Object Specificity in Chinese:
A View from the vP Periphery

Wei-Tien Dylan Tsai
National Tsing Hua University

Abstract

This article deals with an indicative-modal asymmetry in Chinese, where a variety of specificity effects are found in fronted object indefinites. To provide a coherent solution under the cartographic approach (Rizzi 1997, Cinque 1999), we propose that there are two types of landing sites for Chinese object fronting: The outer focus position is in the left periphery, and occupied by a specific nominal. By contrast, the inner focus position is located in the peripheral area around vP (a clause-internal focus in Belletti's (1994) terms), where a bare NP is interpreted as specific in realis sentences, but non-specific in irrealis sentences. It is argued that this object specificity follows from a dynamic mechanism of syntax-semantics mapping encoded in the Extended Mapping Hypothesis, and should be treated on a par with Chinese subject specificity. Along this line, we are able to lay out the "topography" of Chinese foci based on the inner-outer dichotomy, and provide a solution to the indicative-modal asymmetry through the interaction between syntactic predication and aspectual quantification.

*I am grateful to Lisa Cheng, Gasde Horst-Dieter, Paul Law, Thomas Lee, Waltraud Paul, Sze-wing Tang, Chris Wilder, Niina Zhang and anonymous reviewers for sharing their insights with me. Special thanks to Huba Bartos and Rint Sybesma for their enthusiasm and encouragement throughout the years. The research leading to this article is funded by the National Science Council of Taiwan (NSC 87-2411-H-007-152).
1. Introduction

In general, object fronting occurs in Chinese only when contrastive focusing is involved. In indicative sentences, numeral NPs survive object fronting only when they are specific or definite. This is shown by the contrast between (1a) and (1b,c):

(1) a. *wo liang-ben shu nian-guo, san-ben shu mei nian-guo.
   I two-Cl book read-Exp three-Cl book have-not read-Exp
   'I read two books, not three.'

   b. wo you liang-ben shu nian-guo, you san-ben shu mei nian-guo.
   I have two-Cl book read-Exp have three-Cl book have-not read-Exp
   'I read two of the books, but not the other three.' (specific)

   c. wo zhe liang-ben shu nian-guo, na san-ben shu mei nian-guo.
   I this two-Cl book read-Exp that three-Cl book have-not read-Exp
   'I read these two books, but not those three.' (definite)

Here the numeral object NP liang-ben shu 'two books' is in a preverbal position, and it must be bound either by the existential modal you 'have', as in (1b), or by a demonstrative like zhe 'this', as in (1c). Otherwise the sentence is simply out, as in (1a).

However, this requirement is not observed when a modal is present. This point can be seen by comparing (2a,b) with (1a):

(2) a. wo liang-ben shu nian-de-wan, san-ben shu jiu bu xing le.
   I two-Cl book read-can-finish three-Cl book then not possible Inc
   'I can finish two books, not three.' (nonspecific)

   b. wo liang-ben shu keyi nian-wan, san-ben shu jiu bu xing le.
   I two-Cl book can read-finish three-Cl book then not possible Inc
   'I can finish two books, not three.' (nonspecific)

Here the numeral object NP liang-ben shu 'two books' is again in a preverbal position, but the sentence is nonetheless grammatical. The difference lies in the presence of an infixal capacity modal -de- in (2a) and the presence of a modal verb keyi 'can' in (2b), which somehow

---

1 The abbreviations used in this article are glossed as follows: Cl: classifier; Exp: experiential aspect; Inc: inchoative aspect; Prf: perfective aspect; Prg: progressive aspect; Top: topic marker.
2 The idea that object fronting induces specificity is certainly not new. See Mahajan (1990), Enç (1991), and Diesing (1992) for discussions on the syntax and semantics of specific NPs in various languages. For one thing, the notion of object fronting employed here should be distinguished from the object preposing cases discussed in Paul (2002), where an internal topic position is involved, and the semantics is quite different. For another, as a reviewer points out, the modal you 'have' in (1b) is not part of the fronted indefinite. As a matter of fact, it can only existentially quantify over a preverbal argument, resulting in the specific reading in question (cf. Tsai 2003).
bestow on the numeral NPs a nonspecific reading. Here we follow Diesing (1992) in defining "specific" as "quantificational" or "strongly quantified", and "nonspecific" as "cardinal" or "existentially closed".

This indicative-modal asymmetry is reminiscent of a similar contrast of Chinese numeral NPs in subject positions, which has been under close examination in the literature (see, for instance, Lee 1986; Li 1996; Tsai 2001). As shown by the contrast between (3a) and (3b,c), nonspecific subject indefinites are not allowed in an indicative sentence:

(3)  a. *liu-ge ren tai-qi-le na-kuai shitou.
    six-Cl person lift-up-Prf that-Cl rock
    'Six persons have lifted that rock.' (nonspecific)

    b. you liu-ge ren tai-qi-le na-kuai shitou.
       have six-Cl person lift-up-Prf that-Cl rock
       'There are six persons who have lifted that rock.' (specific)

    c. na liu-ge ren tai-qi-le na-kuai shitou.
       that six-Cl person lift-up-Prf that-Cl rock
       'Those six persons have lifted that rock.' (definite)

While subject NPs are ruled out when they are nonspecific, as in (3a), similar construals are licensed either with the existential modal you, as in (3b), or with the demonstrative na, as in (3c). By contrast, nonspecific NPs are quite comfortable serving as the subject of a modal construction, as evidenced by (4a) and (4b):

(4) a. liu-ge ren tai-de-qi na-kuai shitou.
    six-Cl person lift-can-up that-Cl rock
    'Six persons can lift that rock.' (nonspecific)

    b. liu-ge ren keyi tai-qi na-kuai shitou.
       six-Cl person can lift-up that-Cl rock
       'Six persons can lift that rock.' (nonspecific)

Nonetheless, when it comes to bare NPs in Chinese, the situation gets a bit murky: The interpretations of fronted object NPs seems sensitive to the choice of tense/mood. As shown by (5a,b), bare NPs can be either definite or nonspecific under past tense in postverbal object positions:

(5) women zuotian chi-ke zhurou, qiantian chi-ke niurou.
    we yesterday eat-Prf pork day-before-yesterday eat-Prf beef

    a. '(As for the meat in the refrigerator,) we ate the pork yesterday,
       and the beef the day before yesterday.' (definite)
b. '(As for dinner,) yesterday we ate pork, not beef.' (nonspecific)

There are therefore two ways to interpret (5): If the conversation has to do with the meat in the refrigerator, for example, then the reading is definite, as in (5a). If it is about the dinner, the reading is nonspecific, as in (5b). Once object fronting applies, only the definite reading is available, as indicated by the contrast between (6a,b):

(6) women zuotian zhurou chi-le, niu'rou mei chi.
we yesterday pork eat-Prf beef have-not eat
a. '(As for the meat in the refrigerator,) yesterday we ate the pork, not the beef.' (definite)
b. '#(As for dinner,) yesterday we ate pork, not beef.' (nonspecific)

By contrast, irrealis sentences behave quite differently: While bare NPs can be either definite or nonspecific in postverbal object positions, as in (7a,b), both the definite and nonspecific readings survive object fronting, as indicated by the ambiguity of (8a,b):

(7) women mingtian chi zhurou, houtian chi niu'rou.
we tomorrow eat pork day-after-tomorrow eat beef
a. '(As for the meat in the refrigerator,) we will eat the pork for tomorrow, and the beef for the day after tomorrow.' (definite)
b. '(As for dinner,) we will eat pork for tomorrow, and beef for the day after tomorrow.' (nonspecific)

(8) women mingtian zhurou chi, niu'rou bu chi.
we tomorrow pork eat beef not eat
a. '(As for the meat in the refrigerator,) tomorrow we will eat the pork, but not the beef.' (definite)
b. '(As for dinner,) tomorrow we will eat pork, but not beef.' (nonspecific)

Moreover, when bare object NPs raise over temporal adverbials such as zuotian 'yesterday' and mingtian 'tomorrow', the only possible reading in both cases is definite, as evidenced by (9) and (10) respectively:

(9) women zhurou zuotian chi-le, niu'rou qiantian chi-le.
we pork yesterday eat-Prf beef day-before-yesterday eat-Prf
a. '(As for the meat in the refrigerator,) we ate the pork yesterday, and the beef for the day before yesterday.' (definite)
b. '#(As for the dinner,) we ate pork yesterday, and beef the day before yesterday.' (nonspecific)

(10) women zhurou mingtian chi, niu'rou houtian chi.
we pork tomorrow eat beef day-after-tomorrow eat
a. '(As for the meat in the refrigerator,) we will eat the pork for tomorrow, and the beef for the day after tomorrow.' (definite)
As for the dinner, we will eat pork for tomorrow, and beef for the day after tomorrow. (nonspecific)

In other words, the realis-irrealis distinction in question is neutralized when object fronting applies across temporal adverbials. The distributive-interpretive pattern of Chinese bare NPs can then be summarized as follows:

<table>
<thead>
<tr>
<th>Chinese Bare NPs</th>
<th>pre-adverbial</th>
<th>in-between</th>
<th>post-verbal</th>
</tr>
</thead>
<tbody>
<tr>
<td>realis</td>
<td>definite</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>nonspecific</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>irrealis</td>
<td>definite</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>nonspecific</td>
<td>no</td>
<td>yes</td>
</tr>
</tbody>
</table>

As shown above, the definite reading is always there as an option, whereas the non-specific reading is on and off depending on the choice of tense/mood, and on the syntactic position where a given object NP occurs.

In this article, we would like to explore the possibility of deriving the subject and object specificity in a principled and unified way, mainly through the so-called Extended Mapping Hypothesis developed in Tsai (1999, 2001). Section 2 and 3 give an overview of how the issues with subject specificity can be approached from the vantage point of the syntax-semantics interface. In section 4, we proceed to show that subject specificity and object specificity are essentially the same phenomena, except for a few twists in their licensing conditions. Section 5 then provides a brief overview on the interpretations of bare NPs in Chinese. It is then argued in section 6 that the realis-irrealis distinction is actually a special case of the indicative-modal asymmetry discussed above. Along this line, we are able to present a comprehensive topography of Chinese foci. Section 7 then concludes this article.

2. A dynamic view of syntax-semantics mapping

Let's first consider the following two questions: Is there a unified solution to the subject and object specificity? Can we provide a principled account of the asymmetry between the indicative and modal constructions? Diesing (1992) has provided an explicit answer to the former, based on the well-known tree-splitting mechanism (11):
(11) *Mapping Hypothesis:*
  a. Material from VP is mapped into the nuclear scope.
  b. Material from IP (excluding VP) is mapped into a restrictive clause.

The mapping mechanism maps a GB-theoretical representation to a tripartite quantificational structure, including a quantifier, its restrictive clause, and the nuclear scope (Kamp 1981 and Heim 1982). In addition, it is claimed that existential closure applies to VP, rather than to IP or Text as originally proposed by Heim. It is instructive to note that the above mechanism doesn't seem to have a global character, since existential closure is in general clause-bound. Consequently, we need to redefine the domain of existential closure locally, and implement mapping step by step, as stated in (12), a more "dynamic" version of the Mapping Hypothesis (Tsai 1999, 2001):

(12) *Extended Mapping Hypothesis (EMH):*
  a. Mapping applies cyclically, and vacuous quantification is checked derivationally.
  b. Material from a syntactic predicate is mapped into the nuclear scope of a mapping cycle.
  c. Material from XP immediately dominating the subject chain of a syntactic predicate (excluding that predicate) is mapped outside the nuclear scope of a mapping cycle. A subject chain is an A-chain with its tail in a subject position.
  d. Existential closure applies to the nuclear scope of a mapping cycle.

Under this approach, the focus of inquiry is preposed to how to define a local domain of syntax-semantics mapping, i.e., a "mapping cycle".

On the other hand, the Mapping Hypothesis doesn't have much to say about the indicative-modal asymmetry illustrated above. To provide a feasible answer, we would like to establish a typological correlation between the absence of nonspecific subjects and the absence of V-to-I movement. Namely, in English, where V raises to I in LF, the domain of a primary predicate, as well as the corresponding nuclear scope, is extended from V' to I', as dictated by (12b,c). Given the VP-internal subject hypothesis, a subject chain typically has its head above the nuclear scope, while submerging its tail under the nuclear scope, as shown in the diagram (13):

---

3 Following Chomsky (1995), we assume that English, unlike French, does not raise V to I in overt syntax. Rather, V-to-I raising is procrastinated till LF.
This move leads us to examine the issue further from the vantage point of Chomsky's (1995) Copy Theory: If the lower copy in Spec-VP is deleted, the upper copy in Spec-IP must get strongly quantified, either by its own determiner or by a sentential operator like an adverb of quantification. This is because existential closure is not available at this altitude. If the upper copy is deleted, then the lower copy is licensed by existential closure introduced according to (12d).

By contrast, Chinese-type languages lack agreement morphology, and do not license V-to-I raising either in syntax or in LF. As a result, a subject chain is typically outside nuclear scope, and cannot be saved by existential closure on V', the de facto syntactic predicate, as illustrated by (14):

(14) Chinese type (LF):

This move provides a straightforward account of the contrast between (15a) and (15b,c) (3a-c) repeated here):

(15) a.* liu-ge ren tai-qi-le na-kuai shitou.
    six-Cl person lift-up-Prf that-Cl rock
    'Six persons have lifted that rock.' (nonspecific)

    b. you liu-ge ren tai-qi-le na-kuai shitou.
        have six-Cl person lift-up-Prf that-Cl rock
        'There are six persons who have lifted that rock.' (specific)

    c. na liu-ge ren tai-qi-le na-kuai shitou.
In (15a), the subject chain is outside the nuclear scope, and the numeral *liu* 'six' cannot serve as a strong determiner in Milsark's (1974) sense. (15a) is therefore ruled out due to vacuous quantification. By contrast, the subject indefinites of (15b,c) are licensed by the existential modal *you* 'have' and the demonstrative *na* 'that' respectively.

3. **Mapping geometry of subject indefinites**

Interestingly enough, we often observe the English type behavior in Chinese modal constructions, where it is not unusual to find overt verb raising from V to Mod, as shown in (16a) ((4a) repeated here):

(16) a. *liu-ge ren tai-de-qi na-kuai shitou.*

    six-Cl person lift-can-up that-Cl rock

    'Six persons can lift that rock.' (nonspecific)

b. *liu-ge ren keyi tai-qi na-kuai shitou.*

    six-Cl person can lift-up that-Cl rock

    'Six persons can lift that rock.' (nonspecific)

In (16a), the compound *tai-qi* 'lift-up' raises to the infixal modal *-de-* 'can', creating a mapping geometry very similar to the one in the English type configuration (13), as sketched in the following diagram:

(17)

\[
\begin{array}{c}
\text{ModP} \\
\text{Mod'}
\end{array}
\xrightarrow{\text{ModP} \rightarrow \text{mapping cycle}}
\begin{array}{c}
\text{Mod'} \\
\text{\langle Subj\rangle}
\end{array}
\xrightarrow{\text{Mod'} \rightarrow \text{nuclear scope}}
\begin{array}{c}
\text{\langle Subj\rangle} \\
\text{v'} \\
\text{\ldots}
\end{array}
\xrightarrow{\text{[V+v]}_k+\text{Mod} \\
\text{\langle Subj\rangle} \\
\text{v'} \\
\text{\ldots}
\text{t_k}}
\]

Therefore, we would like to entertain the hypothesis that the mapping geometry of Chinese modal sentences is isomorphic to that of English indicatives, although verb raising is limited to a light or modal verb, rather than to a higher functional category such as T or Agr. As a

---

4 In contrast to V-to-I raising, raising to a light verb or a modal verb is quite common in Chinese. For detailed discussion, see Huang (1994, 1997) and Lin (2000). As noted by a reviewer, our analysis presented in (18) may require some form of distributive morphology where a compound may be split up upon raising to a higher
result, the subject indefinite of (16a) can be licensed by existential closure when the upper
copy of the subject chain undergoes LF deletion, as illustrated below:

(18) ModP → mapping cycle
     Mod' <liu-ge ren> Mod' <liu-ge ren> (∃x)Mod' → nuclear scope
     -de- vP ⇒ tai-de-qi_k vP ⇒ tai-de-qi_k vP
     liu-ge ren v' <liu-ge ren> v' <liu-ge ren(x)> v'
     tai-qi . . . t_k . . . t_k . . .

This move accounts for the nonspecific reading of (16a). The same analysis carries over to
(16b) except that V-to-Mod raising applies in LF rather than in overt syntax, as shown by the
following derivation:

(19) ModP → mapping cycle
     Mod' <liu-ge ren> Mod' <liu-ge ren> (∃x)Mod' → nuclear scope
     keyi vP ⇒ taiqi-keyi_k vP ⇒ taiqi-keyi_k vP
     liu-ge ren v' <liu-ge ren> v' <liu-ge ren(x)> v'
     tai-qi . . . t_k . . . t_k . . .

In other words, the indefinite subject gets its nonspecific reading through existential closure
on Mod', given the EMH (12a-d).

4. Mapping geometry of object indefinites

For all we have said about subject specificity, one may well wonder whether the same story
can be told about the indicative-modal asymmetry between (1a) and (2a,b) (repeated here as
(20a) and (20b,c) respectively):

(20) a. *wo liang-ben shu nian-guo, san-ben shu mei nian-guo.
    I two-Cl book read-Exp three-Cl book have-not read-Exp
    'I read two books, not three.'

    b. wo liang-ben shu nian-de-wan, san-ben shu jiu bu xing le.

 functional head. Alternatively, one may simply assume that the modal de is infixal, and the "split-up" is merely
phonological by nature.
First consider the following LF mapping geometry of (20b,c) after object fronting occurs:

(21) \[ \ldots TP \rightarrow \text{mapping cycle} \]
\[ \langle \text{Subj} \rangle \quad T' \quad \text{existential closure} \]
\[ T \quad \text{ModP} \rightarrow \text{nuclear scope} \]
\[ [[V+v]_k +F] + \text{Mod} \quad \text{FP} \]
\[ \langle \text{Obj} \rangle \quad F' \]
\[ t_i \quad vP \]
\[ \langle \text{Subj} \rangle \quad v' \]
\[ t_k \quad \text{VP} \]
\[ \langle \text{Obj} \rangle \quad \ldots \]

Here the whole object chain is submerged under the nuclear scope, and thus subject to existential closure. Since the verb has been raised to Mod (overtly in (20b) and covertly in (20c)), the predicate domain has been extended to ModP, which in turn forms the nuclear scope. Now if the lower object copy undergoes LF deletion, the upper copy in Spec-FP is licensed by the existential closure (i.e., being weakly existentially quantified). Alternatively, if it is the upper object copy that is deleted in LF, the lower copy is again subject to the existential closure. We thus correctly predict that the only interpretation for (20b,c) is nonspecific.

It follows from our treatment that both the subject and object indefinites can be
nonspecific in the modal construction. This is indeed the case, as evidenced by (22a,b):

(22) a. san-ge ren liu-wan fan chi-de-wan, jiu-wan fan jiu bu xing le.
three-Cl person-Cl six-Cl rice eat-can-finish nine-Cl book then not possible Inc
'Three persons can finish six bowls of rice, not nine.' (nonspecific)

b. san-ge ren liu-wan fan keyi chi-wan, jiu-wan fan jiu bu xing le.
three-Cl person-Cl six-Cl rice can eat-finish nine-Cl book then not possible Inc
'Three persons can finish six bowls of rice, not nine.' (nonspecific)

Note that there are altogether four possibilities of interpreting (22a,b) given the Copy Theory, as illustrated below:

(23) a. <Subj> . . . <Obj> . . . [nuclear scope <Subj> . . . <Obj> . . . ]

b. <Subj> . . . <Obj> . . . [nuclear scope <Subj> . . . <Obj> . . . ]

c. <Subj> . . . <Obj> . . . [nuclear scope <Subj> . . . <Obj> . . . ]

d. <Subj> . . . <Obj> . . . [nuclear scope <Subj> . . . <Obj> . . . ]

In (23a), both the lower subject and object copies are deleted, leaving the upper copies outside the nuclear scope, and hence outside of the domain of existential closure. Since there is no sentential operator around either, we should dismiss this possibility in view of vacuous quantification. (23b) and (23c) are ruled out for exactly the same reason except that there is only one offending indefinite in each case, i.e., the upper subject copy in the former and the upper object copy in the latter. Consequently, the only possible interpretation turns out to be (23d), where both the upper copies are deleted, and the lower copies are licensed under existential closure on the nuclear scope. The dual nonspecific readings of (22a,b) thus follows quite naturally from our account.

By contrast, the case with (20a) is more problematic: As shown by (24), when an object stays in situ in an indicative sentence, the reading is ambiguous between specific and nonspecific:

(24) wo nian-guo liang-ben shu.
I read-Exp two-Cl book
'I read two books.' (specific, nonspecific)

Here the crucial factor lies in the aspectual licensing from -guo, an experiential aspect in Li & Thompson's (1981) terms. The dependency can then be formalized as an instance of unselective binding between the aspectual operator and the variable introduced by the
numeral NP, as visualized in the following diagram:\(^5\)

\[
(25) \ldots vP \\
\text{existential closure} \\
\text{wo } v' \rightarrow \text{nuclear scope} \\
[nian-guo]_x^+v \quad \text{VP} \\
\text{liang-ben shu}(x) \ldots
\]

Alternatively, the object variable can be existentially closed, leading to the nonspecific reading of (24). The same account applies to the ambiguity of (5a,b): Namely, the specific construal results from aspectual licensing from -le, while the nonspecific construal is due to existential closure associated with the nuclear scope.

This observation raises the issue as to why (20a) cannot be saved in the way described in (25), i.e., by assigning a specific reading to the object indefinite: When the lower object copy is deleted, the upper copy is outside the nuclear scope (hence outside the domain of existential closure), resulting in vacuous quantification, as in (26):

\[
(26) \ldots FP \\
\langle \text{Obj}(x) \rangle \quad F' \\
\text{existential closure} \\
\langle \text{Subj} \rangle \quad v' \rightarrow \text{nuclear scope} \\
[V-Exp]^+v \quad \text{VP} \\
\langle \text{Obj} \rangle \ldots
\]

\(^5\) A reviewer points out there is an alternative to our approach presented above: That is, if tense or aspect anchors an event to a specific time, then the reason why we have the impression that the object is specific is that a participant in a specific event is most naturally understood to be a specific token of the class to which the participant belongs. We will leave this option open here, and pursue the unselective binding analysis as far as we can.
When the upper object copy is deleted, the lower copy is subject to the licensing from the experiential aspect, as in (27):

(27) . . . \( FP \)
\[ \begin{array}{c}
<\text{Obj}> \\
F' \\
F \\
\phi \text{P}
\end{array} \]

\(<\text{Subj}>\)
\[ \begin{array}{c}
\phi \to \text{nuclear scope}
\end{array} \]

\([V-Exp],+\phi \)
\[ \begin{array}{c}
\text{VP}
\end{array} \]

\(<\text{Obj}(x)>\)
\[ . . . \]

This seems to be a natural consequence from what we have seen in (25), which, nonetheless, is not borne out. One way to approach the problem is to suggest that the upper copy of the fronted object never deletes in LF. The reason is that its focus feature is interpretable, and behaves quite differently from the EPP feature on T. It can be neither checked off nor deleted. As a result, the only interpretation the fronted object can get is through its upper copy, which, however, is beyond the reach of existential closure on \( \phi ' \). We may thus conclude that (20a) is ruled out due to vacuous quantification, and will return to address a similar issue in relation to the indicative-modal asymmetry.

5. Interpreting Chinese bare NPs

Before we go any further, it is worthwhile taking a closer look at the semantic properties of Chinese bare NPs. Basically, if we discount generic and habitual construals, a Chinese bare NP can be either definite or non-specific, as shown by the contrast between (28a,b):

(28)  wo zaoshang zongsuan zhao-dao ren le.
     I  morning finally search-reach person Inc

    a. 'I could not find John to help me yesterday.) I finally found him this morning.' (definite)
    b. 'I could not find anyone to help me yesterday.) I finally found somebody this morning.' (nongeneric and nonspecific)

In (28a) the bare NP ren 'person' refers to the salient individual in the discourse, and can be
paraphrased as a pronoun. In terms of syntax, we follow Cheng and Sybesma (1999) in assuming that a bare NP gets interpreted as definite in presence of N-to-D raising along the line of Longobardi (1994). By contrast, there is no reference to a particular individual in (28b), and the reading is quite like somebody in English. Although the definite construal of (28a) is anaphoric in nature, bare NPs can sometimes be deictic, as evidenced by (29a,b):

(29) ren lai le!
    person come Inc
    a. 'That person/He/She is coming!'
    b. 'Those people/They are coming!'

By contrast, as Huang (1987) points out, Chinese bare NPs can never be specific. This point can be illustrated by comparing (30) with (31):

(30) * wo zongsuan zhao-dao-le renk [Opk [tk hen nenggan]].
    I finally search-reach-Prf person very capable
    'I have finally found somebody, who is very capable.'

(31) wo zongsuan zhao-dao-le yi-ge renk [Opk [tk hen nenggan]].
    I finally search-reach-Prf one-CL person very capable
    'I have finally found a certain person, who is very capable.'

In (30), the bare object NP ren 'person' cannot take a secondary predicate. By contrast, the numeral object NP of (31) is capable of serving as the subject of secondary predication. According to our analysis, the subject of the local mapping cycle is outside the nuclear scope which corresponds to the open sentence headed by hen nenggan 'very capable'. If it is indeed the case that a bare NP cannot be specific, then we can rule out (30) without further stipulation. The contrast between (30) and (31) thus provides a nice diagnostic for the difference between bare NPs on the one hand, and numeral NPs on the other.

A numeral NP, on the other hand, differs from its bare counterpart in being subject to aspectual licensing. For instance, the object indefinite of (31) is in fact unselectively bound

---

6 See Cheng & Sybesma (1999) for a comprehensive discussion on the distinction between bare and numeral NPs across Chinese dialects.
7 There is evidence suggesting that this numeral-bare asymmetry may indeed have something to do with the aspectuality of a given sentence. As shown by the contrast between (ib) and (iib), the distribution of a numeral NP object is sensitive to the presence of an aspect like -le, whereas the distribution of a bare NP object is not, either in the generic sentence (ia) or in the indicative sentence (iia):

(i) a. Akiu hua hua.
    Akiu paint painting
    'Akiu paints paintings.'

b. Akiu hua yi-fu hua.
    Akiu paint one-CL painting
by the perfective aspect -le, which asserts the existence of the people-finding event. To see this, (31) should be further contrasted with (32), where the aspect has been changed into progressive: 8

(32) * wo zai-zhao yi-ge ren [Opk [t_k hen nenggan]].
   I  Prg-find one-CL person very capable
   'I am looking for somebody, who is very capable.'

Here the progressive aspect does not trigger existential quantification, and secondary predication fails because the subject of the local mapping cycle (defined by secondary predication) cannot get extra licensing.

6. The indicative-modal asymmetry revisited

Keeping the above discussion in mind, it's time to explore the distribution and interpretation of bare NPs in presence of object fronting. First consider (8) (repeated here as (33)), where the object is fronted in-between the temporal adverbial mingtian 'tomorrow' and the main verb chi 'eat':

(33) women mingtian zhurou chi, niurou bu chi.

(ii) a.  Akiu hua-le hua.
   'Akiu has painted paintings.'
   b.  Akiu hua-le yi-fu hua.
   'Akiu has painted a painting.'

The "boundedness" of the painting event is dictated by the presence of a numeral NP object, which explains the deviance of (ib). Once the boundedness in question is fulfilled by the perfective aspect, as in (iib), the sentence improves dramatically.

It is the choice of the verb, rather than that of the aspect, that is relevant here, citing the following examples, where the predicates are of the use-type in Diesing's (1992) sense:

(i) a.  ta zai kan-zhe yi-ben shu hen hou.
   he Prg read-Dur one-CL book very thick
   'He is reading a book, which is very thick.'
   b.  Akiu zai xi-zhe yi-jian dayi hen zang.
   Akiu Prg wash-Dur one-CL coat very dirty
   'Akiu is washing a coat, which is very dirty.'

Unfortunately, both sentences sound quite odd to me and to those who I consulted. To see the relevance of aspectual licensing, we may turn to a typical verb of create-type, which, unlike its use-type counterpart, does not presuppose the existence of its object. Let's take xie 'write' for instance:

(ii) a.  ta xie-le yi-ben shu hen hou.
   he write-Prf one-CL book very thick
   'He has written a book, which is very thick.'
   b.  * ta zai-xie yi-ben shu hen hou.
   he Prg-write one-CL book very thick
   'He is writing a book, which is very thick.'

There is a very clear contrast between (iia) and (iib), which indicates that the aspect type does make a difference in licensing the specific reading of a numeral object NP.

8 It is the choice of the verb, rather than that of the aspect, that is relevant here, citing the following examples, where the predicates are of the use-type in Diesing's (1992) sense:
we tomorrow pork eat beef not eat
a. '(As for the meat in the refrigerator,) tomorrow we will eat the pork, but not the beef.' (definite)
b. '(As for dinner,) tomorrow we will eat pork, but not beef.' (nonspecific)

It is worth noting that (33) can be paraphrased as (34) respectively with a future modal *hui* 'will' preceding the main verb:

(34) *women mingtian zhurou hui chi, niurou bu hui chi.*
we tomorrow pork will eat beef not will eat
a. (As for the meat in the refrigerator,) tomorrow we will eat the pork, but not the beef. (definite)
b. (As for dinner,) tomorrow we will eat pork, but not beef. (nonspecific)

Given what we have seen in (20b,c), where a fronted object indefinite is licensed through capacity modality, it is a simple deduction that it may also get licensing from an epistemic modal such as *hui*. This intuition translates into the following two parts under our approach: Firstly, (33) has an implicit future modal located between the object indefinites and the main verbs.9 This modal, implicit or not, is the locus of future modality in Chinese. Secondly, the nonspecific readings of (33) should be credited to existential closure on Mod', as illustrated by the LF representation with the inner focus in the vP periphery (irrelevant details omitted):

---

9 As noted by a reviewer, given our implicit modal analysis, it is still unclear why numeral NPs do not get licensed in an irrealis sentence such as (i):

(i) * women mingtian yi-ben shu nian, liang-ben shu bu nian.
we tomorrow one-CL book read two-CL book not read
'Ve will read one book tomorrow, not two books.'

Our view is that numeral NPs can only be licensed by a modal expressing capacity/quantity (cf. Li 1996), as is the case with -de-. By contrast, nonspecific bare NPs are not licensed under the capacity modal, where only the definite interpretation is allowed, as evidenced by the contrast between (iia,b):

(ii) * women zuotian zhurou chi-de-wan, niurou bu chi-bu-wan.
we yesterday pork eat-can-finish beef not eat-cannot-finish
a. 'We can finish the pork yesterday, but not the beef.' (definite)
b. # 'We can finish pork yesterday, but not beef.' (nonspecific)
Namely, Mod' serves as a syntactic predicate after the verbal complex raises to Mod in LF, and effectively extends the nuclear scope from V' to Mod'.

As we have demonstrated in the previous sections, there are essentially two ways to interpret an object chain link in terms of Copy Theory: If LF deletion applies to the lower copy, the only option left for the bare NP *zhurou* 'pork' is to get strongly quantified, since the upper copy is outside the domain of existential closure. This accounts for the definite readings of (33a). Alternatively, if it is the upper copy that undergoes LF deletion, then the lower copy benefits from the licensing from existential closure, resulting in the nonspecific readings of (33b).

---

10 It appears that our theory also provides a solution for the object specificity displayed by the Dutch sentences (i) and (ii):

(i) *Rudy hoopt dat Onno morgen zes brieven verscheurt.*
Rudy hopes that Onno tomorrow six letters tears up
'Rudy hopes that Onno will tear up six letters tomorrow.' (specific, nonspecific)

(ii) *Rudy hoopt dat Onno zes brieven morgen t_k verscheurt.*
Rudy hopes that Onno six letters tomorrow tears up
With the realis sentence (6) (repeated here as (36)), we again run into the same type of problem encountered in (20a), except that this time around, bare NPs have one more reading to keep the derivation alive, i.e., the definite interpretation of (36a):

\[(36)\] women zuotian zhrou chi-še, niurou mei chi.
we yesterday pork eat-Prf beef have-not eat

a. '(As for the meat in the refrigerator,) yesterday we ate the pork, not the beef.' (definite)

b. # '(As for dinner,) yesterday we ate pork, not beef.' (nonspecific)

When the bare object NP gets interpreted as definite, it doesn't matter whether it is the upper or lower copy that undergoes LF deletion, since it does not rely on existential closure to remain legitimate. By contrast, when the bare object NP gets interpreted as indefinite, the licensing becomes impossible: On the one hand, when LF deletion applies to the lower copy, the variable introduced by the upper copy is left unbound, resulting in vacuous quantification, as shown below:

\[(37)\] ... FP<sub>inner</sub>
\[
\begin{array}{c}
\langle\text{Obj}(x)\rangle \\
F' \\
F \\
vP \\
\langle\text{Subj}\rangle \\
v' \rightarrow \text{nuclear scope} \\
[V-Prf]+v \\
\langle\text{Obj}\rangle \\
\end{array}
\]

This accounts for the unavailability of the nonspecific reading in (36b). On the other hand, the upper copy is never deleted, since, as we have proposed for (20a), the focus feature of the fronted object is interpretable and can be neither checked off nor deleted. As a result, the only

'Rudy hopes that Onno will tear up six letters tomorrow.' (specific)

As observed by Reuland (1988), the numeral object NP of (i) can be either specific or nonspecific. If Bobaljik & Jonas's (1996) version of Holmberg's generalization is on the right track, the numeral NP has already undergone object fronting to a VP-external position. By contrast, when we raise the numeral NP further over the temporal adverbial morgen 'tomorrow', only the specific reading is available. In this case, Dutch differs from Chinese only in that the numeral can be construed as a strong determiner (cf. Tsai 2001).
Finally, we still have to deal with the question why the nonspecific readings are completely ruled out for pre-adverbial object indefinites. First note that Chinese, as well as English, allows a resumptive pronoun only in left dislocation structures such as (38a), but not in fronting structures such as (438b):

(38) a.  Akiu, wo taoyan ta.  
    Akiu Top I hate him  
    'As for Akiu, I hate him.'

b.  wo Akiu taoyan (*ta), Xiaodi bu taoyan (*ta).  
    I Akiu hate him Xiaodi not hate him  
    'I hate Akiu, but not Xiaodi.'

Interestingly enough, (9) and (10) (repeated here as (39) and (40)) pattern only with the former, but not the latter, as evidenced by the contrast of (41a,b):

(39) women zhurou zuotian chi-le, niurou qiantian chi-le.  
    we pork yesterday eat-Prf beef day-before-yesterday eat-Prf  
    a.  '(As for the meat in the refrigerator,) we ate the pork yesterday, and the beef for the day before yesterday.'  (definite)
    b.  # '(As for the dinner,) we ate pork yesterday, and beef the day before yesterday.'  (nonspecific)

(40) women zhurou mingtian chi, niurou houtian chi.  
    we pork tomorrow eat beef day-after-tomorrow eat  
    a.  '(As for the meat in the refrigerator,) we will eat the pork for tomorrow, and the beef for the day after tomorrow.'  (definite)
    b.  # '(As for the dinner,) we will eat pork for tomorrow, and beef for the day after tomorrow.'  (nonspecific)

(41) a.  wo Akiu zuotian jian-guo ta, ...  (pre-adverbial)  
    I Akiu yesterday meet-Exp him  
    'As for Akiu, I met him yesterday, ...'

b.  * wo zuotian Akiu jian-guo ta, ...  (post-adverbial)  
    I yesterday Akiu meet-Exp him

Our observation holds regardless of the choice of tense/mood, as shown by the parallel contrast of (42a,b):

(42) a.  wo Akiu mingtian hui jian-dao ta, ...  (pre-adverbial)  
    I Akiu tomorrow will meet-reach him  
    'As for Akiu, I will meet him tomorrow, ...'
b. * wo mingtian Akiu_hui jian-dao ta, ... (post-adverbial)
   I tomorrow Akiu will meet-reach him

All these point to the conclusion that the apparent object on the pre-adverbial position is in fact a contrative topic, which is either specific or definite by nature. Since a bare NP can never be construed as specific, we correctly predict that (41) and (42) only allow a definite interpretation.

Our position is further strengthened by the fact that numeral NPs cannot appear higher than temporal adverbials, as evidenced by (43) and (44):

(43) * wo liang-ben shu zuotian nian-guo,
   I two-Cl book yesterday read-Exp
   san-ben shu qiantian nian-guo.
   three-Cl book the day before yesterday read-Exp
   'I read two books, not three.' (nonspecific)

(44) * wo liang-ben shu mingtian nian-de-wan,
   I two-Cl book tomorrow read-can-finish
   san-ben shu houtian nian-de-wan.
   three-Cl book the day after tomorrow read-can-finish
   'I can finish two books tomorrow, and three the day after tomorrow.' (nonspecific)

The phenomenon would make sense if the pre-adverbial position hosts a contrastive topic in the left periphery, where a numeral NP by itself can never survive. The inner-outer dichotomy of Chinese foci can therefore be tied with the distinct mapping geometry of the two peripheries (cf. Belletti 1994), as sketched in the following LF representation:
7. Concluding remarks

In sum, we have demonstrated that Chinese object specificity follows from the same principle as its subject counterpart under the Extended Mapping Hypothesis (EMH). Furthermore, the seemingly realis-irrealis discrepancy with respect to object fronting turns out to be a subcase of the more general indicative-modal asymmetry in terms of mapping geometry. Although our analysis presented here is anything but conclusive, it does suggest that the EMH is a potent candidate for explaining the asymmetry. Furthermore, based our findings on the distributive-interpretive association of the two types of Chinese foci, it becomes possible to map out the boundary of the vP periphery along the edge of existential closure. By doing so, we are also in a position to build a general theory of specificity effects across languages under the cartographic approach along the line of Rizzi (1997) and Cinque (1999).
References


