

Plurality in Mandarin Chinese

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1 Introduction

How is plurality conveyed in a language with no inflectional morphology, such as Chinese? There are two particles, 们 *men* and 些 *xie*, which carry a plural meaning. As a first approximation, let us say that a noun is definite when suffixed by *-men* and is indefinite when preceded by *xie*. However, *-men* and *xie* are by no means necessary markings of a plural noun. Therefore, it is not the case that a plural noun, if not a generic, is either definite or indefinite i.e. is either suffixed by *-men* or preceded by *xie*. The main reason is the fact that bare nouns (henceforth, BNs) are also widely used in Chinese. Indeed, Chinese is an articleless language and BNs in Chinese can receive various readings in terms of number and definiteness. Several accounts exist for the interpretation of bare nouns in articleless languages in general and no consensus has yet been reached on that subject (see Šimík and Demian 2020 and the references cited therein).

To understand the issues in studying *-men* and *xie*, it is essential to first understand the issues related to BNs in Chinese. Existing literature has described the asymmetry in the definiteness interpretation of Chinese BNs, depending on whether they are in preverbal or postverbal position. For instance, L. L.-S. Cheng and Sybesma 1999 gives the following distribution for possible interpretations of BNs in Mandarin Chinese:

	Preverbal position	Postverbal position
Definite	✓	✓
Indefinite	✗	✓
Generic	✓	✓

Table 1: Definiteness of bare nouns in Mandarin

In addition to definiteness, the properties of BNs in terms of mass/count and singular/plural has also been discussed (Chierchia 1998; L. L.-S. Cheng and Sybesma 1999). Following Chierchia’s Inherent Plurality hypothesis, all nouns in Chinese should have a mass denotation because they neutralize the singular/plural distinction. However, this view has been challenged in the literature. For instance, it has pointed out in L. L.-S. Cheng and Sybesma 1999 that generally considering Chinese nouns as mass nouns isn’t compatible with the existence of count/mass distinction in Chinese. Various tests have been put forward to classify Chinese nouns between count and mass, we will here sum up the account proposed in Liu 2014. It is shown that the ability to be used with a singular classifier isn’t a sufficient condition for a noun to be countable. Chinese nouns can be ranked on a hierarchy of countability – count, flexible, and mass – based on their compatibility not only with singular classifiers but also with other quantifiers. The resulting semantic-based categories are summed up as such: “count nouns are quantified by numbers, mass nouns by volume, and flexible nouns by either number or volume”. To illustrate this, we reiterate some examples from Liu 2014 in Table 2.

Assuming a count/mass distinction, it can be observed that Chinese doesn’t make a singular/plural distinction for count nouns if they are bare. We illustrate this in the following example, where the BN is definite

Count		Flexible		Mass	
xué-shēng	‘student’	zhǐ	‘paper’	yǔ	‘rain’
là-zhú	‘candle’	shéng-zǐ	‘rope’	mǐ	‘rice’
jiā-jù	‘furniture’	shuǐ-guǒ	‘fruit’	shā-zǐ	‘sand’

Table 2: Examples of count, flexible and mass nouns according to the classification of Liu 2014

(anaphoric) in both sentences, having a singular referent in (1a) and a plural referent in (1b).

- (1) a. 教室 里 有 一 个 学 生。 学 生 在 看 书。
jiào-shì lǐ yǒu yī gè xué-shēng xué-shēng zài kàn shū
classroom in EXIST one CL student **student** PROG read book

‘There is a student in the classroom. The student is reading.’

- b. 教室 里 有 三 个 学 生。 学 生 在 看 书。
jiào-shì lǐ yǒu sān gè xué-shēng xué-shēng zài kàn shū
classroom in EXIST three CL student **student** PROG read book

‘There are three students in the classroom. The students are reading.’

In (1a), we chose to translate [one CL student] by a singular indefinite “a student”, despite the use of the numeral *one*. [one + CL] in most cases ¹ doesn’t denote *one*, but instead functions like the indefinite article *a* in English, for instance in:

- (2) 我 是 一 个 学 生。
wǒ shì yī gè xué-shēng
I be one CL student

‘I am a student.’

One may wonder, what situations are compatible with a sentence where the first instance of the target noun is already a BN:

¹The numeral glossed by *one* would mean *exactly one* in contexts involving explicit counting or if it carries the focus. This is also the case in languages where the same form is used for the numeral *one* and the singular indefinite article (e.g. French “un”, German “ein” etc.). In this paper, all sentences involving *one* in Chinese will be chosen so as to avoid counting and focused situations, in order for the numeral to be always interpreted as an indefinite.

(3) 教室里有学生。学生在看书。

jiào-shì lǐ yǒu xué-shēng xué-shēng zài kàn shū
classroom in EXIST **student** **student** PROG read book

‘There is a student in the classroom. The student is reading.’ /

‘There are students in the classroom. The students are reading.’

In (3), the first occurrence of “student” is an indefinite BN and the second is a definite BN. Both singular and plural situations are compatible with the sentence and there isn’t a clear preference for either a singular or plural interpretation of the BN (aside from contextual information or the common knowledge that there are usually several students in a class). In English, “a student” and “students” both literally mean *at least one* but trigger different number inferences – singular for “a student” and plural for “students” (we will provide a more detailed analysis of these inferences in Section 4). However, it is felt that the Chinese BN expresses general number and doesn’t trigger any number inferences, hence the indecisive English translation in (3).

The focus of our study will not be the BNs themselves, but rather the semantic import of *-men* or *xie*. Existing literature on those two plural markers doesn’t provide any detailed analysis on the way their plural reading is derived, as well as possible competition effects with singular markers. The purpose of this paper is to examine what exactly is encoded and what is pragmatically inferred in terms of number and definiteness by the bare noun, and its combinations with *-men* or *xie*. The broader underlying question is in fact to determine the competition mechanisms in number inferences among three possible forms of number marking: particles suggesting uniqueness, particles suggesting plurality (so far, these are the possible forms present in English or French for instance), and the bare noun (which is number-neutral).

Our analysis will proceed as follows: Sections 2 and 3 will outline the syntactic rules governing *-men* and *xie*. In Section 5, we will demonstrate the definiteness and number inferences of *-men* and *xie* through a series of tests. To establish the rationale behind these tests, we will first apply them to singular and plural markers in English as a verification of classical results (Section 4). We will then provide a complete description of the demonstrated properties of *-men* and *xie* (Section 6), before extending the discussion to more open questions about additional semantic properties of *-men* (Section 7).

The data from this paper comes from Mandarin Chinese spoken in Mainland China and we have occasionally used the Chinese language e-corpus built by Peking University ².

All Chinese sentences in this paper will be accompanied by a suggested translation between simple quotes ‘ ’. Although it is the best possible translation, please note that it may not be perfect and could occasionally be misleading.

²All semantic judgments come from the author and at least three other native speakers who have reviewed all the Chinese sentences in the paper.

2 Characterizing 们 *-men*

2.1 Syntactic rules

-men is the often the most obvious thing that comes to mind when native Mandarin speakers are asked whether there are “plural” markers in Mandarin. *-men* has a pronominal and a nominal use. In its pronominal use, it is simply suffixed to the singular personal pronoun:

- (4) 我 我 们
wǒ → wǒ men
I we

Note that this “we” is typically exclusive, meaning it excludes the listener and refers to a group including and associated with the speaker.. This has been presented as an argument for the “subjective” and “personal collective” values of *-men*, defended in Iljic 1994:

The alleged “plural” of personal pronouns covers exactly the same type of operation as the one we brought to light for *-men* after nouns: a grouping relative to a subject-locator, termed “personal collective” which is a quintessential function of *-men*, after both nouns and pronouns.

While the notion of “personal collective” has not been precisely defined in that paper, Iljic also claims that literature previous to his article has provided sufficient evidence for the fact that *-men* is a collective markers after nouns. We will be challenging this claim in Section 7.2. Returning to the pronominal use of *-men*, adding *-men* to a singular personal pronoun creates its plural form.

In its nominal use, *-men* is suffixed to the noun. Adjectives and subordinate clauses modifying the noun come before the noun and are usually separated from it by 的 (glossed by DE), a modification marker, as in (5)³:

- (5) a. 孩 子 孩 子 们
hái-zǐ → hái-zǐ men
child ‘the children’

- b. 可 爱 的 孩 子 们
kě-ài de hái-zǐ men
lovely DE child **MEN**

‘the lovely children’

(restrictive reading, see Section 7.3 for the discussion about restrictive and appositive readings)

³Section 5.3 will justify why the English translation of the noun phrase is definite.

-men can be suffixed to coordinated nouns, but the resulting noun phrase is ambiguous between several possible meanings. This will be further discussed in Section 7.3.

There are quite a few syntactic constraints to the use *-men*, making it a much less systematic plural marker than for instance the inflectional *-s* in noun endings in English or French. In Mandarin, *-men* can only follow:

- singular personal pronouns⁴
- nouns referring to a human being, or to a non-human animate being (animals, plants) which is being personified. If the noun already has two or more syllables, *-men* is directly suffixed to it. If the noun only has one syllable i.e. one character (and even though that one syllable may be sufficient in most contexts to convey the meaning), it is necessary to add either a morpheme having a meaning close to the noun we started with – as in (6a) – or a euphonic 儿 *ér* – as in (6b)⁵:

- (6) a. 官 # 官 们 官 员 们
 guān → guān men → guān yuán men
 official official **MEN** official agent **MEN**
- b. 花 # 花 们 花 儿 们
 huā → huā men → huā ér men
 flower flower **MEN** flower ER **MEN**

One exception of valid – and very commonly used – grouping of [one-syllable noun]-*-men*:

- (7) 人 人 们
 rén → rén men

 person ‘the people’

1st pers.	我 wǒ	
2nd pers.	你 nǐ	(standard)
4	您 nín	(honorific)
3rd pers.	他 tā	(male)
	她 tā	(female)
	它 tā	(non-human)

There is an additional informal personal pronoun, 咱 *zán*, that originated from dialects of Northern China but is commonly used in spoken Mandarin in any region. *zán* alone already means *we* and is an inclusive *we*. But *zán* can also combine with *-men*: the resulting pronoun 咱们 *zán men* has no difference in meaning than *zán* alone and just sounds less informal.

⁵It seems that the preference for having at least two syllables exists for phonological reasons, but to verify this would require further examination and lies beyond the scope of this discussion.

Note that *-men* in its nominal use expresses the plural form of an animate (and usually human) being, but this is not the case in its pronominal use, because *-men* can follow the 3rd person singular non-human pronoun 它 *tā*.

- as a rather marginal use, *-men* can follow a proper noun (PN), regardless of the number of syllables in the PN, with the meaning “PN and company” or “PN and the like”. We won’t discuss this use any further in this paper.

-men cannot follow a noun preceded by a numeral and a classifier:

- (8) # 三 个 孩 子 们
sān gè hái-zǐ men
three CL child **MEN**
‘the three children’

-men also cannot be used in existential constructions:

- (9) # 有 孩 子 们 在 教 室 里。
yǒu hái-zǐ men zài jiào-shì lǐ
EXIST child **MEN** LOC classroom in
#‘There are the children in the classroom.’

2.2 Plural vocative

-men is the most widely used marker of a plural vocative in Mandarin. For example, when greeting a group of children, one would use *-men* as in (12a). In contrast, using a BN vocative as in (12b) isn’t the casual way to address exactly one child or a group of children⁶. (12b) is perceived as barely acceptable in everyday speech and rather pertains to poetry. In the absence of other quantifiers⁷, *-men* is an obligatory marker for plural vocative.

⁶Singular vocative does of course exist in Mandarin, but sometimes employs nouns that are different from the ones used for plural vocative. For instance, the casual way of saying (12b) when addressing one child is:

- (10) 小 朋 友 早 上 好。
xiǎo péng-yǒu zǎo-shàng hǎo
little friend morning good
‘Good morning, little boy/girl.’

⁷For instance:

- (12) a. 孩 子 们 早 上 好。
 hái-zǐ men zǎo-shàng hǎo
 child MEN morning good
 ‘Good morning, children.’
- b. 孩 子 早 上 好。
 hái-zǐ zǎo-shàng hǎo
 child morning good
 ‘Good morning, child(ren).’

3 Characterizing 些 *xie*

3.1 Syntactic rules

xie is a plural classifier⁸ which takes the place of the singular classifier (also called atomic or individual classifier) usually associated with the noun. Only singular classifiers will be glossed CL thereafter, while *xie* will be glossed in its pinyin form. When a noun is marked as plural by *xie*, some speakers consider it unacceptable to add *-men* after the noun, and those who find it acceptable agree that the meaning is not altered in any way.

- (13) 一 个 人 一 些 人 (们)
 yī gè rén → yī xiē rén (men)
 one CL person **one XIE** person (MEN)
 ‘one person’ ‘a few/some/several(tbd) people’

The only number that can precede *xie* is 一 yī (one). In formal Mandarin, yī should always be present but it is often omitted orally, regardless of what classifier comes right after (and it is the only number that may be omitted). We will be writing the formal versions of all the glossed sentences.

-
- (11) 各 位 观 众 晚 上 好。
 gè wèi guān-zhòng wǎn-shàng hǎo
 each CL audience evening good
 ‘Dear audience, good evening.’

⁸*xie* can also occur after an adjective and has the adverbial meaning of “slightly”. This usage will not be discussed in this paper.

Classifiers (singular or plural) are compatible with the two demonstrative determiners of Mandarin, 这 *zhè* (this) and 那 *nà* (that), as shown in (14). For clarity, the complete structure of the noun phrase in Mandarin goes as such:

demonstrative + numeral + [CL / XIE] + [adj. / sub. clause] + (DE) + noun + (MEN)

- (14) 这/那 一 些 人 (们)
zhè/nà yī xiē rén (men)
this/that **one XIE** person (MEN)
‘these/those people’

3.2 A positive polarity item

xie is a positive polarity item (PPI) and this will prove significant in Section 5.4 when we will need to adapt one of the semantic tests accordingly. To show that *xie* is a PPI, we will test two properties that usually identify PPIs: anti-licensing and rescuing.

Anti-licensing

- (15) a. 他 看 过 一 些 书。
tā kàn guò yī xiē shū
He read PFV **one XIE** book
‘He has read some books.’
b. 他 没 看 过 一 些 书。
tā méi kàn guò yī xiē shū
He NEG read PFV **one XIE** book
‘He hasn’t read some books.’

(15b) is only felicitous with the wide scope reading of “some”.

Rescuing

If he hasn’t read some books (he can’t be knowledgeable).

(16) 如果 他 没 看 过 一 些 书……

rú-guǒ tā méi kàn guò yī xiē shū

If he NEG read PFV **one XIE** book

‘If he hasn’t read some books’ etc.

In (16), *xie* can take immediate scope under the negation: “if it is not the case that he has read some books”.

These observations may also help us choose the closest translation for *xie* among “some”, “a few” and “several”, for the glosses in this paper. “A few” and “some” are PPIs in English, “several” is not, therefore we can rule “several” out as the closest translation. To decide between “a few” and “some”, one main difference is that “a few” expresses strict plurality and refers to a small number, while this is not the case for “some” (when used with countable noun). Although there seems to be minor disagreements between native speakers as to whether *xie* should be a strict plural, we will first posit from intuition, and later demonstrate, that *xie* has a weak plural semantics⁹. Because *xie* has the same literal meaning as “some”, we will translate *xie* by “some” in the upcoming glosses.

3.3 Short remarks about 几 jǐ

There is an indefinite numeral adjective in Mandarin, 几 jǐ, whose meaning is closer to “a few” than *xie*. Most native speakers would agree that when used with countable nouns, jǐ indicates a number lower than 10. One piece of evidence for this is the possibility to form numerals in the following way:

(17) (N) + 几

(N) shí jǐ

(N) ten **Ji**

‘ $N \times 10$ plus a few’ i.e. a number in $[N \times 10, (N + 1) \times 10 - 1]$

In (17), it is not possible to replace 10 with any larger power of 10, which suggests that $2 \leq jǐ \leq 9$. The competition with jǐ may be the reason why *xie* (with a countable noun) is usually perceived as an indeterminate number that is not very large but is greater than 10, if contextually plausible. This would also require further analysis and will not be elaborated upon here.

jǐ is usually followed by a classifier. It can be preceded by a very polysemous particle/adjective 好 hǎo, which in this situation is an emphatic particle and modifies jǐ such that the resulting expression means “several”. This number marking will appear in some tests as well:

⁹Previous literature about *xie*, for instance Wu 2019, seems to assume that *xie* has a strong plural semantics without further proof of this fact.

- (18) 好 几 个 学 生
 hǎo jǐ gè xué-shēng
 EMP **Ji** CL student
 ‘several students’

4 Preliminary analysis of *a NP*, *the NP(s)* and bare plurals in English

We argue that each Chinese form under study has the following properties:

1. **bare noun**: indefinite in postverbal position when it is not anaphoric, triggering neither a uniqueness nor a plurality inference
2. **one + CL + N**: indefinite, triggering a pragmatic uniqueness inference
3. **N-*men***: definite, triggering an encoded plurality inference
4. **one + *xie* + N**: indefinite, triggering a pragmatic plurality inference

These properties will be demonstrated through semantic tests. This section introduces the rationale behind the tests, using examples from English.

4.1 Characterizing definiteness

It is well established that in English, *a NP* and bare plurals are indefinite, and *the NP(s)* is definite. We will present two tests for definiteness that verify this unsurprising result in English and will then be applied to Mandarin in the next section. The two tests are respectively based on **presupposition** and **maximality**. They are, of course, supposed to yield the same conclusions.

Presupposition test

First, consider these sentences:

- (19) a. John met an actor.
 b. John met the actor.
 c. John met actors.
 d. John met the actors.

(19b) and (19d) presuppose the existence of actors while (19a) and (19c) don't. Thus, the negations of (19b) and (19d) should preserve the existence presupposition, whereas the negations of (19a) and (19c) still

wouldn't trigger any presupposition. Therefore, having an existence presupposition project from a negative environment suggests definiteness. With context:

(20) *John went to a party.*

- a. John didn't meet an actor. (narrow scope reading of "an actor")
↗ There is an actor at the party.
- b. John didn't meet actors.
↗ There are actors at the party.
- c. John didn't meet the actor (resp. the actors).
↗ There is an actor (resp. there are actors) at the party.

The inferences in (20) suggest that *a NP* and the bare plural are indefinite, and that *the NP(s)* is indefinite.

Maximality test

In a situation of plurality, a maximality inference suggests definiteness. For example:

(21) *John went to a party.*

- a. John met actors.
↗ John met all or nearly all of them.
- b. John met the actors.
↗ John met all or nearly all of them.

The inferences in (21) suggest that the bare plural is indefinite and that *the NPs* is definite.

4.2 Number inference: encoded or pragmatic?

It is necessary to first determine the definiteness of a given form through the previous tests, because definites and indefinites then call for different tests regarding number inference: definites already trigger an existence presupposition and we will need to test compatibility with situations that differ in the number of existing actors; indefinites don't trigger presuppositions, so the situations being tested will differ by the number of actors that John met. In what follows, we will say that a number inference is **encoded** when it is an entailment and **pragmatic** when it is an implicature.

4.2.1 Number inference of indefinites

In a non downward entailing environment, a bare plural in English generally receives a *more than one* reading, for instance in (19c). We will call this a *plurality inference*. However, the same bare plural receives an *at least one* reading in other environments:

- (22) a. Each time John meets actors, he's happy. (downward entailing environment)
 b. John met actors at the party, but he might have met only one. (ignorance scenario)
 c. Each film director came with actors who work with them. (embedding under a universal quantifier)

Before having a closer look at the sentences in (22), we will quickly outline the process that leads to a *more than one* reading of (19c). It is suggested (see Spector 2007 and Zweig 2007) that (19c) competes with:

- (23) John met an actor.

The literal meaning of (23) is “John saw at least one actor”, but it generally receives an *exactly one* reading due to a competition with an alternative form where the *more than one* reading is encoded:

- (24) John met several actors

The meaning of (23) is strengthened by negating the alternative (24) and therefore receives the reading “John met exactly one actor”. In short, competition with the pragmatically strengthened meaning of (23) makes the bare plural in (19c) receive a *more than one* reading which is a *higher-order implicature*.

Let us come back to (22). If the bare plural's reading in (22a) were encoded as *more than one*, it would follow that John isn't happy when he meets only one actor. However, (22a) is felt to entail that John is still happy when meeting only one actor. As such, the plurality inference of an indefinite is pragmatic if it is canceled in the restrictor of a downward entailing (DE) operator¹⁰. The process is similar to determine whether the uniqueness inference triggered by an indefinite triggers is pragmatic. For concreteness, let us contrast:

- (25) a. Each time John meets an actor, he's happy.
 b. Each time John meets exactly one actor, he's happy.

If John meets several actors, he would be happy under condition (25a) but wouldn't under (25b). This suggests that the uniqueness inference is pragmatic in (25a) and encoded in (25b). This gives rise to the following test assessing which situations are compatible with the statement:

DE environment test

The number inference is pragmatic if it is canceled in the restrictor of a DE operator. For example:

¹⁰We choose not to use a “simpler” downward entailing operator such as negation, because several of the Chinese items tested are PPIs.

- (26) a. Each time John meets an actor, he's happy.
 ✓ John is happy if he meets **exactly 1** actor.
 ✓ John is happy if he meets **more than 1** actor.
- b. Each time John meets actors, he's happy.
 ✓ John is happy if he meets **exactly 1** actor.
 ✓ John is happy if he meets **more than 1** actor.

(26a) and (26b) suggest that both *a NP* and the bare plural trigger a pragmatic number inference.

We propose an additional test based on ignorance scenarios. In (22b), there is ignorance on the speaker's part regarding the number of actors that John actually met. In the following test, it is assessed whether after adding a contrastive conjunction ("but") clause, the resulting sentence is still felicitous.

Ignorance compatibility test

The number inference is pragmatic if it can be canceled without incurring a contradiction. For example:

- (27) a. ✓ John met an actor at the party, but he might have met several ones.
 b. ✓ John met actors at the party, but he might have met only one.

Both (27a) and (27b) are felicitous, which suggests that the uniqueness inference of *a NP* as well as the plurality inference of the bare plural are pragmatic.

We propose yet an additional test to verify the pragmatic nature of indefinites¹¹, by embedding the relevant content under a universal quantifier, as in (22c). First, consider the sentence "This director came with actors who work with him" ("him" refers to the director). The sentence is felt to presuppose that this director has several actors working with him. Consider now (22c) "Each film director came with actors who work with them"¹². In general, a presupposition trigger under a universal quantifier triggers a universal presupposition, so if "actors who work with them" presupposed that the antecedent of the pronoun has several actors who worked with them, a sentence such as (22c) should be felt to presuppose that every director has several such actors.

¹¹Strictly speaking, this test only discriminates between presuppositions and pragmatic inferences. However, nothing crucial hinges on this for our analysis.

¹²We are not going for the simpler option of writing "their actors" because we want to keep the bare noun as bare as possible. It could be possible to change to "actors of theirs" but then the structure can't be extended to definite plurals: # "each director came with the actors of theirs".

In fact, this is not the case, because (22c) is perfectly felicitous in a situation where some of the directors came with exactly one actor, and the others came with several (we will call these *mixed situations*¹³). However, when it is known that each of the directors came with exactly one actor, (22c) is infelicitous. This can be explained in terms of *Maximize Presupposition*: the speaker should better say “each director came with the actor who works with them”. This why (22c) is felt to presuppose that each director came with several actors, while it is actually a pragmatic inference. The point of the following test is to assess which sentences are valid descriptions of the mixed situation.

Embedding under a universal quantifier

A valid description of the mixed situation suggests a pragmatic inference. For example:

- (28) a. Each director came with an actor who works with them.
 ✓ Each director came with **exactly 1** actor.
 ✗ Each director came with **more than 1** actor.
 ✓ Mixed situation, some directors came with exactly 1, others came with more than 1.
- b. Each director came with actors who work with them.
 ✗ Each director came with **exactly 1** actor.
 ✓ Each director came with **more than 1** actor.
 ✓ Mixed situation.

(28a) and (28b) suggest the same thing as before, i.e. the uniqueness inference of *a NP* as well as the plurality inference of the bare plural are pragmatic.

To recap, the 3 tests we will use for number inferences of indefinites are:

- **DE environment:** the number inference is pragmatic if it is canceled in the restrictor of a DE operator
- **Ignorance compatibility:** the number inference is pragmatic if it can be canceled without incurring a contradiction.
- **Embedding under a universal quantifier:** a valid description of the mixed situation suggests a pragmatic number inference.

¹³We will consider mixed situations with a distribution of around 50-50 between one actor and several actors. The judgments might come out a little different if there were an overwhelming majority of one situation or the other. The “tolerance halos” could be linked to typicality effects, but this will be examined in a future project and lies beyond the scope of this paper.

4.2.2 Number inference of definites

For definites, we have to determine which situations preserve the presuppositions triggered by *the NP(s)*. For this we will use a slightly modified version of the “embedding under universal quantifier” test, changing “each director came with” to “each director has”. The process is the same as above: the mixed situation is not compatible with a sentence that presupposes uniqueness or plurality.

Embedding under a universal quantifier

A valid description of the mixed situation suggests a pragmatic inference. For example:

- (29) a. Each director came with the actor who works with them.
✓ Each director has **exactly 1** actor.
✗ Each director has **more than 1** actor.
✗ Mixed situation.
- b. Each director came with the actors who work with them.
✗ Each director has **exactly 1** actor.
✓ Each director has **more than 1** actor.
✓ Mixed situation.

(29a) suggests that the uniqueness inference of *the NP* is encoded, while (29b) suggests that the plurality inference of *the NPs* is pragmatic.

Again, a second test is welcome to double-check the results of the previous one. We suggest a variation of the “ignorance compatibility” test. The point of the following test is that a felicitous previous sentence describing an uncertain number of actors suggests a pragmatic inference.

Compatible context test

The preceding clause should be compatible with the presupposition triggered by the definite expression. For example:

- (30) a. ✓ There was exactly one actor at the party and John met the actor.
There were several actors at the party and John met the actor.
There were one or more actors at the party and John met the actor.
- b. # There was exactly one actor at the party and John met the actors.
✓ There were several actors at the party and John met the actors.
✓ There were one or more actors at the party and John met the actors¹⁴.

¹⁴A minority of informants find this infelicitous, in English as well as in French.

(30a) suggests that the uniqueness inference of *the NP* is encoded, while (30b) suggests that the plurality inference of *the NPs* is pragmatic.

To recap, the 2 tests we will use for number inferences of definites are:

- **Embedding under a universal quantifier:** a valid description of the mixed situation suggests a pragmatic inference.
- **Compatible context:** the preceding clause should be compatible with the presupposition triggered by the definite expression.

The goal here is not to produce a catalog of all possible tests, but to have extra certainty in the nature of the inference, and when the results are uncertain, to identify the contentious interpretations among native speakers. Now, we introduce Xiao-ming, the Chinese alter-ego of John who is also attending a party, and apply these tests to all acceptable combinations of the bare noun with the singular classifier, the plural classifier *xie* and *-men*:

1. bare noun
2. one + CL + N
3. N-*men*
4. one + *xie* + N

5 Showing definiteness and number inference for combinations of *-men* and *xie*

5.1 Bare noun

As was mentioned in Section 1, a non-anaphoric BN is expected to be indefinite in postverbal position. We will first show this fact, then show that the BN triggers neither a uniqueness nor a plurality inference.

Presupposition test

(31) *Xiao-ming went to a party.*

小 明 没 有 见 到 演 员。
xiǎo-míng méi yǒu jiàn dào yǎn-yuán
Xiao-míng NEG PFV meet CMPL actor

‘Xiao-ming hasn’t met actors.’ ↗ There are actors.

Maximality test

- (32) 小 明 见 到 了 演 员。
xiǎo-míng jiàn dào le yǎn-yuán
Xiao-ming meet CMPL PFV **actor**
'Xiao-ming met actors.'

In a situation of plurality: (32) ↗ He met all or nearly all of them.

The preferred formulation to convey maximality would be *N-men*, see Section 5.3.

The two previous tests show that when having no previous mention of an actor, the BN is **indefinite** in postverbal position.

Embedding under a universal quantifier

- (33) *There has been no mention of actors in previous discourse.*

- 每 个 导 演 带 着 跟 自 己 合 作 的 演 员 来。
měi gè dǎo-yǎn dài zhe gēn zì-jǐ hé-zuò de yǎn-yuán lái
each CL director bring PROG with themselves collaborate DE **actor** come
'Each director came with actors who work with them.'

- ✓ Each director came with =1 actor.
- ✓ Each director came with >1 actors.
- ✓ Mixed situation

This test is sufficient to show that the BN triggers **neither a uniqueness nor a plurality inference**. The two other tests for number inference are not necessary.

5.2 one + CL + N

We will show that [one + CL + N] is indefinite and triggers a pragmatic uniqueness inference.

Presupposition test

The following result may be a bit degraded because we cannot use the sentence that literally translates to “Xiao-ming didn’t meet one CL actor” (i.e. removing the *any* item from (34)): this causes a wide scope

reading of “one actor” i.e. triggers its interpretation as a specific indefinite. It can be noted that [one + CL + N] is also a PPI. There is another possible translation of “Xiao-ming didn’t meet any actor” involving the particle 都 dōu but we would prefer avoiding going down the rabbit hole of explaining that particle.

(34) *Xiao-ming went to a party.*

小 明 没 有 见 到 任 何 一 个 演 员。
xiǎo-míng méi yǒu jiàn dào rèn-hé yī gè yǎn-yuán
Xiao-míng NEG PFV meet CMPL any **one CL actor**

‘Xiao-ming didn’t meet any single actor.’ ↗ There is an actor.

The previous test shows that [one + CL + N] is **indefinite**. The other definiteness test (the maximality test) is not relevant here, because of uniqueness.

DE environment test

(35) 每 当 小 明 见 到 一 个 演 员, 他 会 高 兴。
měi dāng xiǎo-míng jiàn dào yī gè yǎn-yuán tā huì gāo-xìng
each when Xiao-míng meet CMPL **one CL actor** he will happy

‘Each time Xiao-ming meets an actor, he’s happy.’

✓ Xiao-ming is happy if he meets =1 actor.

✓ Xiao-ming is happy if he meets >1 actors.

Ignorance compatibility test

(36) *Xiao-ming went to a party.*

小 明 见 到 了 一 个 演 员,
xiǎo-míng jiàn dào le yī gè yǎn-yuán
Xiao-míng meet CMPL PFV **one CL actor**,

但 他 也 有 可 能 见 到 了 好 几 个。
dàn tā yě yǒu kě-néng jiàn dào le hǎo jǐ gè
but he also have possibility meet CMPL PFV EMP a few CL

‘Xiao-ming met an actor, but he might also have met several ones.’

(36) is felicitous.

Embedding under a universal quantifier

- (37) 每个导演带着一个跟自己合作的演员来。
měi gè dǎo-yǎn dài zhe yī gè gēn zì-jǐ hé-zuò de yǎn-yuán lái
each CL director bring PROG one CL with themselves collaborate DE actor come
'Each director came with an actor who works with them.'

✓ Each director came with =1 actor.

✗ Each director came with >1 actors.

✗ (?) Mixed situation

Caveat: some speakers consider it acceptable to describe the mixed situation using [one + CL + N].

The uniqueness inference of [one + CL + N] appears to be **pragmatic**, with some reservations: two of the three previous tests indicate a pragmatic inference, but this is inconsistent with our intuition in the mixed situation of the final test.

5.3 N-men

We will show that N-*men* is definite and encodes strict plurality.

Presupposition test

- (38) *Xiao-ming went to a party.*

小明没有见到演员们。
xiǎo-míng méi yǒu jiàn dào yǎn-yuán men
Xiao-míng NEG PFV meet CMPL actor MEN

'Xiao-ming didn't meet the actors.' \rightsquigarrow There are actors.

Maximality test

- (39) 小明见到了演员们。
xiǎo-míng jiàn dào le yǎn-yuán men
Xiao-míng meet CMPL PFV actor MEN

'Xiao-ming met the actors.' \rightsquigarrow He met all or nearly all of them.

The two previous tests show that N-*men* is **definite**.

Embedding under a universal quantifier

- (40) 每个导演带着跟自己合作的演员们来。
měi gè dǎo-yǎn dài zhe gēn zì-jǐ hé-zuò de yǎn-yuán men lái
each CL director bring PROG with themselves collaborate DE **actor** **MEN** come

‘Each director came with the actors who work with them.’

✗ Each director has =1 actor.

✓ Each director has >1 actors.

✗ Mixed situation

Compatible context test

- (41) #派对上有正好一个演员，小明见到了演员们。
pài-duì shàng yǒu zhèng-hǎo yī gè yǎn-yuán xiǎo-míng jiàn dào le yǎn-yuán men
party at EXIST exactly one CL actor Xiao-míng meet CMPL PFV **actor** **MEN**

#‘There was exactly one actor at the party, Xiao-ming met the actors.’

- (42) 派对上有好几个演员，小明见到了演员们。
pài-duì shàng yǒu hǎo jǐ gè yǎn-yuán xiǎo-míng jiàn dào le yǎn-yuán men
party at EXIST EMP a few CL actor Xiao-míng meet CMPL PFV **actor** **MEN**

‘There were several actors at the party, Xiao-ming met the actors.’

- (43) #派对上有一个或者好几个演员，
pài-duì shàng yǒu yī gè huò-zhě hǎo jǐ gè yǎn-yuán
party at EXIST one CL OR EMP a few CL actor

小明见到了演员们。

xiǎo-míng jiàn dào le yǎn-yuán men

Xiao-míng meet CMPL PFV **actor** **MEN**

#‘There were one or several actors at the party, Xiao-ming met the actors.’

The only felicitous sentence is (42).

The two previous tests show that the plurality inference of N-*men* is **encoded**.

5.4 one + *xie* + N

We will show that [one + *xie* + N] is indefinite and triggers a pragmatic plurality inference.

Presupposition test

As *xie* is a PPI, we cannot embed it in a negative environment and see if the existence presupposition projects. We will change to another environment that preserves presuppositions, say interrogation (modality would also have been possible).

(44) *Xiao-ming went to a party.*

小 明 见 到 了 一 些 演 员 吗?

xiǎo-míng jiàn dào le yī xiē yǎn-yuán mā

Xiao-ming meet CMPL PFV **one xie actor** INT

‘Did Xiao-ming meet some actors?’ ↗ There are actors.

Maximality test

(45) 小 明 见 到 了 一 些 演 员。

xiǎo-míng jiàn dào le yī xiē yǎn-yuán

Xiao-ming meet CMPL PFV **one xie actor**

‘Xiao-ming met some actors.’ ↗ Xiao-ming met all or nearly all of them.

The two previous tests show that [one + *xie* + N] is **indefinite**.

DE environment test

(46) 每 当 小 明 见 到 一 些 演 员， 他 会 高 兴。

měi dāng xiǎo-míng jiàn dào yī xiē yǎn-yuán tā huì gāo-xìng

each when Xiao-ming meet CMPL **one xie actor** he will happy

‘Each time Xiao-ming meets some actors, he’s happy.’

✓ Xiao-ming is happy if he meets =1 actor.

✓ Xiao-ming is happy if he meets >1 actors.

Ignorance compatibility test

(47) *Xiao-ming went to a party.*

小 明 见 到 了 一 些 演 员,
xiǎo-míng jiàn dào le yī xiē yǎn-yuán

Xiao-míng meet CMPL PFV **one xie actor**

但 他 也 有 可 能 只 见 到 了 一 个。

dàn tā yě yǒu kě-néng zhǐ jiàn dào le yī gè

but he also have possibility only meet CMPL PFV one CL

‘Xiao-ming met some actors, but he might also have met only one.’

(47) is felicitous.

Embedding under a universal quantifier

(48) 每 个 导 演 带 着 一 些 跟 自 己 合 作 的 演 员 来。

měi gè dǎo-yǎn dài zhe yī xiē gēn zì-jǐ hé-zuò de yǎn-yuán lái

Each CL director bring PROG **one xie** with themselves collaborate DE **actor** come

‘Each director came with some actors who work with them.’

✗ Each director came with =1 actor.

✓ Each director came with >1 actors.

✗ (?) Mixed situation

Caveat: some speakers (a minority among the ones we’ve consulted) consider it possible to describe the mixed situation using [one + *xie* + N].

The plurality inference [one + *xie* + N] appears to be **pragmatic**, but we have the same issue as in 5.2: the first two tests indicate a pragmatic inference, but this is inconsistent with the majority preference regarding the mixed situation in the third test. Some speakers even hold contradictory judgments: a pragmatic plurality inference when *xie* is in a DE environment, but encoded plurality in the restrictor of a universal quantifier (i.e. finding the mixed situation unacceptable).

As was mentioned in Section 3, when a noun is marked as plural by *xie*, some speakers consider it unacceptable to add *-men* after the noun, and those who find it acceptable agree that the meaning is not altered in any way. Due to this uncertainty, we have excluded *-men* from the glossed sentences. However, as

the combination [one + *xie* + N + *men*] is still attested in databases of written Chinese, we will try to provide an explanation as to why *-men* no longer marks definiteness and only marks plurality when *xie* is also used.

6 Account on the properties of *xie* and *-men*

Table 3 sums up the semantic properties shown in the previous tests. It can be observed that in all categories except for definite plurals, Mandarin and English have a similar distribution of number markings: a marking either exists in both languages, or exists in neither.

Definiteness	Number inference	encoded / pragmatic	Mandarin	English
Indefinite	uniqueness	encoded	‘exactly’ + one + CL + N	exactly one N
		pragmatic	one + CL + N	a N
	plurality	encoded	(EMP) + jǐ + CL + N (+ <i>men</i>)	several Ns
		pragmatic	one + <i>xie</i> + N (+ <i>men</i>)	bare plural / some Ns
Definite	uniqueness	encoded	definite BN	the N
		pragmatic	-	-
	plurality	encoded	N- <i>men</i> / definite BN	-
		pragmatic	-	the Ns

■ In situations where those items are used, the (indefinite) bare noun can also be used

Table 3: Summary of the test results

Overall, expression of plurality doesn’t show a lot of differences between Mandarin and English, but three important points are to be made:

1. For definite plurals, Mandarin only has a form that encodes plurality while the English form receives a plural reading through implicature. Also note that the judgments about N-*men* denoting strict plurality are sharp and unanimous.
2. Recall that there are conflicting opinions on the pragmatic nature of the inference triggered by [one + CL] and [one + *xie*] in the scope of a universal quantifier (Sections 5.2 and 5.4): maybe this can be explained by a competition with the BN, which is number-neutral. In particular, our intuition is that the BN is the

preferred utterance in the mixed situation (saying “at least one” is also possible but requires three times as many syllables as the BN in Mandarin).

3. When a noun is accompanied by *-men* alone, it receives a definite plural reading. However, the use of *-men* as a merely plural marker (i.e. not marking definiteness) is attested in the databases that we’ve consulted and by some speakers, in the following situation: when a noun is flanked by *xie* and *-men*, it becomes indefinite, which could suggest that *-men* acquires definiteness through competition with *xie*. In this regard, the test results seem to indicate a mirrored distribution between Mandarin and English/French, as shown in Table 4:

	Plurality	Definiteness/maximality
们 <i>-men</i>	encoded	pragmatic (competition with <i>xie</i>)
<i>the</i> (Eng.) / <i>les</i> (Fr.)	pragmatic (competition with the singular definite article)	encoded

Table 4: Comparison of definite plural markers in Mandarin and English/French

7 A few more puzzles about bare nouns and N-*men*

7.1 BNs as definite plurals

It has already been shown (Dayal and Jiang 2022) that BNs can refer to unique definites, as in (49a), and to anaphoric definites, as in (1) repeated below by (49b) and (49c):

- (49) a. 总 统 这 周 对 中 国 进 行 国 事 访 问。
zǒng-tǒng zhē zhōu duì zhōng-guó jìng-xíng guó shì fǎng-wèn
president this week towards China conduct state affair visit
‘This week, the President is visiting China for a state visit.’
- b. 教 室 里 有 一 个 学 生。 学 生 在 看 书。
jiào-shì lǐ yǒu yī gè xué-shēng xué-shēng zài kàn shū
classroom in EXIST one CL student **student** PROG read book
‘There is a student in the classroom. The student is reading.’

- c. 教室里有三个学生。学生在看书。
jiào-shì lǐ yǒu sān gè xué-shēng xué-shēng zài kàn shū
classroom in EXIST three CL student **student** PROG read book

‘There are three students in the classroom. The students are reading.’

However, all examples found in the literature of anaphoric BNs are in subject position and have a singular referent. We would like to note that the definite plural reading is less natural and more difficult to accept in postverbal position. However, a situation of contrast makes the definite plural reading easier to accept. Let us first see an example with contrast, exhibiting the BNs in both preverbal and postverbal positions:

- (50) a. 我邀请了几位数学家和几位语言学家。
wǒ yāo-qǐng le jǐ wèi shù-xué-jia hé jǐ wèi yǔ-yán-xué-jia
I invite PFV a few CL mathematician and a few CL linguist

‘I invited a few mathematicians and a few linguists.’

- b. 语言学家(们)很友善,而数学家(们)不太合群。
yǔ-yán-xué-jia (men) hěn yǒu-shàn ér shù-xué-jia (men) bù tài hé-qún
linguist (MEN) very friendly whereas **mathematician** (MEN) NEG too sociable

‘The linguists were very friendly whereas the mathematicians were not too sociable.’

- c. 我跟语言学家(们)比跟数学家(们)
wǒ gēn yǔ-yán-xué-jia (men) bǐ gēn shù-xué-jia (men)
I with **linguist** (MEN) than with **mathematician** (MEN)

交流得更多。

jiāo-liú de gèng duō

exchange COMP more much

‘I conversed more with the linguists than with the mathematicians.’

-men is optional in (50b,c), the reading is the same with *-men* or without: the BN alone is sufficient to convey the definite plural reading. However, with no contrast between two groups of individuals, the definite plural reading of the BN is difficult to accept in postverbal position:

- (51) ?? 我邀请了几位数学家。你见到数学家了吗?
wǒ yāo-qǐng le jǐ wèi shù-xué-jia nǐ jiàn dào shù-xué-jia le ma
I invite PFV a few CL mathematician you meet CMPL **mathematician** PFV INT

‘I invited a few mathematicians. Did you meet the mathematicians?’ (intended meaning)

In postverbal position, a definite plural would be much more natural if expressed with *N-men*.

7.2 Collective reading of N-*men*

Previous literature has claimed that *-men* after nouns is a collective marker (Iljic 1994). However, no systematic test has been conducted to examine whether N-*men* in subject position is acceptable or obligatory when followed by predicates of these types:

- Distributive predicates: to have blue eyes, to be born in Paris...
- Collective predicates: to gather, to convene, to separate...
- Mixed predicates: to weigh more than 40kg, to eat a pizza...

We argue that *-men* isn't systematically a collective marker and is only associated with a preference for a collective reading.

Distributive predicates

As will be explained in further detail in Section 7.4, N-*men* can trigger a generic reading when the noun is preceded by a locative expression. In that case, a distributive predicate is perfectly acceptable after N-*men* and it is even felt that *-men* is obligatory:

- (52) 在 厄拉科斯, 孩 子 们 有 蓝 眼睛。
zài è-lā-kè-sī hái-zǐ men yǒu lán yǎn-jīng
on Arrakis **child MEN** have blue eyes

'On Arrakis, children have blue eyes.' (Arrakis is a planet in the science-fiction movie *Dune*.)

Therefore, *-men* is possible but generally not obligatory with the plural subject of a distributive predicate.

Mixed predicates

We will first present two contexts in which different readings of the same mixed predicate arise in English.

Context #1: a group of children want to enter a lift, which has a total weight limit. Some other people are already in the lift and the total weight after the children come in is at risk of exceeding the limit.

- (53) The children weight over 40kg, they can't enter the lift.

Context #2: a group of children want to ride a roller-coaster, which has a minimal (and of course, individual) weight requirement.

(54) The children weight over 40kg, they can ride the roller-coaster.

(54) favors the **distributive** reading of “the children weight over 40kg”; (53) favors the **collective** reading, although the distributive reading leads to the same conclusion the children can’t enter the lift as a group.

In Mandarin, both instances of “the children” can be expressed with “child-*men*” and the preference in readings is exactly the same as in English. Use of the BN is unacceptable if the previous sentences stand alone, but becomes acceptable if a situation of contrast is created as in (50), following the explanation given in the previous subsection.

Therefore, similarly to distributive predicates, *-men* is possible but not obligatory with mixed predicates. Depending on the context, it may be a collective marker or a plain plural marker.

Collective predicates

We have just shown that N-*men* does not systematically receive a collective reading. But conversely, is *-men* obligatory when the noun is intended to have a collective reading? It appears not, though there is a preference for adding *-men* to the definite subject of a collective predicate. For example, see the following sentence from a 1966 issue of the *People’s Daily*:

(55) 公 司 的 职 工 聚 集 起 来 了。

gōng-sī de zhí-gōng jù-jí qǐ-lái le
company DE **worker** gather TEL PFV

‘The workers of the company gathered.’

In (55), “the workers of the company” is already definite and anaphoric. The sentence would sound more natural if *-men* were present, although it is acceptable as written. In fact, using *-men* with the subject of a collective predicate is more idiomatic, even when the subject is anaphoric. Nothing crucial hinges on the fact that “the workers of the company” in (55) is a NP and not just a N. In fact, the same observations about *-men* still stand if ‘of the company’ were removed from (55). This suggests that *-men* doesn’t only mark definiteness, but can also convey or emphasize the “collectiveness” of a noun that is already definite. We can also mention just in passing that a BN can never be the subject of a collective predicate in Mandarin.

Secondarily, does *-men* also emphasize “collectiveness” for the indefinite plural subject of a collective predicate? Namely, for [one + XIE + N], as it is the only option: *-men* cannot follow an indefinite NP expressed with a numeral, and indefinites BNs in subject position are difficult to accept. An example would be the following minimal variation of (55):

(56) 一 些 职 工 (们) 聚 集 起 来 了。

yī xiē zhí-gōng (men) jù-jí qǐ-lái le
one XIE worker (MEN) gather TEL PFV

‘Some workers gathered.’

Our intuition suggests that (56) sounds better with *-men*, but we leave this question open for now, as it would require collecting judgments from more speakers who accept *-men* after [one + XIE + N].

7.3 Coordinated nouns + *men*

When it follows two coordinated nouns, does *-men* encode definiteness and plurality for both nouns? Consider the following pair:

(57) a. 老 师 和 学 生 们 在 教 室 里。

lǎo-shī hé xué-shēng men zài jiào-shì lǐ
teacher **and** student **MEN** LOC classroom in

‘the teacher(s) and the students are in the classroom’

b. 老 师 们 和 学 生 们 在 教 室 里。

lǎo-shī men hé xué-shēng men zài jiào-shì lǐ
teacher **MEN** **and** student **MEN** LOC classroom in

‘the teachers and the students are in the classroom’

(57a) can truthfully describe situations where there is more than one student and any number of teacher. (57b) truthfully describes situations where there is more than one student and more than one teacher.

For *-men* to be acceptable, it is not sufficient to have coordinated NPs referring to a group having a total number of at least 2 people. In the case of one teacher and one student, *-men* cannot be used. This suggests that the syntactic position of *-men* may be lower than the coordination of NPs. As an additional piece of evidence for this, there are cases where [coordinated nouns]-*men* is acceptable in an existential construction:

(58) 有 老 师 和 学 生 们 在 教 室 里。

yǒu lǎo-shī hé xué-shēng men zài jiào-shì lǐ
EXIST teacher **and** student **MEN** LOC classroom in

‘There are a teacher and students in the classroom.’ /

‘There are teachers and students in the classroom.’

Thus, *-men* sometimes only makes the second conjunct definite, which again suggests that *-men* is lower than the coordination of NPs. However, the following observations challenge this conclusion.

There are cases where *-men* can be higher than the adjective (which itself is higher than the coordination of NPs), as in (5b) repeated below:

- (59) 可爱 的 孩子 们
kě-ài de hái-zǐ men
lovely DE child MEN

'the lovely children' (restrictive reading) /
'the children, who are lovely' (appositive reading)

One can make up contexts that make either the restrictive reading (*men-higher-than-adj*, 'the lovely children' = 'the children who are lovely') or the appositive reading (*adj-higher-than-men*, 'the children, who are lovely') more natural. However, we feel that there is generally a preference for the former if the context doesn't provide any constraint.

There are likewise cases where *-men* can be higher than the relative clause. Again, both restrictive and appositive readings are possible:

- (60) 在 外 面 玩 的 孩子 们
zài wài-miàn wán de hái-zǐ men
LOC outside play DE child MEN

'the children who are playing outside' (restrictive reading) /
'the children, who are playing outside' (appositive reading)

To sum up, the syntactic locality of *-men* is still unclear and requires further investigation. We haven't found any conclusive tests to determine if *-men* is higher or lower relative to coordination of NPs, relative phrases and adjective phrases.

7.4 Genericity with BNs and N-*men*

We will provide a sketch of some possible ways to express genericity with BNs and N-*men*, although this is made challenging by the fact that there are no entirely reliable tests for the generic expressions. We will start from this conjecture: generics are definite descriptions with arbitrarily large domains; when no restriction is expressed, the domain is taken to be as large as the context allows. The genericity test that we will use is the adverbial quantification test with the adverb "usually". If QVEs (Quantificational Variability

Effects) are observed, the sentence is considered generic¹⁵. The predicates will be chosen so as to not allow for temporal variability, therefore the adverb can only quantify over the subject individuals. To illustrate the problem, a sentence such as “The students from our school usually play music” is ambiguous between these readings:

1. Most students from our school play music.
2. All or nearly all students from our school play music, and each of them often plays.

A third reading is even possible, where the group “students from our school” varies over time, but at any given moment, that group mostly consists of musicians. But this is less accessible because “play music” is not a stative predicate. To avoid such complications, we will use episodic sentences with the predicate “graduate from our school”, an event which can only have one occurrence for every individual. We tested the acceptability of sentences have the following structure, with and without the locative “in France”, with and without *-men*:

- (61) (在 法国,) 语 言 学 家 (们) 通 常 从 我 们 学 校 毕 业。
 zài fǎ-guó yǔ-yán-xué-jia men tōng-cháng cóng wǒ-mén xué-xiào bì-yè
 LOC France linguist MEN usually from we school graduate
 ‘(In France,) linguists usually graduate from our school.’

Table 5 sums up the acceptability of the generic reading. While a generic reading is possible no matter whether the noun is bare or followed by *-men*, there are two cases marked by “✓ ?” where it seems less accessible:

Locative	MEN	Generic reading
+	+	✓
	-	✓ ?
-	+	✓ ?
	-	✓

Table 5: Possible environments for a generic reading

The precise interaction between genericity and locative remains unclear. It is sometimes felt that the presence of a locative restricts the domain in such a way that it is no longer arbitrarily large, i.e. the “generic” statement might not be generic after all.

¹⁵This theory has its detractors, e.g. Ebert and Hinterwimmer 2010. Furthermore, a simple counterexample can show that QVEs can occur when the subject refers to a sufficiently large group of individuals and doesn’t in fact express genericity: “The 1024 students present at the assembly were usually blond” can be interpreted as “most of them were blond”.

8 Conclusion and issues for further discussion

This paper addressed the distribution of singular/plural and definite/indefinite readings of the singular classifier, *-men* and *xie*. The main finding is that number inferences in Mandarin arise from pragmatic competition effects which are partly similar to those observed in English or French, but are further complicated by the number-neutral BN. The precise competition mechanisms between the singular, plural and bare forms will require further investigation. Secondly, there is a possible competition between definiteness marked by *-men* and indefiniteness marked by *xie*, but the semantic judgments on that matter are themselves debatable.

The number neutrality of the BN raises the question of why the speaker should sometimes choose to use [one + CL + N] or [one + *xie* + N]. The former doesn't literally mean "exactly one" outside of counting contexts; the latter also has a semantic import that is not entirely obvious, similar to the choice in English to use "some Ns" instead of the bare plural. A possible production task could be, for each of the forms we have analyzed, to describe the situations where it is the preferred utterance. It could also be experimentally verified whether BNs are indeed perceived as number-neutral if placed in a context that does not favor either the singular or plural reading.

In relation to *-men*, we have also presented additional puzzles that can be explored in further research:

- Why is the definite plural reading of the BN difficult to accept in postverbal position?
- What is the syntactic locality of *-men*?
- Is there an interaction between the presence of a locative and the presence of *-men* in triggering a generic reading?

Some secondary investigations may come over as complementary to this analysis. We have chosen not to include tests with the demonstrative determiners briefly mentioned in Section 3, because they do not contribute to the readings of *-men* and *xie*. However, it is suggested in L. Cheng and Sybesma 2014 that demonstrative determiners, when followed by CL, are developing into singular definite articles. It seems plausible that a pseudo-definite article could compensate for the underspecification of the BN, thereby providing a counterpart to *the NP*, but this phenomenon requires more careful verification.

It could be insightful to examine the philology of *-men* and *xie*: their syntactic rules were somewhat different until about two centuries ago, when Classical Chinese was still in use. For example, it was at that time possible for *-men* to directly follow a demonstrative determiner. Interestingly, Cantonese has a plural classifier 啲 *di* which, unlike *xie*, can appear as [*di* + N] in preverbal position without a numeral or a demonstrative determiner. [*di* + N] is a definite plural, which makes *di* similar to *the*. Cantonese is among the existing dialects in China that have retained the most characteristics from Classical Chinese. Could that definite plural classifier be a relic of Classical Chinese? If so, why did it disappear in Mandarin?

There are other particles in Mandarin that are not directly adjacent to the noun but also convey a plural meaning. For instance, the determiners 各 *gè* and 诸 *zhū* basically mean “every” but are compatible with *-men*, which sounds surprising in comparison to determiners with the meaning of “every” in other languages. Considering interactions with other plural or distributive particles could contribute to getting a clearer view on the semantic contributions of *-men* and *xie*.

Glossing abbreviations

CL	singular classifier for humans
CMPL	completive aspect
DE	a modification marker in Mandarin
EMP	emphatic particle
EXIST	existential
INT	interrogation marker
LOC	locative particle
NEG	negation
PFV	perfective aspect
PROG	progressive aspect

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