Layers of the Determiner Phrase in Mandarin Chinese*

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There are three probabilities to claim that Mandarin Chinese has multiple Determiner Phrase (DP) structures: (1) Simpson (2001) takes “de” in nominal phrase as the head of the structure: “Zhangsan de shu” is a DP and “de” is the head D. In this theory, when “de” and demonstratives like “this/that” appear in the same structure, there is going to be a multiple DP structure. (2) Huang, Li & Li (2008) take both pronouns and demonstratives as the heads of the appositive structures like “tamen zhe sange haizi”. In this opinion, Mandarin Chinese has Split-D structures like Italian, Hungarian and Greek. (3) It seems that a Mandarin DP could have double heads D when two determiners both appear in the same structure. In “renhe zhe lei wenti”, the determiners “renhe” and “zhe” both appear. The structure is going to be analyzed as a multiple DP or a Split-D structure. However, the paper proves that Mandarin Chinese has no multiple DP structures, not like Italian, Hungarian or Greek.

Keywords: nominal phrase, determiner phrase, layers of DP

Introduction

Abney (1987) proves that Determiner Phrase (DP) is the highest projection of Noun Phrase (NP) which is parallel to Inflection Phrase (IP), the highest projection of Verb Phrase (VP). In DP-analysis, the structure of “John’s book” is shown as Example (1). This theory inspires the discussion about internal structure within DP in different languages.

Example (1) \[DP \text{[POSSR John’s]} \text{[D’ [D [NP book]]]]}\]

Longobardi (1994) and Progovac (1998) claim that Italian, Hungarian and Japanese have Split-D structures, which is shown as Example (2) and their structures shown as Example (3). In these languages both determiners and demonstratives can appear in the head D position.

Example (2) a. la mia penna (Italian)  
the my pen (English)  
b. ez a haz (Hungarian)  
this the house (English)  
c. ika n anak (Japanese)  
this the boy (English)

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Zamparelli (2000) divides DP projection into three layers, shown as Example (4). SDP stands for Strong Determiner Phrase, PDP stands for Predicative Determiner Phrase and KIP stands for Kind Determiner Phrase. In a complete SDP structure, the PDP layer denotes a property, which is predicated of the head SD. A pronoun, a proper name, an empty head and the trace of a Q-construed quantifier can be contained in this layer. Under the PDP layer, there is a layer called KIP, for Kind-Denoting Phrase which allows the projection of a common noun or an adjective modifier.

Example (4) \[\text{SDP}\ [\text{SDP}\ \text{Harrold}] \ [\text{SDP}\ \text{-s}] \ [\text{PDP}\ [\text{PD}\ [\text{PD}\ \text{four}]][\text{KIP}\ \text{tools}]]\]

As for the internal structure within nominal phrase in Mandarin Chinese, there are three probabilities to claim that Mandarin has multiple DPs or Split-D structures. Simpson (2001) takes “de” in nominal phrase as the head D of the structure, shown as Example (6). In this theory, when “de” and demonstratives like “this/that” appear in the same structure, there is going to be a multiple DP structure. As Example (7) shows that both “de” and “zhe” (this) can be the head D of the whole structure DP.

Example (5) a. \[\text{wo}\ \text{de}\ \text{shubao}\]
   my bag
b. \[\text{ganjing}\ \text{de}\ \text{shubao}\]
   clean bag
c. \[\text{wo}\ \text{mai}\ \text{de}\ \text{shubao}\]
   I buy bag

   “the bag that I bought”

Example (6) \[\text{DP}\ \text{wo/ganjing/womai}\ [\text{D}\ \text{de}][\text{NP}\ \text{shubao}]\]

Example (7) \[\text{DP}\ \text{wo}\ [\text{D}\ \text{de}][\text{DP}\ [\text{D}\ \text{zhe}][\text{NumP}\ \text{ben}\ \text{shu}]]\]

Huang, Li & Li (2008) take both pronouns and demonstratives as the heads of the appositive structures. As Example (9) shows that pronoun “tamen” and demonstrative “zhe” are both at the head D position. In this opinion, Mandarin Chinese has Split-D structures like Italian and Greek.

Example (8) \[\text{tamen}\ \text{zhe}\ \text{sange}\ \text{haizi}\]
   they this three child

   “they three children”

Example (9) \[\text{DP}\ [\text{D} [\text{Pronoun}\ \text{tamen}] [\text{Demonstrative}\ \text{zhe}][\text{NumP}\ \text{sange}\ \text{haizi}]]\]

It seems that a Mandarin DP could have double heads D when two determiners both appear in the same structure. In “renhe zhe lei wenti”, the determiners “renhe” and “zhe” both appear. The structure is going to be analyzed as a multiple DP or a Split-D structure, shown as Example (11).

Example (10) \[\text{renhe}\ \text{zhe}\ \text{lei}\ \text{wenti}\]
   any this kind problem

   “any kind of these problems”

Example (11) \[\text{DP}\ [\text{D}\ \text{renhe}][\text{DP}\ [\text{D}\ \text{zhe}][\text{NumP}\ \text{lei}\ \text{wenti}]]\]
There are three probabilities to claim that Mandarin Chinese has multiple DP structures or Split-D structures. This paper analyzes these three probabilities one by one to prove that Mandarin Chinese is the language which is different from Italian, Hungarian or Greek in DP structures.

DP Layers of Mandarin Chinese

DP Layers of Possessive Structures

In the theory of Simpson (2001), “de” is the head D of the DP structure. However, my question is whether “de” is the head D. If “de” is not the head D, then the structure (7) should be revised. Actually, Aoun & Li (2003) observes an interesting Mandarin phenomenon which can prove “de” is not the head D.

Example (12) a. The captain of the team will visit us tomorrow.
   b. We elected him captain of the team.

Example (13) a. ta shi fanyi jian mishu
   he is translator and secretary
   “He is a translator and secretary.”

Example (13) b. ta shi dongshizhang de fanyi jian zongjingli de mishu
   he is Chairman’s translator and Manager’s secretary
   “He is the translator of Chairman and secretary of Manager.”

In English, “captain” in the Example (12a) is referential and realizes a DP projection, while “captain” in the Example (12b) is nonreferential and realizes an NP projection. As for Mandarin Chinese, “jian” connects two properties of a single individual. In terms of categories, “jian” can connect NPs but not DPs. If “dongshizhang de fanyi” and “zongjingli de mishu” are two NPs, how does “de” realize its head D function? Therefore, Mandarin “de” is not the head D. When “de” and demonstrative “zhe” appear in the same construction, like “wode zhe benshu”, the structure should have only one head D “zhe”, shown as Example (14).

Example (14) [DP [DP wo de][D’ [D zhe][NumP ben shu]]]

A possessive structure of Mandarin Chinese can project into an NP or a DP according to its reference, but no matter in NP projection or DP projection, “de” is not the head D.

DP Layers of Appositive Structures

Huang, Li & Li (2008) claim that in the appositive structure “tamen zhe sange haizi”, the pronoun “tamen” and the demonstrative “zhe” are both in the head D position, which means that Mandarin Chinese has Split-D structures like Italian, Hungarian and Greek, shown as Example (9). However, pronouns and demonstratives have different functions. As Example (15) shows that pronoun “nimen” can be deleted in Example (15b), but demonstrative “zhe (xie)” cannot be deleted in Example (15c). A head plays a central role of a phrase. If a pronoun is one of the heads of the appositive structure, why it can be deleted but a demonstrative cannot?

Example (15) a. nimen zhexie hao haizi
   you these good child
   “you these good children”

Example (15) b. wo xihuan zhexie hao haizi
   I like these good child
   “I like these good children.”
c. *wo xihuan nimen hao haizi
   I like you good child
   "I like you good children."

Additionally, in Mandarin Chinese, Example (16) has two meanings. One is appositive reading and the other is possessive reading. As Example (17) shows that no matter appositive reading or possessive reading they both project into a DP. The different meaning lies on the different feature of the head D. If the head D has a co-reference feature, it is an appositive structure; while if the head D has a possessive feature, it is a possessive structure. The two features are in complementary distribution. Therefore, Mandarin appositive structure is not a Split-D structure, which is different from Italian, Hungarian or Greek.

Example (16) tamen zhe sange haizi
   they this three child
   "they three children" / "their three children"

Example (17) [DP tamen (de) [D [D zhe][NumP sange haizi]]]

**DP Layers of Determiners Co-occurrence Structures**

In Mandarin Chinese, two determiners can appear in the same structure, shown as Example (10). It seems that the universal quantifier determiner “renhe” and the demonstrative “zhe” can both be considered as the head D, like Example (11) shows. However, Example (18a) is very different from Example (18b). “De” can insert into the structure “zhe lei wenti”, but cannot insert into the structure “zhe ge wenti”. If the structure of Example (18b) can be analyzed as Example (19), then the structure of Example (18a) should be different from Example (19). Actually, Example (18a) can be analyzed as a relative clause. “Zhe lei de” is at the specifier position of the DP, shown as the structure in Example (20).

Example (18) a. zhe lei (de) wenti
   this kind problem
   “this kind of problem”
   b. zhe ge *(de) wenti
   this problem
   “this problem”

Example (19) [DP [D zhe][NumP ge wenti]]

Example (20) [DP [DP zhe lei de][D [D [NP wenti]]]]

As for the semantic scope, Example (21a) is wider than Example (21b) and Example (21c), while the latter two are equal. That means when “renhe” is deleted in “renhe zhe lei wenti”, the semantic scope will not be changed, but when “zhe (lei)” is deleted, the semantic scope will be expanded. Therefore, “renhe” cannot be the head of “renhe zhe lei wenti”. The structure of Example (10) or Example (21c) should be analyzed as Example (22).

Example (21) a. renhe wenti
   any problem
   “any problems”
b. zhe lei wenti
   this kind problem
   “this kind of problems”

c. renhe zhe lei wenti
   any this kind problem
   “any kind of these problems”

Example (22) \([DP [DP renhe][DP [DP zhe lei][D’ [D [NP wenti]]]]]\)

Conclusion

DP layers in Mandarin Chinese is simpler than the ones in Italian, Hungarian and other similar languages. Generally, there are three probabilities to claim that Mandarin Chinese has multiple DPs or Split-D structures. The first, if take “de” as the head of the DP, when “de” and demonstrative “zhe” both appear in the same structure, there is a multiple DP like “John de zhe ben shu” (John’s book). However, “de” cannot be the head of the DP so the possessive structure has only one head D that is the demonstrative “zhe”. The second, if take both the pronoun “tamen” and the demonstrative “zhe” as the head D in the appositive structure “tamen zhe sange haizi” (they three children), then Mandarin Chinese has Split-D structure. Actually, the pronoun “tamen” and the demonstrative “zhe” has different functions. The pronoun can be deleted but the demonstrative cannot so they cannot both be at the head D position. Therefore, Mandarin Chinese does not have Split-D structures. The third, when the universal quantifier determiner “renhe” and the demonstrative “zhe” appear in the same structure, there might be analyzed as a multiple DP or a Split-D structure. However, “renhe” and “zhe” also has different functions. The former can be deleted and the semantic scope of the structure cannot be changed, while the latter cannot be deleted. That is to say, Mandarin DP has only one head D and does not have a multiple DP structure or a Split-D structure.

References