic and focus in language comprehension* (Doctoral dissertation, University of Massachusetts, Amherst).
- Richards, N. (2001). *Movement in language: interactions and architectures*. Oxford University Press.
- Rizzi, L. (1997). The fine structure of the left periphery. In L. Haegeman (Ed.), *Elements of grammar* (pp. 281–337). Springer.
- Shi, D. (2000). Topic and topic-comment constructions in Mandarin Chinese. *Language*, 76(2), 383–408.
- Shyu, S.-i. (1995). *The syntax of focus and topic in Mandarin Chinese* (Doctoral dissertation, University of Southern California).
- Tan, J. (1991). *Notion of subject in Chinese* (Doctoral dissertation, Stanford University).
- Xu, L. (2000). The topic-prominence parameter. *ZAS Papers in Linguistics*, 20, 21–41.
- Xu, L. & Langendoen, D. T. (1985). Topic structures in Chinese. *Language: Journal of the Linguistic Society of America*, 61(1), 1–27.