Pronouns, radical pro-drop, and ellipsis in Mandarin
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We demonstrate that the distribution and interpretation of null versus overt pronouns in Mandarin are distinct, and that this distinction closely mirrors the distribution of unique versus anaphoric definite descriptions in Mandarin. We argue that these parallels obtain because both overt and null pronouns in Mandarin are derived by ellipsis of their nominal counterparts (cf. Elbourne 2001), echoing their syntactic complexity and interpretation.

**Overt versus covert pronouns.** Prominent analyses of null pronouns analyze them as the silent counterparts of overt pronouns in radical pro-drop languages (e.g. Neeleman & Szendrői 2007). While the distribution of null and overt pronouns do overlap, distributional differences between null and overt pronouns show that they are semantically distinct (cf. Kurafuji 1998 for Japanese).

We contribute two novel observations about the distinction between pronouns and null arguments in Mandarin. First, overt pronouns cannot occur in some E-type contexts, where there is no true antecedent in the discourse; null pronouns are required in these environments. For example, null, but not overt pronouns, can have antecedent universal quantifiers (1-a) as well as be used in Partee’s bathroom sentences (1-b), where the antecedent indefinite is in the scope of negation.

(1) a. mei-ge chanpin, dou bei jiancha guo. ranhou $\exists$ta, bei zhuang-jin xiangzi. every-CL product all PASS inspect GUO then (*it) PASS pack-in box ‘Every product was inspected. Then they were packed in the box.’

b. zhe-dong lou yaome meiyou cesuo, yaome $\exists$ta, jiu zai qiguaide difang this-CL building either not-have bathroom or then in weird place ‘Either this building does not have a bathroom, or it is in a funny place.’

Second, only overt pronouns can occur in narrative sequences (2-a) or as donkey pronouns (2-b); null pronouns cannot occur in these contexts.

(2) a. yi-ge xuesheng, xihuan Lisi, dan Lisi bu renshi ta/*$\exists_i$ one-CL student likes L., but L. doesn’t know *(him/her),

‘A student likes Lisi, but Lisi doesn’t know him/her.’

b. mei-ge you lizi de nongfu dou hui da ta/*$\exists_i$. every-CL have donkey DE farmer all will beat *(it)

‘Every farmer who owns a donkey, beats it.’

We conclude that null pronouns cannot be overt pronouns that are deleted. Then what are they?

**Unique and anaphoric definites.** Mandarin distinguishes two types of definite noun phrases: bare nouns occur in unique definite environments, while demonstrative descriptions must be anaphoric (Jenks 2018). We observe for the first time that the distribution of full NP definites echoes the distribution of null versus overt pronouns. (3) shows that bare definite nouns occur in E-type contexts, cf. (1-a); (4) shows that demonstrative descriptions occur in narrative sequences, cf. (2-a).

(3) mei-ge chanpin, dou bei jiancha guo. ranhou chanpin/*$\exists$[na-xie chanpin], bei every-CL product all PASS inspect GUO then products/*those products PASS zhuang-jin xiangzi.
pack-in box
‘Every product was inspected. Then they were packed in the box.’

(4) yi-ge xuesheng, xihuan Lisi, dan Lisi bu renshi (ta) na-ge xuesheng, one-CL student likes L., but L. doesn’t know (s/he) that-CL student

‘A student likes Lisi, but Lisi doesn’t know that student.’

The parallel between definite NPs and pronouns implies the use of shared grammatical resources.
Pronouns and ellipsis. Schwarz (2009) proposes that while weak (unique) definites in German pick out the unique individual in a situation, strong (anaphoric) definite articles in German introduce an additional argument, an index interpreted relative to an contextual assignment function:

\[
\lambda e.x.P(x)(s_r).\exists x.P(x)(s_r) = \lambda e.x.P(x)(s_r).\exists x.P(x)(s_r) \wedge x = g(y)
\]  
(Schwarz 2009:81)

Jenks (2018) adapts (5) to Mandarin noun phrases, proposing that the unique definite interpretation in (5a) is \( \iota \), a universally available type-shift which applies to bare nouns (cf. Chierchia 1998), while demonstratives introduce an index. The index in (5b) restricts its reference to a particular individual unless the index itself is bound, as in donkey sentences. Jenks (2018) demonstrates that these interpretations correctly predict that bare nouns covary with different situations while demonstrative should not. We illustrate below that null versus overt pronouns:

(6) qunian, zongtong, shi minzhudang ren. jinnian, *ta/∅ shi gonghedang ren.  
  last-year president is democrat person this-year (s/he) is republican person  
  ‘Last year, the president was a democrat. This year, s/he is a republican.’

Building on this insight, we propose that both kinds of pronouns in Mandarin are related to their full nominal counterparts by ellipsis (cf. Li 2014 for null pronouns):

(7) a. Null pronoun: \([NP \iota \langle [NP zongtong ] \rangle] \)  
   b. Overt pronoun: \([DP ta \langle [D' na [CIP ge [NP zongtong ]] \rangle] \) 

Null pronouns arise via ellipsis of a bare NP, attaining their reference by applying \( \iota \) to their deleted restriction ((7-a), cf. Tomioka 2003), hence deriving the situation-dependent covariation in (6). As indices, overt pronouns must be arguments of \( D \), hence must occur in a more complex structure: as specifiers of a full DP. As pronoun-DP sequences are possible in anaphoric definite environments in Mandarin (4), we propose overt pronouns are the remnants of \( D' \) ellipsis (7-b). We thus derive the parallel distribution and interpretation of overt versus null pronouns and full definite NPs.

The idea that overt pronouns occupy [Spec, DP] (Guisti 2015) finds robust empirical support in Mandarin: while they are possible to the left of demonstratives, they cannot accompany definite bare nouns, and only pronouns (and proper names) can fill this position; common nouns cannot.

A subject-object asymmetry. Finally, our analysis accounts for the well-known asymmetry between subject versus object null pronouns in Mandarin (cf. Saito 2008, Li 2014).

(8) a. Zangsăn shuo [ta/∅/∅/∅ bu renshi Lisi.]  
   Zangsăn say he not know Lisi  
   ‘Zangsăn said that he did not know Lisi’  
   (Huang 1984:537)  
   b. Zangsăn shuo [Lisi bu renshi ta/∅/∅/∅]  
   (Huang 1984:538)

The explanation for this asymmetry is the observation that subjects exceptionally allow anaphoric definite bare nouns (Jenks 2018). If null pronouns are deleted bare nouns, they too should be allowed in subject position, while anaphoric object pronouns must obligatorily overt, just as their nominal counterparts must be demonstrative descriptions.

Conclusion. The notion of ‘radical pro-drop’ is a misnomer; both overt pronouns and null arguments are related to full nominal counterparts by ellipsis.