

LFG and the Analysis of Chinese

Workshop for LFG 2001

Organized by

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1. Introduction by Adams Bodomo

The aim of this workshop is to explore ways in which some aspects of the structure of Chinese may be analyzed in LFG or related constraint-based grammar formalisms. I will first point out some salient features of the Chinese language and raise some possible questions and implications that these might have for LFG. I will then summarize various papers in the workshop, pointing to what issues that are being discussed and what solutions that are proposed.

2. The structure of Chinese

Many works on the Chinese language from Chao (1968), through Li and Thompson (1981) to Huang (1984, 1989, 1991) and beyond have observed that Chinese (including its dialects like Cantonese, Mandarin, Hakka, Minnan, etc) has some very unique structural properties from the perspective of languages like English, French, Italian, German, and Norwegian. Like Italian and Spanish, it is a pro-drop language, but unlike these languages, it is a pro-drop language exhibiting little verbal morphology. Unlike English it is a topic prominent rather than subject prominent language (Li and Thompson 1976). Like Norwegian and other Scandinavian languages it permits long-distance binding (see work by Pan and Hu in this workshop). Cantonese also exhibits considerable complexity in verb complementation (Bodomo and Lee in this workshop), and it has a more flexible word order than English. These and other features show that the structure of Chinese poses some challenges to linguistic description and theory. These properties have attracted the attention of many Chinese linguists working in various grammatical frameworks (e.g. Huang, J. 1984, 1989, 1991, Huang, C. 1989, Huang C. and K. Chen 1989).

3. Issues and questions

Each paper in this workshop takes up one or more aspects of this structure of Chinese. A first issue is that given the situation where Chinese is a pro-drop language and yet does not have much verbal inflection, like many other pro-drop languages, the question as to how grammatical functions can be specified forcefully comes to the fore. In particular, the subject-condition, a universal constraint on sentence structure, comes under threat given such a language type. This is a question for which answers are sought in this workshop.

The phenomena of long distance anaphora demand a restatement of classical principles of binding. This is a relevant issue with respect to the structure of Chinese reflexives. What constraints are needed to predict the correct occurrences of complex reflexives in Chinese? This is another question for which answers are being sought in the workshop. Another important issue that comes up from the short introduction to

the structure of Chinese as given above is that the language has a fairly intricate system of verbal complementation. Some of the questions that arise for such a system are what grammatical functions are needed to capture all the nuances of verbal complementation and how this should be done. Beyond these questions of theory and description we need to bring in issues of formal representation and computation. An obvious question would be how powerful the theoretical formalism should be in order to capture the intricacies of the Chinese language.

4. The power of LFG and other constraint-based approaches

Does LFG, along with other constraint-based formalisms, have answers to these issues and questions? LFG, designed as an elaborate linguistic theory but with strong psychological and computational reality, should have the resources to handle these issues of theory and computation with respect to the Chinese language. Two aspects that need brief mention are its commitment to finer-grained functional categorization, and the development of a strong and more powerful constraint-based system in what has come to be known as OT-LFG.

5. The various papers

Each of the four papers in this workshop raises an issue of theoretical importance and then employs, in one way or the other, one or many of the LFG and other constraint-based grammar resources to address the issue.

In the paper titled *The Subject Condition in Cantonese* Luke Kang Kwong, Adams Bodom, and Owen Nancarrow of the University of Hong Kong take up of the issue of grammatical function specification, particularly the theoretically relevant concept of subject condition and seek answers to how one can apply this to Cantonese, a Yue dialect of Chinese as spoken in Hong Kong, which like other dialects of Chinese manifests issues of pro-drop in the absence of overt morphological inflections. The phenomenon of pro-drop is very productive in Cantonese, as shown in the following sentences.

(1) A: *Nei5 jam2-gan2mat1 je5?*
 2.SG drink-ASP what thing
 ‘What are you drinking?’

B: *Jam2-gan2 seoi2*
 drink-ASP water
 ‘(I’m) drinking water.’

After a discussion of various aspect of subjecthood in Cantonese the paper proposes that rather than morphological function specification one needs functional mapping principles as provided in the LFG architecture and pragmatic-discourse criteria to specify subject functions in Chinese and thus salvage the subject condition in this language.

In a paper titled *An Optimality-Theoretic Account of Mandarin Complex Reflexive* ‘ta ziji’ (s/he-self) Pan Haihua and Hu Jianhua of the City University of Hong Kong take up the issue of long distance binding in Mandarin, as shown in (2):

(2) *Johni shuo naben shu hai-le ta-zijii*
 say that book hurt-PERF he-self
 ‘Jogn said that that book hurt himself’

Their proposal lies in the exploitation of the relatively new notion of hard and soft constraints to set up a ranking that can account for the facts of complex reflexive binding in Mandarin.

Sun Maosong of Tsinghua University, Beijing in his article *LFG for Chinese: Issues of Representation and Computation* assesses the power of the LFG formalism with respect of Chinese computing. According to him, LFG is quite powerful in describing linguistic constructions of Chinese which are of relative sophistication as shown in the Mandarin sentence (3):

(3) *Zhang-san fang4 gou3 yao3 si3 le Li-si*
 person1 send dog bite die AUX person2
 N1 V1 N2 V2 V3 AUX N3
 ‘Zhang-san sent the dog to bite Li-si, and Li-si died.’

In the author’s opinion however, LFG, as a computational formalism, is still not strong enough for computing Chinese. This evaluation of the LFG formalism should

raise interesting points for discussion during the workshop.

In the last paper titled *On the Function COMP in Cantonese* Adams Bodomo and Sophia Lee of the University of Hong Kong examine phenomena of verbal complementation in Cantonese. In particular, the work focuses on the grammatical function, COMP, a controversial member of the taxonomy of functions in the framework of LFG. There is considerable amount of controversy as to whether clausal complements of the type in (4) should be specified as holding the OBJ or COMP function.

- (4) *Ngo5* *zi1* [*keoi5* *hai6* *hok6saang1*]
 1.SG knows 3.SG be student
 'I knows that s/he is a student.'

Indeed questions are asked about the need for COMP as a grammatical function. The paper addresses these issues and proposes that COMPs exist in Cantonese and that sentential complements can function as OBJs and COMPs in the language, and one should thus consider Cantonese as a *mixed language* (Dalrymple and Loedrup 2000).

6. Conclusion:

It is hoped that these approaches to Chinese grammar taken up here open up new ways and directions for pursuing the study of Chinese grammar.

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