Chapter 8 Nominal Expressions

We have so far focused on clausal structures, touching briefly on nominal expressions in Chapter 6 when relative structures were discussed. Clausal structures are known to have parallels within nominal expressions (Chomsky 1970). This chapter focuses on the internal structure of nominal expressions.

For speakers of English, a striking fact about Chinese nominal expressions is their apparent “simplicity:” as briefly noted in Chapter 6, Section 6.2.1, Chinese nouns are not inflected for number and do not need to occur with a definite or indefinite article (the or a). The absence of definite and indefinite articles does not prevent a bare noun from being interpreted as definite or indefinite. A generic interpretation is also possible. To illustrate, the bare noun *gou* ‘dog’ in the following examples can be interpreted as generic, definite or indefinite. It can also be interpreted as singular or plural:

(1) a. *gou* hen congming.
   dog very intelligent
   ‘Dogs are intelligent.’

   b. *wo* kandao *gou*.
   I saw dog
   ‘I saw a dog/dogs.’

   c. *gou* pao-zou-le.
   dog run-away-Le
   ‘The dog(s) ran away.’
Clearly, bare nouns in Chinese can be the interpretive equivalents of the English
[(definite/indefinite) article + (singular/plural) noun]. Is the semantic equivalency reflected
syntactically?

The other side of the cursory English-Chinese comparison is that the Chinese nominal
system might also appear to be more “complex” than that of English in some other respects.
When nouns are counted, English simply combines a number and a noun, such as three books.
When the number is greater than one, the noun must appear in the plural form. In contrast,
Chinese needs a classifier to help with counting: the classifier for books, ben, must appear
between three and book: san-ben shu. The noun remains the same regardless of whether the
number is greater than one. What is the role of a classifier in Chinese? What are its syntactic
properties? Are a plural marker and a classifier mutually exclusive in particular languages? Do
classifier languages use a plural marker at all? What are the structures of nominal expressions in
Chinese in general? Do they have similar structures to those in English when they express
similar meanings?

The syntactic representations of nominal expressions in Chinese and their relation to the
general syntactic theory of nominal phrases have been investigated and debated since the advent
of a more elaborate structure for nominal expressions --- when the traditional label of NP was
replaced by DP (Determiner Phrase, Abney 1987). This chapter serves to establish the internal
structure of nominal expressions in Chinese. The investigation will help us address the cross-
linguistic issues such as the syntactic representation of bare nouns in determiner-less languages
and the possibility of plural marking and classifiers being present in the same language. We will
begin with the theoretical underpinnings of the debates on nominal structures and then turn to the
various types of evidence towards establishing a nominal structure for Chinese similar to the one for English. We will conclude that nominal structures in different types of languages are basically identical. The evidence comes from (i) the distribution of different types of nominal expressions, (ii) the ordering of the constituents within nominal expressions, and (iii) the behavior of the Chinese plural/collective marker/morpheme, *men*.

8.1. The issues

As shown in Chapter 3, Section 3.3.1, a clause generally has functional projections between the subject NP and the VP, including the Tense projection and/or the Aspect projection. Tense and Aspect are often inflectional morphemes. An “Inflectional Phrase” (IP) is often used to represent a clause. A typical clausal structure, thus, is $[\text{IP} \text{Subject}[\text{Infl} \ [\text{VP} \ V \ \text{Object}]]]$. The head of a clausal structure is a functional projection, Infl (which houses Tense, for instance). Infl takes a VP as its complement.

A clause often has a nominal counterpart: the following pair of examples has been widely used to illustrate the similarity between verbal and nominal categories (Chomsky 1970).

(2) The enemy destroyed the city.

(3) the enemy’s destruction of the city
In both instances, the same arguments (the one that destroys and the one that is destroyed) appear with the verb and the deverbal noun. The parallelism between the two structures suggests that their syntactic representations may be quite similar. We have seen that a clausal structure contains an Infl functional projection, in addition to the subject NP and the verb phrase. A nominal expression has traditionally been a projection headed by an N: \([NP \ldots N \ldots]\). However, if the similarity between (2) and (3) is an indication of a parallelism in syntactic structures, a nominal expression may require a more complex form than \([NP \ldots N \ldots]\). This is what Abney (1987) proposed, highlighting the fact that nouns often occur with an article in English.

(4) I saw *(the/a) cat.

Further, note that the constituents occurring within a nominal expression generally are restricted in their ordering, as shown in

(5).

(5) Demonstrative/Article + Number + Noun

these/the three books

*three these/the books

*three books these/the

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1 Even when a verb does not have a deverbal nominal form, it may appear in the gerundive form, forming a nominal expression with the same argument structure:

(i) a. John built a space ship.

   b. John’s building of a space ship
If the head of a nominal expression is the noun *books*, what is the relation of the demonstrative/article and number to the noun? How is the fixed ordering captured?

Semantically, there is also a parallelism between a verb and a noun. Both are essentially property-denoting expressions. That is, even though a nominal phrase in an argument position, such as the subject of (2), *the enemy*, is an individual-denoting expression, the noun *enemy* is the property predicated of a certain individual. *The* has the function of turning a property (predicate) to an entity (argument). In other words, the fact that a nominal phrase is an individual-denoting expression is largely due to the function of an article like *the*. This important function of the article seems to be lost in the syntactic representation of [NP … N …] for a nominal phrase.

In brief, the traditional representation of a nominal expression in argument positions as [NP … N …] does not accommodate the parallels between a nominal phrase and a clausal structure, the restrictions on constituency and ordering within nominal expressions, and the importance of articles. Because of these considerations, many linguists have come to recognize that an argument nominal phrase does not have the straightforward structure [NP… N…]. Rather, it has a functional head, a Determiner (D), which takes a complement NP and projects to a maximal projection, a Determiner Phrase (DP). A DP and an NP are two distinct categories: a DP is an entity-denoting expression -- an argument-- and an NP is a property-denoting expression -- a predicate. More specifically, an expression like *the book* should be projected as a
DP containing an NP book: $[\text{DP } the \ [\text{NP } book ]]$.\(^2\) The predicate/argument distinction can be illustrated by the following examples:

(6) a. *[The) captain of the team] will visit us tomorrow. ---*the* obligatory in argument position
   
   b. We elected him [captain of the team]. ---*the* not required in predicate position

An extensive investigation of the interpretation and distribution of different types of nominal expressions led Longobardi (1994) to propose that an empty D exists even in the cases of argument nominal expressions without an overt determiner. We will not repeat the details here. The main point is that there have been substantial arguments in the literature in support of a DP structure to represent a nominal expression as an argument.

This has consequences for our analysis of Chinese. As noted briefly at the beginning, bare nouns in Chinese can be definite or indefinite and may be singular or plural. They also occur in argument positions, functioning as a subject or an object. That is, a bare noun in Chinese functions like a full DP in English. Should a Chinese bare noun also then be represented as a DP? Two lines of research have been pursued: one aims to keep a one-to-one syntax-semantics mapping relation, and the other emphasizes correlations of cross-linguistic variation with respect to the use of classifiers, plural marking and articles.

The first line of research takes the distinction between an NP and a DP seriously and assumes that structures and meanings strictly correspond to each other. An NP is always interpreted as a predicate (property-denoting) and a DP (entity-denoting), an argument. This move brings us closer to a one-to-one relationship between form and function, and it has also

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\(^2\) We leave open the issue of whether *the* occupies the position of D or the Spec of D. For detailed discussions on the motivation for a DP and the constituent within a DP, see Abney (1987).
facilitated the "discovery" of more functional projections. For instance, in addition to a DP, a Number Phrase (NumP) has been proposed (see, for instance, Carstens 1991, Ritter 1991, 1995, and Valois 1991). A nominal phrase therefore has the structure $[_{DP} \ D \ [_{Num} \ Num \ [_{NP} \ N ]]]$.\(^3\) A strong claim stemming from this line of research is that all languages have identical nominal structures, regardless of whether they have all the appropriate lexical items to fill the positions.

The second line of research does not assume the existence of a universal structure. It highlights systematic empirical variations among different languages. For instance, some languages do not use plural marking. Such languages often use classifiers with their nouns instead. Moreover, many of these classifier languages also lack articles. As mentioned earlier, Chinese is such a language. Chierchia (1998) notes that there seems to be a correlation between the occurrence of articles, the use of plural marking, and the absence of classifiers. Nominal expressions have different properties in different types of languages. It is not necessary to assume that all languages project a DP or a NumP, especially when such projections are not realized morphologically. A language like Chinese may simply represent its arguments as NPs instead of DPs. An NP in Chinese can be an argument or a predicate. This line of research allows the same syntactic category to represent semantic functions. Some languages allow the category NP to represent an argument (Chinese); some others do not (English). A "semantic parameter" is required: NPs in some languages can function as arguments and predicates and in some other languages, only as predicates.

Which approach characterizes the properties of nominal expressions in Chinese more adequately? In what follows, we will show that adopting a DP structure (containing a NumP) in

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\(^3\) Other functional projections have been proposed in the literature, such as Kase Phrase and Quantifier Phrase. We focus on D, Num and Cl in this chapter.
Chinese has important advantages in capturing (i) the structures and interpretations of different types of nominal expressions, (ii) order and constituency within nominal expressions, and (iii) the behavior of the plural/collective morpheme -men.

8.2. Projecting a DP - Referential and Quantity Expressions

Once one looks past the fact that Chinese nouns are bare, it actually is not obvious that Chinese does not have overt morphological evidence for the projection of a DP. Interesting generalizations can be found in cases containing expressions of the form [number + classifier + noun], referred to as number expressions. The way these expressions are interpreted and how they interact with the general constraint in Chinese that disallows an indefinite nominal expression in subject or topic position provides support for a DP in Chinese. We first show that the interpretation of a number expression varies with the position where it occurs. Accordingly, an appropriate analysis to capture the correlation between distribution and interpretation should recognize two different structures for number expressions: NumP and DP. The success of such an analysis supports the existence of these projections in Chinese.

8.2.1. Number expressions as indefinite and quantity expressions
Number expressions [number + classifier + noun] in Chinese have generally been regarded as non-definite expressions. They generally do not occur in subject or topic positions because they cannot be indefinite,\(^4\) as in (7)-(8).\(^5\)

(7)  a. ??san-ge xuesheng chi-le dangao.

    three-CL student eat-LE cake

    ‘Three students ate the cake.’

    b. ??san-ge xuesheng hen congming.

    three-CL student very smart

    ‘Three students are smart.’

(8)  a. *san-ge xuesheng, wo yiwei chi-le dangao.

    three-CL student I think eat-LE cake

    ‘Three students, I thought (they) ate the cake.’

\(^4\) The terms "non-definite" and "indefinite" are used loosely. A subject can be definite or specific. Tsai (1996) suggests that number expressions in Chinese are not specific unless the number is 'one.' That is, 'one N' can be specific, but not 'two N' or any others.

Looking ahead, we may claim that a specific nominal expression such as yige xuesheng ‘a certain student’ is derived by moving the number from the Num position to D (see Diesing 1992). This means that specific and definite expressions share the property that the D is lexically filled. We will not pursue the issue of "specific" and "definite." We will use the clearer "indefinite, non-specific" number expressions in our examples. Namely, our examples will consist mostly of number expressions with a number larger than 'one'.

b. *san-ge xuesheng, wo yiwei hen congming.
   
   three-CL student  I think very smart
   
   ‘Three students, I thought (they) are smart.’

Bare nouns in subject and topic positions are definite expressions.⁶

(9) xuesheng chi-le dangao.
   
   student  eat-LE cake
   
   ‘The students ate the cake.’
   
   Not: ‘(Some) students ate the cake.’

(10) xuesheng, wo yiwei chi-le dangao.
   
   student  I think  eat-LE cake
   
   ‘The students, I thought (they) ate the cake.’
   
   Not: ‘(Some) students, I thought (they) ate the cake.’

However, number expressions are not always disallowed in subject or topic positions.⁷

(11) a. san-ge xuesheng bu gou.
   
   three-CL student  not enough

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⁶ Bare nouns can also be interpreted as generic in the generic contexts. The issue of genericity will not be addressed in this chapter.

⁷ There is a range of patterns that allow a number expression in the subject position, as discussed in Tsai (1994, 1996) and A. Li (1996, 1998).
‘Three students is not enough.’

b. san-ge xuesheng, wo xiang shi bu gou de.

three-CL student I think is not enough DE

‘Three students, I think is not enough.’

(12) a. san-ge xuesheng dagai chi-bu-wan liang-ge dangao.

three-CL student probably eat-not-finish two-CL cake

‘Three students probably cannot finish two cakes.’

b. san-ge xuesheng, wo xiang dagai chi-bu-wan liang-ge dangao.

three-CL student I think probably eat-not-finish two-CL cake

‘Three students, I think probably cannot finish two cakes.’

The possibilities of number expressions in subject or topic positions are systematic. They involve the notion of "quantity" (A. Li 1998). For instance, the verb 'enough/sufficient' in (11) expresses the sufficiency of a certain amount. The verb complex 'eat-not-finish' in (12) expresses the notion of the amount of students finishing the amount of cakes. That is, the subject and topic number expressions in (11)-(12) denote quantity. (11)-(12) are contrasted with (7)-(8). The latter pair do not involve quantity-denoting expressions and are not acceptable with the number expressions in subject or topic positions. Let us conveniently label the number expressions in (11)-(12) "quantity number expressions" to capture the observation that they denote the notion of quantity. The number expressions in (7)-(8) will be called "non-quantity individual-denoting expressions" or "indefinite expressions" to highlight the fact that they refer
to some entities/individuals (indefinite referents),\(^8\) rather than denoting quantity. The question that arises from the contrast between (7)-(8) and (11)-(12) is why only the latter are acceptable.

8.2.2. Quantity vs. indefiniteness

A. Li (1998) argues that the two types of number expressions illustrated in (7)-(8) and (11)-(12) exhibit different syntactic behaviors, which leads us to recognize their different structural representations. The main support comes from the facts concerning pronominal coreference/binding and scope interaction.

8.2.2.1. Pronominal coreference/binding

A quantity-denoting number expression does not corefer with a pronoun. Nor can it be an antecedent of a bound pronoun such as ta 'he' or tamen 'they'. These properties contrast with the coreferential and binding possibilities available to non-quantity individual-denoting expressions. The examples in (13) indicate that indefinite nominals (which are individual-denoting) can be coindexed with referential or bound pronouns.

(13) a. wo jiao liang-ge xuesheng, huiqu ba tamen, de chezi kai lai.

I ask two-CL student return BA them DE car drive over

\(^8\) “Indefinite referents” in the sense of denoting random objects in the discourse. Again, these terms are used very loosely. The main contrast to be made is between the one that mainly expresses quantity and the other that mainly denotes entities/individuals.
‘I asked two students to go back and drive their car over.’

b. ni ruguo neng zhaodao liang-ge bangshou, jiu gankuai ba tamen, qing lai.
you if can find two-CL helper then hurry BA them invite come

‘If you can find two helpers, hurry and invite them over.’

c. ta mingtian hui kandao san-ge ren, hai hui gen tamen, zuo pengyou.
he tomorrow will see three-CL people and will with them make friends

‘He will meet three people tomorrow and will make friends with them.’

In contrast, a quantity expression does not co-refer with or bind a pronoun. (14a-c) are not acceptable. If they can be accommodated (when disregarding the definiteness requirement on subject), their number expressions must be interpreted as denoting individuals, rather than quantities:

three-CL man lift-not-up two-CL you give them DE piano

‘Three people cannot lift two (of the) pianos that you gave to them.’

b. *liang-ge daren, bu ru tamen, de san-ge xiaohai you liliang.
two-CL adult not compare they DE three-CL children have strength

‘Two adults are not as strong as their three children.’

c. *ruguo liang-zhang chuang shui-de-xia san-ge ren, wo jiu qing tamen, if two-CL bed sleep-able-complete three-CL person I then invite them lai.
come
‘If two beds can accommodate three people, I will invite them over.’

Similarly, the binding of a reflexive is not possible with quantity expressions. The contrast between (15a) and (15b) shows that the quantity number expression, though occupying the subject position c-commanding the reflexive, cannot be the antecedent of the reflexive (15a). This stands in contrast to the individual-denoting number expression in (15b), which can serve as a binder.

(15) a. Zhangsan_i zhidaosan-ge ren_j yiding ban-budong ziji_i/*j de gangqin.
   Zhangsan know three-CL people certainly move-not-move self DE piano
   ‘Zhangsan knows that three people certainly cannot move self's piano.’

b. Zhangsan_i jiaosan-ge ren_j huiqu ba ziji_i/*j de gangqin ban_ lai.
   Zhangsan ask three-CL people return BA self DE piano move over
   ‘Zhangsan asked three people to go and move self's piano over.’

8.2.2.2. Scope

Quantity number expressions behave differently from non-quantity ones with respect to scope interaction. A quantity number expression does not enter into scope relations with another one. For instance, (16) has only one reading: the amount of rice consumed by the amount of three people is five bowls:

(16) san-ge ren, wo zhidaochi-de-wan wu-wan fan.
three-CL people I know eat-can-finish five-CL rice

‘Three people, I know can finish five bowls of rice.’

This again contrasts with the non-quantity indefinite expressions, which can have scope interaction. The following sentence can have the fifteen-bowl interpretation; i.e, 'three people' has scope over 'five bowls of rice.'

(17) wo rang san-ge ren chi wu-wan fan.

I let three-CL people eat five-CL rice

‘I let three people eat five bowls of rice.’

The facts in (13)-(17) show that, even though they share the same form [number + classifier + noun], the quantity and non-quantity number expressions differ in their possibilities of coreference with/binding of pronouns and scope interaction. These distinctions will follow naturally from their structural differences, as shown next.

8.2.3. Number Phrase and Determiner Phrase

Taking the meaning to be an indication of the structure, we put forward the claim that the number of a quantity-denoting expression [number + classifier + noun] is a head, projecting a Number Phrase. When the phrase [number + classifier + noun] is individual-denoting, a logical possibility is that it is a DP: Determiner is projected even though it is not filled by a lexical item. In other words, an expression like san-ge ren 'three people' can be a Number Phrase with the
Number head 'three,' indicating the quantity of 'three' as in (18a). It can also be a DP with a null D head, as an individual-denoting expression (18b).

(18) a. \[\text{NumP}\ san\ge\ ren\]

\begin{center}
\begin{tabular}{ll}
three & CL person \\
\end{tabular}
\end{center}

b. \[\text{DP D [NumP}\san\ge\ren]\]

\begin{center}
\begin{tabular}{ll}
three & CL person \\
\end{tabular}
\end{center}

Such a structural difference straightforwardly captures the contrasts discussed in the previous sections. The D of a DP is generally the locus of reference. If a quantity-denoting phrase does not have a D in its structure, it is expected that it does not enter into coreference or binding relations. Moreover, a Number Phrase does not quantify over individuals and does not interact with another expression scopally.

This way of distinguishing between a DP and a NumP has advantages over potential alternatives. Consider the alternative of not projecting a quantity expression as a NumP. It would then also be a DP--an indefinite nominal expression--always taking narrow scope with respect to other quantificational expressions. However, such an option fails to capture the differences between a true indefinite expression and a quantity-denoting expression. Recall that a contrast exists between (16) and (17): scope interaction is only manifested in (17) with non-quantity individual-denoting expressions. Such a contrast argues against reducing a quantity expression to an indefinite individual-denoting expression that always takes narrow scope. In (17), the first indefinite expression can take wide scope over the second indefinite expression. Were we to label a quantity expression as a narrow scope indefinite expression, we would still
need to answer the question of why there are two types of indefinite expressions, one participating in scope interaction and the other, not. In addition, the coreference and binding possibilities also force us to distinguish two types of number expressions.

Moreover, equating a quantity-denoting expression with a narrow-scope indefinite expression wrongly groups together quantity expressions and other typical indefinite expressions such as non-interrogative *wh*-elements and those expressions preceded by the existential marker *you* 'have,' as shown in the next two sections.

### 8.2.4. Comparison with indefinite *wh*-elements

We have seen in Chapter 7 that a *wh*-phrase in Chinese is essentially a non-interrogative indefinite expression. Such indefinite expressions differ from quantity expressions by having the possibility of being coreferential with or bound by a pronoun: an indefinite *wh*-element can be coindexed with a coreferential or bound pronoun, but a quantity-denoting expression cannot.

Compare (14) with (19a-b):

(19) a. ruguo ni kandao shenme ren, qing ba ta dai jinlai.
   if you see what person, please BA him bring in
   'If you see anyone, please bring him in.'

b. ruguo ni yao jiao shenme ren, huiqu ba ta de chezi kai lai, jiu qing kuai jiao ba.
   if you want ask what person return BA his car drive come then please fast ask SFP
‘If you want to ask someone to go and drive his car over, please ask soon.’

Similarly, the binding of a reflexive is possible with a *wh*-indefinite, but not with a quantity-denoting expression. Compare (15a) with (20):

(20) ruguo ni yao jiao shenme ren huiq ba ziji-de chezi kai lai, jiu qing kuai jiao ba.
    if you want ask what person return BA self-DE car drive come then please fast ask SFP

‘If you want to ask someone to go and drive self’s car over, please ask soon.’

**8.2.5. Comparison with you expressions**

An indefinite nominal in subject position in Chinese generally co-occurs with the existential quantifier *you* 'have'.

(21) you san-ge ren lai-le.
    exist three-CL person come-LE

‘There were three people that came (three people came).’

When another number expression occurs in a sentence similar to the one in (16), the first number expression takes wide scope. This contrasts with the lack of such a reading in (16):
(22) a. you san-ge ren chi-de-wan wu-wan fan.

exist three-CL person eat-can-finish five-CL rice

‘There exist three people that can finish five bowls of rice.’

b. you san-ge ren tai-de-qī liang-jia gangqin.

have three-CL person lift-can-up two-CL piano

‘There are three people who can lift two pianos.’

(22a) affirms the existence of three people, each of whom is able to finish 5 bowls of rice; (22b) affirms the existence of three people, each of whom can lift two pianos.

The contrast in interpretation between (16) and (22a-b) suggests that a Number Phrase in the former cannot be analyzed as an indefinite expression.

8.2.6. Prohibition against an indefinite subject/topic

The discussion so far has shown that a number expression of the form [number + classifier + noun] are structurally ambiguous: it may be a NumP, or it may be a DP with a null D (18a-b). The difference between these two structures is manifested in the possibilities regarding coreference/binding and scope interaction. More support for this conclusion came from a comparison of quantity-denoting number expressions with non-interrogative indefinite wh-expressions and indefinite individual-denoting expressions occurring with the existential marker you.

Distinguishing quantity-denoting NumPs and indefinite DPs structurally also enables us to capture the contrast in distribution between these two types, illustrated by (7)-(8) and (11)-
(12). The former pair demonstrates the unacceptability of an indefinite DP in subject/topic positions; the latter pair shows the acceptability of a quantity-denoting NumP in these positions. DP and NumP are illustrated in (18a-b). The important distinction is that (18b), not (18a), contains a null category in the D position. This difference provides an account for the contrast in distribution between the two types of phrases: (18b) is not allowed in topic or subject position, as in (7)-(8); however, (18a) is possible, as in (11)-(12). The empty category in (18b) must meet well-formedness conditions (i.e., the Empty Category Principle; see Chapter 7). Longobardi (1994) argues that a null D, like other empty categories, must be properly governed. An object position is properly governed: it is governed by the lexical V. An indefinite expression with a null D is possible in such a position. A topic position in Chinese does not allow an indefinite expression because no lexical item is available to govern a topic. For a subject, we may follow Aoun et al. (1987) and take it to be in the Spec(ifier) of IP position, which is not lexically governed, either. An indefinite nominal in such a position is therefore not acceptable.

Alternatively, the contrast could be due to a condition on identifying a variable in D position. The variable in D needs to be licensed by an operator (quantificational element). The operator can be an existential closure adjoined to VP. A DP in the subject or topic position is too high to fall within the domain of the existential closure. The occurrence of an overt existential marker such as you saves the structure. We will return to the licensing of an indefinite phrase in the Appendix to this chapter.

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9 A preposition behaves like a V in allowing an indefinite expression as its object. According to the lexical government approach of Longobardi, a P must be a lexical governor. This amounts to saying that the prohibition against preposition stranding cannot be reduced to the requirement of lexical government, if Longobardi’s approach is to be adopted.
The analysis proposed here can also accommodate many other distributional facts. For instance, an indefinite expression in the possessor position of an object contrasts with one in the possessor position of a subject or topic. The former is acceptable, like an object; the latter is unacceptable, like a subject:

(23) a.  wo qu-guo yi-ge pengyou-de jia.
    I go-GUO one-CL friend-DE home
    ‘I have been to a friend's home.’

b. wo gei yi-ge pengyou-de haizi zhao gongzuo.
    I for one-CL friend-DE child find work
    ‘I (will) find work for a friend's child.’

c.*yi-ge pengyou-de haizi bu hui zhaodao gongzuo.
    one-CL friend-DE child not will find work
    ‘A friend's child will not find work.’

d.*yi-ge pengyou-de haizi, wo tingshuo bu hui zhaodao gongzuo.
    one-CL friend-DE child I hear-say not will find work
    ‘A friend's child, I heard that (he) will not find work.’

8.2.7. Summary

A number expression of the form [Num + Cl + N] in Chinese should be analyzed as a quantity-denoting expression represented by a NumP (18a) or an individual-denoting one represented by a DP containing an empty D (18b). The differences that we saw between (18a) and (18b) provide
support for the existence in Chinese of a DP category, in addition to the existence of an independent NumP, not dominated by a DP.

The existence of a DP is further manifested in a wide range of facts concerning constituency and order within nominal expressions, as shown next.

8.3. Order and constituency within a DP

Recall that an individual-denoting number expression such as *san-ge ren* 'three-CL people' should have a full DP structure like the one below, where Num is filled by a number, Cl(assifier) by a classifier, and N(oun) by a common noun. D is null in this structure.

(24)                         DP
          D      NumP
              Num  ClP
            *sdn*  CL  NP
                ge  N
                     ren

Since D is typically thought to be the locus of reference or definiteness, it should host all the expressions related to reference or definiteness, such as demonstratives, pronouns, proper names and even definite bare nouns. This is indeed supported by the types of constituents allowed within a nominal expression and the possible orderings of those constituents.
8.3.1. Demonstratives

If demonstratives are in D, we should find [demonstrative + number + classifier + noun] according to the structure in (24). This is true:

(25) zhe/na san-ge ren
    these/those three-CL person
    ‘these/those three people’

The interrogative demonstrative *na*\(^\text{10}\) behaves in the same fashion:

(26) na san-ge ren
    which three-CL person
    ‘which three people’

A demonstrative is sometimes followed by a classifier directly, without a number, although one may argue that the number ‘one’ is present underlingly because the interpretation is singular:

(27) zhe/na-ge ren
    this/that-CL person
    ‘this/that person’

\(^{10}\) The interrogative demonstrative *na* ‘which’ has a fall-rise tone and the distant demonstrative *na* ‘that,’ a falling tone.
8.3.2. Pronouns

In the recent generative literature, pronouns are often analyzed as the spell-out features of D (see, for instance, Longobardi 1994). This insight originally appeared in an earlier work by Postal (1969), who suggests that pronouns are like the definite article *the* in English. A definite article is in the D position; thus, a pronoun also occupies the D position. Our proposed DP structure indicates that a pronoun can be followed by number, classifier, and noun (which need not be overt): 11

(28) a. tamen liang-ge (ren/xuesheng/langui/liulang han)
    they two-CL person/student/lazybones/vagrant

b. ta/ni/wo yi-ge (ren/xuesheng/langui/liulang han)
    he/you/I one-CL person/student/lazybones/vagrant

c. women ji-ge (ren/xuesheng/langui/liulang han)
    we several-CL person/student/lazybones/vagrant

The pattern [pronoun + noun] is also possible: 12

11 As suggested by Dylan Tsai (personal communication), a pronoun taking a number phrase as its complement is interpreted very much like a verb with an adjunct as a complement (Larson 1988). Both have complements interpreted like modifiers.

12 When the number and classifier expressions do not occur, the pronoun must be plural:

(i) ta zhe (yi)-ge xuesheng/langui.
(29) a. tamen xuesheng
they student
‘them students’
b. women laoshi
we teacher
‘us teachers’
c. nimen haizi
you children
‘you children’

These expressions can occur in all argument positions:

(30) a. wo xihuan tamen liang-ge (ren).
    I like them two-CL (person)
    ‘I like them two (people).’

    b. wo dui tamen liang-ge (xuesheng) hen you hao-gan.

    he this one-CL student/lazybones
    ‘he, this student/lazybones’

(ii) *ta xuesheng/langui
    he student/lazybones

This is quite similar to English: *he/him boy is not acceptable but them boys is. See Noguchi (1997) for a possible answer to why such a constraint exists and relevant references.
I to them two-CL student very have good-feeling

‘I have good feelings towards them two students.’

c. tamen liang-ge (langui) wo tingshuo hen xihuan zai yiqi.

them two-CL lazybones I hear very like at together

‘Them two (lazybones), I hear like to be together.’

(31) a. wo xian dai tamen xuesheng hui qu.

I first bring they student back go

‘I will take them students back first.’

b. tamen xuesheng bu hui xihuan gongke de.

they student not will like homework DE

‘They students will not like homework.’

c. wo dui tamen xuesheng zai yanfan-le.

I to them student not again tired-LE

‘I am no longer tired of them students.’

d. tamen xuesheng, wo zhidao bu hui you shenme qian de.

they student I know not will have what money DE

‘Them students, I know will not have much money.’

Thus, a DP structure \([D + [\text{Num} + [\text{Cl} + [\text{N}]]]]\) captures the possible constituents and their ordering: a pronoun is in \(D\), number in \(\text{Num}\), classifier in \(\text{Cl}\) and noun in \(N\).

However, there are some complications. Unexpectedly, pronouns and demonstratives, which have both been claimed to occupy the \(D\) position, can occur together:
Why can demonstratives and pronouns co-occur, if they both are in D? Several options are available. The first is to maintain the claims so far but allow a more complex structure: both pronouns and demonstratives are in the D position. They are in a double-headed D position or two separate D positions (D taking another DP as a complement). Another option is to generate a pronoun in Spec of D and a demonstrative in D. We will return to these options when we discuss the plurality issue in 8.4.

8.3.3. Proper names

Proper names are like pronouns in terms of their function: both denote designated entities. They also behave alike when occurring with number expressions or common nouns. The constituency and ordering facts show that proper names in Chinese occur in (the Spec of) D (see Section 8.4),
followed by a pronoun or a demonstrative in the D position and a number expression: [proper name + pronoun/demonstrative + number + classifier + noun].

(33) a. wo xihuan Zhangsan, Lisi na ji-ge guai haizi.
   I like Zhangsan, Lisi those several-CL good children
   ‘I like Zhangsan, Lisi those several good kids.’

b. wo dui Zhangsan zhe-ge xuesheng meiyou shenme yinxiang.
   I to Zhangsan this-CL student not-have what impression
   ‘I do not have much [of an] impression of Zhangsan this student.’

c. Zhangsan zhe-ge ren, wo yiwei henduo ren dou renshi.
   Zhangsan this-CL person I thought many person all know
   ‘Zhangsan this person, I thought many people know (him).’

d. wo xihuan Zhangsan, Lisi tamen ji-ge guai haizi.
   I like Zhangsan, Lisi they several-CL good children
   ‘I like Zhangsan, Lisi them several good kids.’

A pronoun and a demonstrative may both appear in this order: [proper name + pronoun + demonstrative].

(34) wo xihuan Zhangsan ta zhe-ge yonggong de xuesheng.
   I like Zhangsan he this-CL diligent DE student
   ‘I like Zhangsan him this diligent student.’
When proper names and pronouns co-occur, the proper name can be singular and the pronoun can be plural (as shown by the suffix –men, as in tamen 'they'). That is, the pronoun need not agree with the proper name in number. However, the pronoun needs to be plural if the number following the pronoun is more than one.

(35) a. wo xihuan Zhangsan tamen (na) san-ge.
   I like Zhangsan them those three-CL
   ‘I like Zhangsan them (those) three.’

b. *wo xihuan Zhangsan ta (na) san-ge.\textsuperscript{13}
   I like Zhangsan him those three-CL

Unlike pronouns, proper names cannot precede nouns directly.

(36) a. *wo xihuan Zhangsan/Zhangsan he Lisi xuesheng.
   I like Zhangsan/Zhangsan and Lisi student

b. *wo dui Zhangsan/Zhangsan he Lisi xuesheng hen guanxin.
   I to Zhangsan/Zhangsan and Lisi student very care

A number expression or a pronoun/demonstrative is required. It is most acceptable to have both a number expression and a demonstrative/pronoun. In the following examples, if the elements in the parentheses do not appear, the degree of acceptability decreases.

\textsuperscript{13} This sentence is acceptable if it is interpreted as Zhangsan tade na san-ge 'those three belonging to Zhangsan (him).'}
(37) a. wo xihuan Zangs an he Lisi ?(tamen/zhe) liang-ge guai haizi.

   I like Zangs an and Lisi they/these two-cl good children

   ‘I like Zangs an and Lisi (them/these) two good kids.’

b. wo dui Zangs an ?(zhe) yi-ge xuesheng meiyou shenme yinxiang.

   I to Zangs an this one-cl student not-have what impression

   ‘I do not have much impression of Zangs an (this) one student.’

c. Zangs an ?(zhe) yi-ge ren, wo yiwei hengduo ren dou renshi.

   Zangs an this one-cl person I thought many person all know

   ‘Zangs an (this) one person, I thought many people know (him).’

d. Zangs an he Lisi ?(tamen) liang-ge, wo tingshuo hen xihuan zai yiqi.

   Zangs an and Lisi they two-cl I hear very like at together

   ‘Zangs an and Lisi (them) two, I heard (that they) like to be together.’

In brief, D is the locus of reference. It hosts demonstratives, pronouns and proper names.

Therefore, these expressions can precede [(Num + Cl) + N]. There are some more complex issues, such as what positions are occupied by a proper name, a pronoun and a demonstrative when they all occur before a number expression simultaneously, and why a proper name behaves somewhat differently from a pronoun (36)-(37). We will return to these questions in Section 8.4.
The main point in this section remains: the order and constituency of \([D + \text{Num} + \text{Cl} + N]\) suggests the existence of a DP structure in Chinese.\(^{14}\)

### 8.3.4. Common nouns

Common nouns, in contrast to proper names and pronouns, are not base-generated in D or Spec of DP. Instead, they are base-generated in N. Accordingly, we expect that the order of [noun + number + classifier] cannot be base-generated. It cannot be derived by movement of N to D, either. This movement is ruled out by the Head Movement Constraint (Travis 1984), which disallows movement of one head across another.

(38) a. *wo xihuan xuesheng liang-ge (ren).
   I     like       student     two-CL     (person)
   ‘I like students two.’

   b. *wo dui xuesheng liang-ge (ren) hen you hao-gan.
      I    to    student     two-CL     person  very have good-feeling
      ‘I have good feelings towards students two.’

   c. *xuesheng liangge (ren) wo tingshuo hen xihuan zai yiqi.
      student     two-CL     person   I    hear       like  very    at    together
      ‘Students two, I hear like to be together.’

\(^{14}\) An important difference between the analysis proposed here and the analysis discussed in Longobardi (1994) is that the former can base-generate a proper name (as well as a pronoun) in (Spec of D) position, but the latter only base-generates a pronoun in the D position and moves a proper name from N to D position.
Moreover, it is expected that nouns, unlike proper names or pronouns, cannot be followed by demonstratives (and/or pronouns).

(38) d. *wo xihuan xuesheng tamen/na liang-ge (ren).
    I like student (they/those) two-CL (person)
    ‘I like students them/those two.’

e. *wo dui xuesheng tamen/na liang-ge (ren) hen you hao-gan.
    I to student they/those two-CL person very have good-feeling
    ‘I have good feelings towards students them/those two.’

f. *xuesheng tamen/na liang-ge (ren) wo tingshuo hen xihuan zai yiqi.
    student they/those two-CL person I hear very like at together
    ‘Students them/those two, I hear like to be together.’

The distinction between proper names and pronouns on the one hand and common nouns on the other may be blurred because pronouns and proper names can sometimes function like common nouns, and common nouns can sometimes function like proper names. What is important, however, is that when common nouns function like proper names, they occupy the (Spec of) D position. When pronouns/proper names function like common nouns, they are in the N position. The expressions in (39) illustrate the cases of common nouns used as proper names and those in (40), the common noun usage of pronouns/proper names:15

15 It is much harder for a pronoun to function like a common noun than it is for a proper name to do so (see Longobardi 1994).
(39) a. Didi you wang-le dongxi le. --- Common noun used as Proper name
    younger-brother again forget-LE thing LE
    ‘Younger Brother again forgot (his) stuff again.’
b. [Didi na yi-ge hutu dan] you --- Behaving like Proper name
    younger-brother that one-CL muddled egg again
    wang-le dongxi le.
    forget-LE thing LE
    ‘Younger Brother that muddled head forgot (his) stuff again.’
c. [Didi (ta) yi-ge danshenhan] hen wuliao. --- Behaving like Proper name
    younger-brother he one-CL bachelor very bored
    ‘Younger Brother him a bachelor is very bored.’

(i) wo kandao-guo yi-ge Li Denghui.
    I see-GUO one-CL Li Denghui
    ‘I have seen one Li Denghui.’
(ii) *wo kandao-guo yi-ge ta.
    I see-GUO one-CL him

However, it is not entirely impossible for a pronoun to become a common noun. It is found in limited cases:

(iii) jingzi-li you san-ge ta.
    mirror-inside have three-CL him
    ‘Inside the mirror are three hims.’
(40) a. wo kandao-guo yi-ge  Xiaoming.  --- Proper name used as Common noun

   I  see-GUO  one-CL  Xiaoming

   ‘I have seen one Xiaoming.’

b.*wo kandao-guo [yige  Xiaoming na-ge  hutu  dan].  --- Behaving like Common noun

   I  see-GUO  one-CL  Xiaoming that-CL  muddled  egg.

   ‘I have seen one Xiaoming that muddled head.’

In sum, a common noun can follow [(pronoun/demonstrative) + number + classifier] when it is base-generated and stays in the N position. It can precede [(pronoun/demonstrative) + number + classifier] when it is base-generated in the (Spec of) D position (used as a proper name). If a noun is base-generated in N and moves to D, it does not occur with [(pronoun/demonstrative) + number + classifier]. An expression [DP  number + classifier + noun] has a null D and is interpreted as indefinite, occurring only in the positions allowing indefinite expressions (e.g., object positions). The form [noun + number + classifier] is acceptable only when the noun is interpreted as a proper name, as in (39). They are not acceptable when the noun is a common noun, even when the noun is interpreted as definite.

(41) a. wo ba xuesheng song hui  jia  le.  (‘student’ interpreted as definite)

   I  BA  student  send back home LE

   ‘I took the students home.’

b. Definite N cannot be followed by [number+classifier]:

   *wo ba xuesheng liang-ge song hui  jia  le.

   I  BA  student  two-CL  send back home LE
‘I took the two students home.’

The contrast between (41) and (39b-c) is especially interesting. It shows that it is not definiteness that allows a proper name to be followed by [number + classifier]. Both proper names and definite common nouns are definite. It is structures and derivations that govern the possible constituents and their ordering. A proper name (and a common noun used as a proper name) is base-generated in (Spec of) D position. A definite bare noun, in contrast, must be generated in N and moved to D. (41) is unacceptable because the sequence xuesheng + liang-ge cannot be base-generated or derived by movement.16

8.3.5. Not appositives or adverbials

It is important to point out that the expression discussed in the previous sections - [proper name/pronoun (+ demonstrative) + number + classifier + noun] - is not two separate units, such as a DP with an appositive (John, the man I saw yesterday, or that man, the one in a black hat) or a DP with an adverbial (such as John himself). First, let us compare our data with an apposition structure. In the former, the pronoun or proper name is not followed by a pause, in contrast to the obligatory presence of a pause between two elements in apposition structures. Moreover,

16 The following sentence is acceptable because xuesheng ‘student’ and liang-ge ‘two-CL’ are two separate constituents.

(i) xuesheng, liang-ge yijing hui qu le.

student two-CL already back go LE

‘Among the students, two have returned home.’
pronouns and proper names contrast with definite nouns (with or without demonstratives) in our data. An apposition structure does not show such a contrast.

(42) a. *xuesheng zhege/xie ren
   student this-CL person

b. xuesheng, ni renshi de naxie, mingtian hui lai.
   student you know DE those tomorrow will come
   ‘Students, those you know, will come tomorrow.’

c.*zhe-ge xuesheng zhe-ge ren
   this-CL student this-CL person

d. zhe-ge xuesheng, chuan hong yifu de, shi tade xuesheng.
   the-CL student wear red clothes DE be his student
   ‘This student, wearing red clothes, is his student.’

e. *naxie xuesheng (tamen) san-ge ren
   those student they three-CL people

f. naxie xuesheng, chuan hong yifu de na san-ge, shi ta-de xuesheng.
   those student wear red clothes DE that three-CL be his student
   ‘Those students, the three students wearing red clothes, are his students.’

More than one appositive can occur with a nominal and the ordering of the two appositives is free, as in (43a-b). However, the DP structure in question allows only one form, as dictated by the structure of DP [D + Num + CL + N] illustrated in (43c).
(43) a. naxie xuesheng, nimen qunian jiao-guo, ta hen xihuan de, xianzai zai zher.
   Those students you last year teach-GUO he very like DE now at here
   ‘Those students, you taught last year and he likes very much, are now here.’

   b. naxie xuesheng, ta hen xihuan de, nimen qunian jiao-guo, xianzai zai zher.
   Those students he very like DE you last year teach-GUO now at here
   ‘Those students, he likes very much and you taught last year, are now here.’

   c. *Zhangsan tamen liangge xuesheng tamen naxie langui
   Zhangsan them two-CL student them those lazybones

   An appositive follows an entire DP and does not occur between the constituents within a DP:

(44) a. Zhangsan tamen ji-ge xuesheng, ni jiaoguo de naxie, xianzai zai zher.
   Zhangsan they several-CL student you teach-GUO DE those now at here
   ‘Zhangsan them several students, those you have taught, are now here.’

   b. *Zhangsan, ni jao-guo de naxie, tamen ji-ge xuesheng....
   Zhangsan, you teach-GUO DE those, them several-CL student

   c. *Zhangsan tamen, ni jiao-guo de naxie, ji-ge xuesheng....
   Zhangsan them, you teach-GUO DE those several-CL student

   Finally, the two elements in an apposition structure generally are both definite. For instance, a constituent in apposition to a pronoun cannot be an indefinite expression [number + classifier (+ noun)], as in (45a). However, the DP structure we are proposing does allow the form of [pronoun + [number + classifier (+ noun)]], as in (45b).
(45) a. Appositive

> *wo dui tamen, liang-ge xuesheng, hen hao.*
> I to them two-CL student very nice
> ‘I am very nice to them, two students.’

b. DP Structure

> wo dui tamen liang-ge xuesheng hen hao.
> I to them two-CL student very nice
> ‘I am very nice to them two students.’

In brief, the DP expressions discussed in these sections are not appositives.

Nor can such DPs be analyzed as nominal expressions plus adverbials. As observed in Lee (1986), important generalizations exhibited by the expressions containing an adverbial phrase such as *yi-ge ren* 'by oneself' in Chinese are:

(46) a. The adverbial phrase is not part of the nominal expression. The adverbial and the nominal expression can be separated by other constituents; see (47).

   b. *Yi-ge ren* 'a person' seems to be the only expression that is used as an emphatic adverbial. Substituting the noun with *xuesheng* 'student', for instance, is disallowed (48).

   c. The number of an adverbial expression is restricted to 'one'; see (49).

A modal can intervene between a nominal and an emphatic adverbial (47a), but not appear inside a DP (47c).
A DP allows nouns other than ren ‘person,’ such as xuesheng ‘student,’ in the N position, but not as an adverbial phrase:

(48) a. tamen (na) liang-ge xuesheng hui lai.
    they that two-CL student will come
    ‘They two (both of them) students will come.’

A number other than 'one' loses the adverbial function.
8.3.6. Summary

The contrast between quantity-denoting and individual-denoting number expressions argues for the presence of a DP in Chinese. A DP structure is further supported by the constituents allowed within a nominal expression and their ordering. However, there is an important issue left unsolved: the position of proper names, pronouns and demonstratives when they all occur within a nominal expression. Our discussion in the next section regarding the collective/plural morpheme –men in Chinese will help clarify this issue, as well as help refine the structure of nominal expressions and provide further support for a DP structure in Chinese.

8.4. Extension and revision: plurality

There is further advantage to projecting nominals as DPs in Chinese. According to A. Li (1999), a DP structure in Chinese provides an account for some quite puzzling facts regarding the so-called collective morpheme –men in this language. The differences in the behavior of -men and a "normal" plural morpheme (such as –s in English) arise from the structural difference between the type of language that allows a "collective" morpheme and the one that allows a plural
morpheme. The DP account also helps identify more correctly the types of languages that allow a plural or collective morpheme and the types that do not.

In the following subsections, we will introduce Li’s DP account and incorporate the expanded data. We will first lay out the morpho-syntactic properties of the morpheme –men and then show that the contrast between –men in Chinese and –s in English can be more accurately captured by an analysis that takes into account the structural similarities and differences between the two languages: both languages project DPs, but Chinese additionally has a classifier projection that English lacks.

8.4.1. Some puzzles about -men

As is well known, Chinese does not have much inflectional morphology. In the nominal system, this means its nouns are not inflected for number, Case, or gender. Therefore, it is unexpected that the nominal expression in Chinese can have plural morphology. Indeed, in most relevant works, -men is labeled as a "collective" marker since it does not behave like a traditionally understood plural morpheme. Compare it to a regular plural morpheme such as the plural suffix -s in English. Unlike -s, which can be suffixed to nouns quite productively, the morpheme -men generally is only attached to a pronoun or a human noun, as indicated in various dictionaries (e.g., A Chinese-English Dictionary, Xiandai Hanyu Cidian [Modern Chinese Dictionary]) and grammar works (such as Chao 1968, Li and Thompson 1981, Lü 1980, Zhu 1982, among many

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17 A generally recognized constraint on the use of -men is that it is suffixed to a human-denoting expression. Norman (1988, p.120) suggests that this is the result of –men’s historical development: it evolved from the fusion of mei ‘every, each' and ren ‘person'.
others). More precisely, the following considerations pose challenges for analyzing -men as a plural marker.

First, unlike a regular plural morpheme, -men is not compatible with a [number+classifier] expression (i.e., a Number Phrase):¹⁸

\[(50) *san-ge \ xuesheng-men\]

three-CL student-MEN

‘three student+men’

According to Iljic (1994), a number phrase expresses the number of individuals. A collective refers to a group as a whole. "Group" and "individual" expressions are not compatible.

Secondly, occurrence of -men makes a nominal expression definite. Quoting Rygaloff (1973) and Yorifuji (1976), Iljic (1994) wrote that "N-men always refers to the definite. As a rule, one can neither posit nor negate the existence of N-men."

\[(51) a. *you \ ren-men \hspace{1cm} \text{cf. you ren}\]

have person+MEN \hspace{1cm} \text{have person}

‘there is/are some person(s)’

\[b. *mei \ you \ ren-men \hspace{1cm} \text{cf. mei you ren}\]

¹⁸Iljic (1994) noted some counterexamples to the traditional observation that quantity expressions do not occur with N-men. He attributed these examples to appositive structures. However, while we do not deny the possibility of apposition in certain cases, we have shown in Section 8.3 and will show later in the text that there are acceptable non-apposition cases with –men and quantity expressions, which follow from our proposed structures.
not have person

‘there is nobody’

This observation is further supported by the contrast in the following sentences, which differ minimally in the use of -men. The one with -men must refer to a definite group but the one without -men is vague in this respect (and also vague regarding number):

(52) c. wo qu zhao haizi-men

I go find child-MEN

‘I will go find the children.’

d. wo qu zhao haizi

I go find child

‘I will go find the/some child/children.’

(iii) A proper name can be suffixed with -men to express a group consisting of the person denoted by the proper name and others. An example given in Iljic (1994) is Xiao Qiang-men which can mean the person Xiao Qiang and others in his group.\(^{19}\)

\(^{19}\) As noted by Iljic (1994,111) in note (5), even though many works in the literature mentioned the possibility of interpreting Xiao Qiang+men as Xiao Qiang and the others, the preference is to use Xiao Qiang tamen 'Xiao Qiang them'. In fact, a small survey of my own indicates that most speakers accept only the latter form to mean Xiao Qiang and the others. For the speakers I surveyed, Xiao Qiang+men is only used to denote a group of people with the same characteristics or the same name as Xiao Qiang. This is equivalent to the plural form of a proper name used as a common noun in English such as I have met three Edisons in my life. In this case, -men is used as a plural marker akin to -s in English. Anticipating the discussion later, Xiao Qiang tamen san-ge 'Xiao Qiang them three' is
(53) Xiao Qiang-men shenme shihou lai?

Xiao Qiang-MEN what time come

‘When are Xiao Qiang and company coming?’

The facts in (i-iii) certainly raise questions about -men being a plural marker. On the other hand, -men exhibits some properties of a plural marker. Modulo the definiteness restriction, a common noun can be suffixed with –men to express plurality. A proper name denoting a person can be suffixed with -men to mean a group of people with the same name or characteristics of that person, and we call this the "plural reading." The plural reading is in contrast to the “collective” interpretation (a group anchored by an individual).

Not only is there a "plurality” interpretation of -men, there are also facts that do not immediately follow from the claim that -men is simply a collective marker. For instance, even though a “collective” -men can be suffixed to a definite expression taking the form of a proper name or a pronoun, this is not possible with the definite expressions consisting of a demonstrative.

(54) a. *zhe-ge/na-ge ren-men

this-CL/that-CL person-MEN

‘this/that person and the others’

acceptable in the same way tamen san-ge is acceptable. Xiao Qiang occurs in the Spec of D with D being the pronoun. Also note that the "collective" reading is not possible with common nouns: xuesheng-men means a plurality of students rather than the student(s) and others. Again, anticipating the discussions later in the text, this will follow from the fact that common nouns are base-generated in N and receive a "regular" plural reading.
b. *ni-de na-ge penyou-men
   your that-CL friend-MEN
   ‘that friend of yours and the others’

These expressions, with -men attached to a definite expression containing a demonstrative-classifier [zhe/na-ge+ N] 'this/that + C1 +N,' intended to mean ‘this/that person and the others,’ are not acceptable. Under an analysis that intends to capture the distribution of -men in terms of the "collective" interpretation, it is difficult to define the difference between a proper name and a demonstrative expression 'this/that N' responsible for their different possibilities with men.

Another puzzling fact about the collective analysis of -men is the seemingly complicated set of restrictions on the co-occurrence of a [number + classifier] expression. Recall that one of the arguments for the collective analysis of -men is the incompatibility of -men with a [number + classifier] expression. However, not all of the facts are in line with this argument. For instance, even though 'three-CL he-men' in (55a) is unacceptable, we find that 'he-men three-CL' is acceptable in (55b). Moreover, in a sentence like (55c), which is comparable to (55b) except for the replacement of the pronoun with a common noun, the use of -men becomes unacceptable again.

   I invite three-CL he-MEN eat-rice
   ‘I invited three them's for a meal.’

b. wo qing ta-men san-ge (haizi) chi-fan.
   I invite he-MEN three-CL child eat-rice
‘I invited them three-CL (children) for a meal’

c. *wo qing pengyou-men san-ge (ren) chi-fan.

I invite friend-MEN three-CL person eat-rice

‘I invited three friends for a meal.’

To complete the paradigm, (55d) has the same word order as (55a) and is not acceptable either.

(55) d. *wo qing san-ge pengyou-men chifan.

I invite three-CL friend-MEN eat

What adds to the puzzle is that, when a proper name followed by a [number + classifier] expression is suffixed with -men, it only yields the collective reading --- a group of people consisting of the person denoted by the proper name and other people related to him. It does not have the plural reading, denoting people with the same characteristics or the same name:

(55) e. wo qing Xiao-Qiang-men/xiaozhang-men san-ge (ren) chifan.20

I invite Xiao-Qiang-MEN/Principal-MEN three-CL person eat

‘I invited Xiao-Qiang/the principal and two others (in the group) for a meal.’

(Not: ‘I invited 3 principals/3 people all named/all with the characteristics of Xiao Qiang.’)

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20 If a speaker prefers to use Xiao Qiang-tamen in place of Xiao Qiang-men, this sentence is not acceptable. Address terms such as xiaozhang 'Principal' are also regarded as proper names: they are common nouns used as proper names. Not surprisingly, when used as a proper name, xiaozhang-men san-ge is possible as a collective (cf. the fourth property in (56)).
By contrast, (55f) is not acceptable at all, under either reading:


I invite three-CL Xiao Qiang-MEN/Principal-MEN eat

‘I invited Xiao Qiang/the principal and two others (in the group) for a meal.’

‘I invited 3 principals/3 people all named/all with the characteristics of Xiao Qiang.’

The behavior of -men can be summarized as follows:

(56) P1: -men is suffixed to pronouns, proper names and some common nouns.

P2: Common nouns with -men must be interpreted as definite.

P3: Attachment of -men to proper names yields two different interpretations, "plural" or "collective."

P4: A pronoun/proper name with -men can be followed, but not preceded, by a number phrase. In the cases with proper names, only the "collective" reading is possible when followed by a number phrase. Common nouns with –men do not occur with a number phrase.21

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21 Iljic (1994, p.93) notes that there do exist cases where a number phrase precedes N-men, such as ni-men si-wei taitai xiaojie-men 'you four mesdames mademoiselles' (McCawley, p.c.). Iljic also notes that this is a case of double apposition: si-wei is apposed to nimen, both being in turn (after a prosodic pause) referred to by taitai xiaojie-men. This contrasts with the expressions discussed in the text, which are quite acceptable without a pause. Further note that the said pattern is quite limited. It is mostly used when addressing the hearers directly. The following sentence, for instance, is not possible:
These facts do not follow from an account that analyzes -men as a collective morpheme. The unacceptability of -men suffixed to a definite expression with a demonstrative is not expected. The seemingly chaotic co-occurrence restrictions on a number phrase with -men are not captured. Moreover, the fact that an N-men expression can co-occur with the distributive marker dou (as in xuesheng-men dou likai le 'Each of the students has left.') raises questions about what exactly "collective" means. Recall that an argument for the "collective" status of -men is that a number phrase cannot occur with N-men. A collective group is not concerned with or compatible with individuals. The use of the distributive marker dou must involve individuals. For instance, an example like tamen liangge dou jiehun le 'Them two have been married' must be about two marriages, rather than the two of them being married to each other. The distributive use of dou with N-men directly contradicts the semantic account of a "collective" marker. On the other hand, there are facts suggesting that -men may be a plural morpheme. It can be attached to a proper name in the same way a true plural morpheme makes a plural proper name interpreted like a common noun (the plural reading). When it is attached to a common noun, it creates a plural entity.

8.4.2. Plural feature as Head of NumP

Rather than relying on the "meaning" difference between "plural" and "collective," Li (1999) argues that the behavior of -men, in contrast to the English -s, can be more adequately captured

(i) *wo kan-guo ta-men si-wei taitai xiaojie-men.
I see-GUO them four-CL Mrs. lady-MEN
in terms of structures. Both -men and -s are generated in the Number head position. An English nominal expression with -s has the structure in (57) and a Chinese nominal expression with -men has the structure in (58). The only difference between the two lies in the absence of a Classifier projection in English and the presence of one in Chinese:

(57) \[
\begin{array}{c}
\text{DP} \\
\text{them} \\
\text{NumP} \\
\text{Spec} \\
\text{three} \\
\text{Num} \\
\text{NP} \\
\text{Pl} \\
\text{N}
\end{array}
\]

(58) \[
\begin{array}{c}
\text{DP} \\
\text{D} \\
\text{NumP} \\
\text{Spec} \\
\text{san} \\
\text{Num} \\
\text{ClP} \\
\text{Pl} \\
\text{Cl} \\
\text{NP} \\
\text{ge} \\
\text{xuesheng}
\end{array}
\]

22 Feng and Tsai (2006) argue that prosody also plays an important role in the distribution of -men.

23 Alternatively, it is possible that -s is generated with a noun and is raised to the Number Projection to check the plural features or simply Agrees with the plural feature (cf. the notion of Agree in Chomsky 2000, 2001). Also see Borer (2005) for -s being related to the Classifier projection.
In both structures, a Plural feature appears as the Number head. The Plural feature needs to be realized (or checked). In English, it is no problem for the Plural feature to be realized in N (either N moves up to Num or the Plural feature lowers to N, if lowering is possible). In Chinese, however, the Plural feature cannot be realized in N because of the Head Movement Constraint (prohibition against movement across a head): the Classifier head intervenes between N and Num. The plural feature is instead realized in D. In other words, while -s is realized on common nouns generated under the N node in English, -men in Chinese occurs with the elements in D. The claim that -men is realized on the elements in D captures all the facts in (56), as shown below.

Recall that pronouns and proper names are elements in (Spec of) D, where the plural feature can be realized. Accordingly, the structure in (62a-b) yields the ordering of number and classifier (and noun) expressions following a pronoun/proper name with -men.

(59) a. wo dui ta-men san-ge (ren) tebie hao.

I to them three-CL person especially good

‘I am especially nice to them three.’

b. wo dui Xiao Qiang-men san-ge (ren) tebie hao.

---

24 This contrasts with the quantity denoting expression [number + classifier + noun], where a number such as 'three' occupies the head Num position.

25 Nothing prevents the Plural feature from being realized in D, or in both N and D. Further, note that English count nouns must have the plural suffix when denoting plurality, in contrast to the optionality of -men in Chinese. Therefore, the fact that a plural feature is not realized by an element base-generated in D in English may be due to the morphological requirement the suffix -s requiring an N as its host. Also see Borer (2005) claiming that -s has a classifier-like function.
I to Xiao Qiang-MEN three-CL person especially good

‘I am especially nice to Xiao Qiang (them) three persons.’

c. *wo dui san-ge ta-men tebie hao.
   I to three-CL them especially good

d. *wo dui san-ge Xiao Qiang-men tebie hao.
   I to three-CL Xiao Qiang-MEN especially good

A common noun is base-generated in N, with Number and Classifier preceding it. Such a noun cannot be affixed by -men because neither of them can move to the other, due to the intervening Classifier.

(60) a. *wo dui san-ge xuesheng-men tebie hao.
   I to three-CL student-MEN especially good

   ‘I am especially nice to three students.’

   b. *wo dui xuesheng-men san-ge (ren) tebie hao.
   I to student-MEN three-CL person especially good

(60b) cannot be derived by moving a common noun from N to D because of the intervening Classifier. (60a-b), with the presence of a classifier, are unacceptable regardless of whether the common noun is interpreted as indefinite or definite.

Nonetheless, a classifier need not be present. When it is not present, a common noun can be moved to D, suffixed with -men and interpreted as definite, as we have shown in Section 8.3.

51
Such a definite N-men expression cannot be preceded or followed by a [number + classifier] expression.

This analysis captures all the properties listed in (P4) of (56) except the exclusive collective reading for proper names followed by a number phrase. That reading will become clear after the discussion on the third property (P3), which concerns the ambiguity of proper names. A proper name can be base-generated in D to refer to a designated entity. In addition, it can function like a common noun, base-generated in N, denoting an entity/entitles with the same name (I met two Bills at the party. I like the Bill you like) or denoting some one(s) with the same characteristics. For instance, the proper name A-Q (a famous character in works by the modern Chinese writer Lu Xun) can mean the kind of persons with the characteristics of A-Q, as in He will be an A-Q (cf. He will be an Einstein in English). When a proper name is generated in D (referring to a designated entity), it can be suffixed with -men, because no other heads intervene between the two. The collective reading (the particular individual and others in the group) is derived. When a proper name is generated in N (denoting the relevant characteristics) and moved to D, it yields the plurality reading of a group of people with the same characteristics. A proper name with -men is therefore ambiguous. However, the ambiguity is lost when a number phrase occurs (cf. (59b)). The lack of ambiguity is explained by our earlier account of why common nouns with -men must be interpreted as definite. Recall that, for an N to be suffixed with –men, a classifier cannot intervene. This suggests that, if a proper name is suffixed with -men and followed by a number phrase, the proper name should be generated in D rather than N. That is, Xiao-Qiang-men san-ge should not have the common noun-plural reading, referring to three people with the same characteristics of Xiao-Qiang. Replacing Xiao-Qiang with Xiaozhang 'Principal', a common noun used as a proper name, also fails to bring out the common noun-
plural interpretation. It only has the interpretation of 'Principal and the others in his group'. Moreover, this also captures the oddity of (61a-b), which use the name of famous people not present now. These cases strongly favor the interpretation of likeness in characteristics --- common noun-plural reading, which is not available when a number phrase appears.

(61) a. ??wo dui A-Q-men san/mei-ge (dou) you pianhao
   I to A-Q-MEN three/every-CL all have preference
   ‘I especially like A-Q them three/all.’

   b. ??wo dui Aiyinsitan-men san/mei-ge (dou) hen jingzhong.
   I to Einstein-MEN three/every-CL all very respect
   ‘I am very respectful of Einstein them three/all.’

In brief, if -men is realized on a nominal element in D, the properties in (56) are captured. This contrasts with a commonly recognized plural morpheme such as -s in English, which is suffixed to N. In the latter case, the plural nominal does not have to be definite because the N does not have to be raised to D to realize the plural feature. The difference between realizing the Plural feature in N in English and realizing it in D in Chinese is derived from the difference in nominal structures between the two languages: Chinese, not English, has a classifier morpheme occupying the head of a Classifier phrase. This structural difference also accommodates the fact that the order three students is possible in English, but in Chinese is unacceptable (60a).

Furthermore, it follows that (the) students three is not possible in English, either. As for pronouns, normally base-generated in D, -s cannot be suffixed to the D pronoun in English (the
affix -s requires its host to be an N). A number phrase can follow a pronoun, because a NumP follows a D.

Thus, the so-called collective -men is not a peculiar morpheme whose distribution is random. A very straightforward account based on structural differences captures the differences between -men in Chinese and a "regular" plural morpheme such as -s in English. Both -men and -s are realizations of the plural feature under Num. The latter is realized by an element in N and the former, in D. An intervening Classifier prevents an N from realizing the plural feature. This analysis not only captures many interesting facts regarding nominal expressions in English and Chinese but also enables us to define the minimal differences between the two kinds of plural morphemes. Languages with a "collective" morpheme and those with a "regular" plural morpheme vary only by one structural difference: the presence/absence of a head Classifier.

8.4.3. Proper name + Pronoun + Demonstrative

Finally, the analysis of -men in Chinese can also help us decide on the proper structure for more complicated nominal expressions. Recall that a nominal expression in Chinese may have more than one element occurring above the NumP: a proper name, a pronoun and/or a demonstrative. With the behavior of -men clarified, we are now in a better position to identify the structure for this form.

Let us begin with the longest case: those with proper names, pronouns and demonstratives. First of all, they must occur in the order [proper name + pronoun + demonstrative]. Secondly, nothing can intervene between any two of these expressions. Individually, demonstratives can have their own plural form -xie (zhe-xie/na-xie) or be followed
by a number + classifier (zhe/na san-ge 'these/those three-CL'). They do not prevent a preceding
pronoun from occurring with -men:

(62) a. ta-men na-xie haizi
they those children
‘them those children’
b. ni-men zhe san-ge langutou
you these three-CL lazybones
‘you these three lazybones’

A proper name, however, does not occur with -men when a pronoun or a demonstrative appears:

(63) a. *Xiao Qiang-men zhe/na san-ge langutou
    Xiao Qiang-MEN these/those three-CL lazybones
b. *Xiao Qiang-men tamen san-ge
    Xiao Qiang-MEN they three-CL

Moreover, when followed by a plural zhe-xie 'these', na-xie 'those', zhe/na san-ge 'these/those
three', a pronoun must be in the plural form, regardless of whether or not a proper name also
occurs:

(64) a. (Zhangsan) ta-men na-xie xuesheng
    Zhangsan they those student
‘(Zhangsan) them those students’

b.* (Zhangsan) ta na-xie xuesheng

Zhangsan he those student

‘Zhangsan him those students’

In general, there seems to be agreement in number among all the elements, except for the cases when a proper name and a pronoun co-occur: it is possible to have a singular proper name with a pronoun attached with –men.

(65) Zhangsan ta-men xuesheng

Zhangsan they student

‘Zhangsan them students’

In short, in the form [proper name + pronoun + demonstrative], the pronoun and the demonstrative must agree in number but the proper name need not. The pronoun, but not the proper name, can be attached to -men when a demonstrative occurs. Recall that nothing can intervene between any two of the three elements. Thus, we suggest that the form [proper name + pronoun + demonstrative] has the structure below, where the demonstrative occupies the D position, the pronoun is adjoined to D, and the proper name is in Spec of D:

(66) ![Diagram]

---

26 This is possible when the pronoun is interpreted as a possessor: Zhangsan ta (de) naxie xuesheng ‘those students of (Zhangsan) his’.
This structure allows -men to be adjoined to the pronoun when the plural feature (-men) and a demonstrative both occur. The plural feature can move to D. A demonstrative, morphologically, does not take the -men suffix. However, the plural feature can be realized on the pronoun that is also in D. The proper name is in the Spec of D and does not occur with -men when either a pronoun or a demonstrative occurs.

This analysis may also enable us to understand some variations on the facts presented so far. We noted one such variation in footnote (19): there are speakers who do not like a proper name followed by a number phrase directly. A pronoun and/or a demonstrative needs to intervene in such cases. Consequently, these speakers do not allow a proper name suffixed with –men to be followed by a number phrase, even though they do allow a proper name to be suffixed with -men when it is used as a common noun (see the discussions regarding (59)-(61)). It is possible that there is a change toward more consistency in progress: when a proper name is used as a common noun, it is base-generated in N. However, a true proper name is base-generated in Spec of D. When it is in Spec of D, it is not suffixed with the plural suffix (assuming that -men is only attached to the elements in D, as we have shown so far). This may also be related to the fact that the sequence [proper name + pronoun], occupying the Spec of D and the D positions, is very commonly used in the colloquial speech. Examples like (67) are frequently found in the colloquial speech.

(67) a. Zhangsan ta shenme shihou lai?
Zhangsan he what time come
‘When is Zhangsan him coming?’
b. wo gen Zhangsan ta chao-le yi-jia.
I with Zhangsan he quarrel-le one-fight
‘I had a quarrel with Zhangsan.’

8.5. **Summary and some empirical complications**

Nouns in Chinese are generally “bare” because they lack inflection for number or any other grammatical feature, nor do they require determiners. On the other hand, nouns in this language often occur with classifiers. Many interesting discussions have appeared in the literature on whether Chinese, being a classifier language, can have a plural marking, and whether D and Num are syntactically represented. We showed that analyzing Chinese noun phrases as DPs, like those in non-classifier languages such as English, allows us to capture the facts regarding distribution, interpretation, constituency and order. The presence of D is manifested in the distribution of different types of noun phrases. The projection of Classifier and Number phrases helps us account for the complex behavior of the collective/plural morpheme -men in Chinese, as compared to the plural morpheme -s in English. Therefore, classifiers and plural marking are not always in complementary distribution. The distribution of these elements follows from the structure of DPs and the Head Movement Constraint. A classifier language like Chinese is therefore not much different from a non-classifier language like English. It is possible to maintain a one-to-one mapping between syntax and semantics cross-linguistically: the same structures yield the same meanings and the same meanings are derived from the same structures.
The proposal that Chinese noun phrases should be represented as DPs is promising. It may also help us sort out the complications in interpreting expressions of the form [number + classifier + noun]. We conclude this chapter with discussion of this issue.

In Section 8.2, we distinguished expressions of the form [number + classifier + noun] ("number expressions") into two types: quantity-denoting expressions and indefinite individual-denoting expressions. The former, not the latter, can occur in subject or topic positions --- there is a prohibition against indefinite subjects/topics. It seems uncontroversial that a topic should be definite unless used contrastively. However, it is less clear how to formulate the indefinite subject constraint. An accompanying issue is the range of possible distributions and interpretations of number expressions. Below, we review the issues and show how the analysis in this chapter can accommodate the relevant wide-ranging sets of data.

8.5.1. Non-quantity indefinite nominals in subject position

Lee (1986) observes that a number expression may occur in the subject position in a variety of contexts: (a) when it is used referentially by modifying the NP with a vivid description:

(68) yige [gaogao shoushou] de jinfa guniang ganggang lai zhao ni.
    one tall thin DE blonde girl just.now come find you
    ‘A tall, thin blonde girl came to look for you just now.’

(b) when it occurs in a sentential subject:

(69) a. [san-ge pengyou chi(*-le) fan] duo hao.
three friend eat-LE rice very good

‘It would be very nice for three friends to have a meal.’

b. [liang-ge xiaohai zou (*-le) gang-suo] hen weixian.

two-CL children walk-LE steel-rope very dangerous

‘It is dangerous for two children to walk on the tightrope.’

(c) when it occurs as part of a hypothetical clause:

(70) a. [ruguo yi-ge ren bu gou], jiu zhao wu-ge ren qu.

if one-CL person not enough then find five-CL person go

‘If one person is not enough, then find five persons.’

b. [yi-ge nuren jie-le-hun], keneng hui xiang sheng xiaohai.

one-CL woman marry-LE perhaps will want bear child

‘(If) a woman gets married, (she) will perhaps want to bear children.’

Or (d) when it appears to be “licensed” by modals and adverbs:27

27 In addition, dou licenses a number expression in the subject position as in (i):

(i) san-ge ren *(dou) qu-le.

three person all go-LE

‘The three persons all left.’

The number phrase associated with dou is interpreted as definite. See Liu (1990) for the compatibility between dou and G-specific quantifiers.
Fan (1985) also discusses several instances that seem to challenge the claim that a subject cannot be indefinite. He gave the following generalizations concerning when a non-definite (wuding) subject is possible:

(72) a. The predicates are mainly verbs, not adjectives.
    b. An intransitive verb needs to take a complex form. (73b) below is better than (73a).
    c. The acceptability varies with different styles of language.

(73) a.*yi-zhi qingwa tiao-le.28

28 (73a) is actually acceptable when uttered in appropriate circumstances: a person is looking at a group of frogs lying silently and without a movement. Suddenly, a frog makes a jump. This person can report this situation by using (73a). This is expected under an account based on judgment types, as will be discussed in the text shortly. Therefore, the issue is not a matter of simple vs. complex form but is related to the readiness of imagining a situation when an event is noted and reported.
Zhu (1988) re-examines Fan's examples and notes that almost all the examples cited in Fan are from journalistic newspaper writings. The only examples representing speech are those like (79):

(74) a. hei! yi xiaohai pa shang qu-le.

hej one child climb up go-LE

‘Hey, a child climbed up.’

b. tui men jin qu, yi laotou tang zai chuang shang.

push door in go one old.man lie at bed on

‘Push the door and enter, (you see) an old man lying on the bed.’

Zhu adds some more examples: (p.61)

(75) kuai lai kan, liang mao dajia-le.

quick come see two cat fight-LE

‘Come look quick! Two cats are fighting.’
The characteristics of these examples, according to Zhu (p.61), are (i) they are very short, (ii) they express unexpected new discoveries, and (iii) they depend on the current scene or a known knowledge background. Zhu further notes that such usage is often found in children’s story books with pictures.

Within recent generative studies, Shyu (1995), following Kuroda's (1992) studies, notes that there is a distinction between stage-level and individual-level predicates (Carlson 1977, Diesing 1992, Kratzer 1989): stage-level predicates allow indefinite subjects but individual-level predicates do not.29

(76) a. yi-ge ren lai-le/zheng zai nian shu.
       one-CL person come-LE/right at read book
       ‘A man came/is reading.’

b.*yi-ge ren hen congming/gao.
       one-CL person very clever/tall
       ‘A/One man is very smart/tall.’

Extending Kuroda’s studies further, Shyu discusses the difference between a root clause and a non-root clause. A root clause distinguishes between stage-level and individual-level predicates in the acceptability of an indefinite subject (see (76a-b), (77a)); whereas a non-root

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29 Sentences like (76a) are marked as acceptable by Shyu (1995), even though they are marked as unacceptable in some other literature (for instance, Lee 1986, Tsai 1994). See the discussion later in the text for such variations in judgment.
clause, represented by a conditional clause in (77b) and Lee’s examples in (70a-b), allows an indefinite subject.

(77) a. *yi-zhi da xiang bizi hen chang
    one-CL big elephant nose very long

   b. ruguo yizhi da xiang bizi hen chang, na yiding hen keai.
    if one big elephant nose very long then definitely very lovely

   ‘If an elephant’s trunk is very long, then (it) must be lovely.’

What are the commonalities among the generalizations presented so far and how should we account for them? We show below that different types of number expressions need to be distinguished—a main point advocated in this chapter—and that all of them are accommodated by our analysis.

Empirically, it is clear that there is a contrast between a stage-level predicate and an individual-level predicate. To capture the difference, one option is to pursue the notion, along the lines of Tsai (1996) that an indefinite nominal is a variable which needs to be bound by an operator (Heim 1982). A sentence with a stage-level predicate, which expresses an event, contains an event operator; a sentence with an individual-level predicate does not. An indefinite subject nominal with a stage-level predicate can then be bound by an event operator, in the way that an existential closure licenses an indefinite nominal within a VP (Diesing 1992). This may also account for the fact that a conditional clause allows an indefinite subject NP, because a conditional clause is generally assumed to contain a necessity operator. Similarly, a modal may also provide a modality operator and allow an indefinite subject.
Such an analysis would predict that all sentences with stage-level predicates should allow indefinite nominals in subject position, as should conditional clauses and sentences with modals. However, as will be demonstrated, counterexamples to each of these predictions are not difficult to find.

Let us begin with the examples containing stage-level predicates. Speakers generally agree that the addition of the existential you 'have' makes a clear difference in acceptability. That is, a number expression in the subject position is "saved" by you—the typical indefinite subject constraint.30

(78) a.??(you) yi-ge ren kan-guo ta-de dianying.
   have one-CL person see-GUO his movie
   ‘A person has seen his movie.’

b.??(you) yi-ge ren meiyou/bu kan ta-de dianying.
   have one-CL person not-have/not see his movie
   ‘A person did not/does(will) not see his movie.’

c.??(you) yi-ge xuesheng na shihou zai xuexiao.
   have one-CL student that time at school
   ‘A student is at school at that time.’

30 Along the lines of distinguishing quantity vs. indefinite expressions, the sentences without you are acceptable if they are answers to a question of quantity, such as ji-ge ren kanguo ta-de dianying? ‘how many people have seen his movie?’ and ji-ge ren bu kan ta-de dianying? ‘How many people did/will not see his movie?’
Modals do not seem to help in the following cases, in contrast to the instances we saw earlier (such as (71b-c)).

\[(79)\] a. ???yi-ge ren hui/keneng kan ta-de dianying.

one-CL man will/may see his movie
‘A person will/may see his move.’

b. ???(you) yi-ge ren keneng meiyou/bu kan na zhong dianying.

have one-CL person may not-have/not see that kind movie
‘A person might not have seen/may not see that kind of movie.’

c. ???(you) yi-ge xuesheng na shihou hui/keneng zai xuexiao.

have one-CL student that time will/may at school
‘A student will/may be at school at that time.’

The question is why some sentences with stage-level predicates are acceptable with indefinite subjects but some others are not. A solution can be found in Kuroda’s (1992) and Shyu’s (1995) works, which incorporate the notion of thetic and categorical judgment. A thetic judgment is expressed by a sentence that describes what is perceived by the speaker. According to Kuroda, it is a single cognitive act that recognizes the existence of an entity or event. A sentence of thetic judgment expresses “a simple recognition of the existence of an actual situation” (p.23), “a direct response to the perceptual cognition of an actual situation, a perceptual intake of information about an actual situation” (p.22). A sentence expressing a thetic judgment can have an indefinite

\[31\] Xu (1996) discusses “assertive” and “descriptive” sentences: the former might correspond to the sentences expressing categorical judgment and the latter, those of thetic judgment.
(but referential) NP as its subject. The referent of the NP is only relevant to the unique current perceptual cognition. It is temporary.

A sentence can be ambiguous between describing a perceived situation (thetic judgment) and expressing a categorical judgment, which consists of two cognitive acts: the recognition of the Subject (Subject in the logical sense) and the acknowledgement of the Predicate of a Subject (p.20). Such a logical Subject cannot be indefinite.

The sentences in (78)-(79) are not quite acceptable without you because none of them describe situations that are directly perceived. A speaker generally does not directly observe someone else’s earlier experiences, inaction,\textsuperscript{32} future plans, etc. These sentences are quite odd when embedded under a perception verb such as ‘look’:

(80) a. *ni kan(-kan), yi-ge ren kan-guo ta-de dianying.
      you look-look one-CL person see-GUO his movie
      ‘(Take a) look, a person has seen his movie.’

b. *ni kan(-kan), yi-ge ren meiyou/bu kan na-zhong dianying.
      you look-look one-CL person not-have/not see that-CL movie
      ‘(Take a) look, a person did not/does(will) not see that kind of movie.’

c. *ni kan(-kan), yi-ge xuesheng na shihou zai xuexiao.
      you look-look one-CL student that time at school

\textsuperscript{32} Under certain circumstances, it is possible to observe someone’s not doing something. For instance, one can perceive a situation of someone’s not seeing a movie in this situation: everyone in a room is paying attention to the movie being shown, except for one person who lowers his head and reads his own book. Under such circumstances, it is possible to say (ni kan(-kan), yi-ge ren meiyou zai kan dianying ‘(You look), one person is not watching the movie’.

67
‘(Take a) look, a student is at school at that time.’

d. *ni kan(-kan), yi-ge ren hui/keneng kan ta-de dianying.

you look-look one-CL man will/may see his movie

‘(Take a) look, a person will/may see his move.’

In contrast, a speaker can directly observe someone’s coming or reading (76a). A sentence expressing a thetic judgment is a direct response to the perceptual cognition of an actual situation. A sentence with an individual-level predicate, which denotes permanent properties of an individual, does not express a thetic judgment. This captures the intuition that individual-level predicates do not allow indefinite subjects.

A sentence containing a stage-level predicate does not always describe a situation that has been perceived. For instance, the following examples are not direct observations of a situations that are reported. Rather, they express Predication relations. (Zhangsan is the Topic (Subject in Kuroda’s term) and the stage-level predicate is Predicate of the Topic/Subject.)

(81) a. Zhangsan zuijin zenmeyang, hui-bu-hui lai zher?

Zhangsan lately how will-not-will come here

‘How is Zhangsan lately? will he come?’

b. Zhangsan zao jiu lai-le.

Zhangsan early then come-LE

‘Zhangsan came quite early.’
The substitution of Zhangsan with an indefinite is impossible in (81a-b). The ambiguity of sentences containing stage-level predicates --- describing a perceived situation or not --- may account for the variations in acceptability judgments: if the sentences are interpreted as expressing thetic judgment (describing a perceived situation), an indefinite subject is acceptable; if they express a categorical judgment (a Subject-Predicate relation), the subject cannot be indefinite.

This account also captures Zhu’s generalization, since journalistic newspaper writings tend to report perceived situations/events. They are writings describing the reporter’s or the witness’s observation of events or occurrences. Thus, an indefinite subject is commonly used. The same is true with children’s story books with pictures, which generally describe the pictures on the pages. The only examples from speech discussed by Zhu are those in (74)-(75), which are typical sentences describing perceived situations/events. (74a-b) describe the scenes perceived. (75), with the verb kan ‘look’, asks the hearer to observe the scene. Indeed, the canonical cases allowing an indefinite subject are those beginning with the expression (ni) kan ‘look’ or embedded under perception verbs such as ‘see/dream’:

(82) kan, yi-pian feng ye diao xialai le.

look one-CL maple leave fall down LE

‘Look, a maple leave fell down.’

(83) wo kandao/mengdao (de shi) yi-zhi mao zai pa shu.

I see/dream DE be one-CL cat at climb tree
‘I saw/dreamed that a cat was climbing a tree; What I saw/dreamed was that a cat was climbing a tree.’

As expected, topicalization is not possible in these cases when the subject is indefinite:

(84) *wo kandao/mengdao (de shi), (na-ke) shu, yi-zhi mao zai pa.
I see/dream DE be that-CL tree one-CL cat at climb

In contrast, the following sentences are worse than (82)-(83) because they do not describe direct perceptions of situations. All the sentences are more acceptable if you ‘have’ occurs.

(85) a. ??wo renwei/ xiangxin yi-zhi mao na shihou zai pa shu.
I think/believe one-CL cat that time at climb tree
‘I thought/believe that a cat was climbing a tree at that time.’

b. ??wo xiang zhidaoyi-zhi mao na shihou shi-bu-shi zai pa shu.
I want know one-CL cat that time be-not-be at climb tree
‘I want to know if a cat was climbing a tree at that time.’

c. ??yinwei yi-zhi mao pa-guo shu, suoyi ta hén jinzhang.
because one-CL cat climb-GUO tree so he very nervous
‘Because a cat has climbed a tree, he is very nervous.’

Similarly, this analysis captures Lee’s observation that modifying an NP with a vivid description makes an indefinite expression acceptable in a subject position: vivid descriptions make the
relevant sentence easier to interpret as a report on a perceived situation. As expected, such a vividly modified NP does not occur in a sentence containing an individual-level predicate.

(86) *yi-ge gaogao shoushou de jinfa guniang hen congming/ershi sui.

one tall thin DE blonde girl very clever/twenty years old

‘A tall, thin blonde girl is very clever/twenty years old.’

A further application of an analysis based on the notion of “thetnic judgment” concerns the possibility of an indefinite subject in non-root clauses. First note that, contra the claim by Lee and Shyu that non-root clauses allow an indefinite subject (see (69)-(70) and (77a-b)), there are quite a few examples disallowing an indefinite subject in non-root clauses, as will be illustrated shortly. Moreover, if we go through all the examples discussed so far, we note that even though the notions of quantity interpretation and thetic judgment carried us a long way, they do not accommodate all the cases. We turn to these cases next.

8.5.2. Non-root clauses, generic NPs

We have shown that a number expression can be a subject when it is a quantity-denoting expression or when the sentence expresses a thetic judgment. However, there are cases that do not fall under these two categories, such as the ones below:

(87) [yi-ge nuren jie-le-hun], keneng hui xiang sheng xiaohai.

one-CL woman marry-LE perhaps will want bear child
‘(If) a woman gets married, (she) will perhaps want to bear children.’

(88) ruguo yi-zhi daxiang bizi hen chang, na yiding hen keai.
if one-CL elephant nose very long then definitely very lovely
‘If an elephant’s trunk is very long, then (it) must be lovely.’

Note that a conditional clause does not always license an indefinite subject NP:

(89) *ruguo yi-ge ren hen congming, wo (jiu) mashang qu zhao ta bangmang.
if one-CL person very clever I then immediately go find him help
‘If a person is clever, I will go to find him to help (me) immediately.’

The question is what distinguishes (87)-(88) from (89). We would like to suggest that the number phrase in the former set, not the latter, is a generic expression. Note that the conditional clause in an example like (87) can be a relative clause without changing meaning:

(90) yi-ge [[jie-le-hun] de nuren] kenen g hui xiang sheng xiaohai.
one marry-LE DE woman perhaps will want bear child
‘A married woman perhaps will want to bear children.’

That the number phrase in (87) is a generic expression can be further illustrated by the fact that numbers other than one change the acceptability of sentences:
(91) *[san-ge nuren jie-le-hun], keneng hui xiang sheng xiaohai.

Three-CL woman marry-LE perhaps will want bear child

‘(If) three women get married, (they) will perhaps want to bear children.’

Other examples fall into the same category. (88) and the following sentences are also examples of the generic use of the number phrase:

(92) a. ruguo yi-ge ren zhong-le caipiao, ta hui biande hen fuyou.
    if one-CL person hit-LE lottery, he will become very rich
    ‘If a mean wins the lottery, he will become very rich.’

b. ruguo yi-ge ren hen congming dan bu yonggong, haishi meiyou yong.
    if one-CL person very smart but not diligent still not-have use
    ‘If a person is smart but not diligent, it still is no use.’

If we replace the number one with two or any other number, these sentences are not acceptable unless the existential you occurs before the number NP.

In contrast, (89) does not have a generic interpretation. The indefinite subject needs to be supported by the existential you. Similarly, the following examples, including other conditionals headed by jishi ‘even if’ and yaoshi ‘if,’ require the use of you when the number phrase is not interpreted as generic or quantity:

(93) a. ruguo *(you) yi-ge ren zai deng ta, ta jiu dei mashang hui qu.
    if have one-CL person at wait him he then should immediately back go
‘If a person is waiting for him, he should go back immediately.’

b. jishi *(you) liang-ge ren tai lan, women haishi neng zuo wan zhe-jian shi.

   even.though have two-CL people too lazy we still can do finish this-CL thing

   ‘Even though two people are too lazy, we still can finish doing this job.’

c. yaoshi *(you) yi-ge ren hen you qian, women jiu qu zhao ta zizhu.

   if have one-CL person very have money we then go find him sponsor

   ‘If a person is rich, we should go find him for sponsorship.’

Other adverbial clauses, such as time adverbials (when, before, and after clauses), also behave like conditionals. We will not elaborate further on this point.

With the possibilities of a generic interpretation clarified, we may conclude that number phrases in conditional clauses do not behave differently. They must be interpreted as quantity-denoting or generic; otherwise, they must be supported by existential you. Thus, the generalization is that a number phrase can be an individual-denoting indefinite only when it occurs in a sentence expressing thetic judgment. The clauses embedded under perception verbs accept indefinite subjects most easily because they are the typical cases of thetic judgment. Other types of subordinate clauses, such as the adjunct because, although clauses, and so forth are much harder to coerce into expressing thetic judgment; this explains their reluctance to accepting indefinite subjects.

The fact that an indefinite subject is possible inside a sentential subject can be captured in the same way: the subject in question must be either a quantity-denoting or a generic expression. Examples are (72a-b), repeated here.
(72) a. [san-ge pengyou chi(*-le) fan] duo hao.

three-CL friend eat-LE rice so good

‘It would be so nice for three friends to have a meal.’

b. [liang-ge xiaohai zou(*-le) gangsu] hen weixian

two-CL child walk-LE steel-rope very dangerous

‘It is dangerous for two children to walk on the tightrope.’

These number phrases are expressions of quantity: (72a) is acceptable under the interpretation that it is three friends eating together (rather than one person eating alone) that is nice and (72b) is acceptable under the interpretation that it is two children walking together on the tightrope (rather than one child alone) that is dangerous. (72b), for instance, does not have the interpretation like (94) where the number phrase denotes individuals that exist:

(94) [you liang-ge xiaohai zou-zhe gangsu] hen weixian.

have two-CL child walk-ZHE steel-rope very dangerous

‘It is dangerous that there are two children walking on the tightrope.’

A non-quantity, non-generic number phrase is not possible in the subject position of a sentential subject:

(95) a. [yi-ge ren xia qi] hen wuliao. ---quantity

one-CL person play chess very boring

‘It is boring for one person to play chess.’
b. [yi-ge gao-shou xia-cuo qi] hen bu keneng. ---generic
   one-cl high-hand play-wrong chess very not likely
   ‘It is unlikely for an expert to play chess wrong.’

In brief, it is not the distinction between root and non-root clauses that determines the
distribution of an indefinite subject. Examples of non-root *because, though* clauses and verb
complement clauses all indicate that they do not behave differently from the root clauses. The
apparent indefinite subject is actually interpreted as a quantity or generic NP, just as in root
clauses. The existential *you* is necessary to make a non-quantity, non-generic reading available.
The only contexts where an indefinite subject is possible are in those sentences expressing thetic
judgment.

The distinction between stage-level and individual-level predicates is only partially
relevant. The more appropriate distinction is thetic judgment vs. categorical judgment. A
sentence with an individual-level predicate generally expresses categorical judgment. However,
a sentence with a stage-level predicate may express thetic or categorical judgment.

Relating this judgment distinction to our account of the distribution and interpretation of
number phrases, we may adopt the structural difference suggested by Kuroda (1992) for these
two types of sentences. Kuroda suggests that thetic and categorical judgment have different
syntactic structures, reflected in the use of different Case markers in Japanese. The subject of a
sentence expressing categorical judgment is higher than the one expressing thetic judgment. It is
possible that the latter is in a lexically governed position or is bound by an operator situated
between the two types of subject positions. Either choice can be reduced to the licensing of an empty D in a DP—the structure proposed for number expressions in this chapter.