

Introduction

This document talks about the number, (in)definiteness, generic and episodic readings, and related aspects of nouns in Mandarin Chinese. It is based on one interesting journal article that, in my opinion, is of high quality but relatively unknown among non-Chinese linguists, perhaps because it is written in Mandarin. The article is:

1. Li, Xuping (李旭平). 2021. On the Semantics of the Plural Marker *-men* (们) in Mandarin: A Maximality Operator (汉语“们”的语义：最大化算子). *Contemporary Linguistics* 《当代语言学》 23 (1): 1-17.

The main contents include:

1. The number of Ns in Mandarin: A general number
2. The (in)definiteness of bare Ns and N-们 *men*
3. The generic / episodic reading
4. 们 *men* as maximality operator
5. Pronouns in Mandarin: Pro-NP

1 The Number of Nouns in Mandarin: A General Number

Mandarin is a non-number-marking language, whose Ns have the property of a general number. On one hand, all bare Ns can be interpreted as singular or plural within different contexts:

- (1) 他 *tā* 去 *qù* 见 *jiàn* 了 *le* 学生 *xuéshēng*.
he go see ASP student
'He went to see the student(s).'
- (2) 学生 *xuéshēng* 今天 *jīntiān* 上课 *shàngkè* 迟到 *chídào* 了 *le*.
student today attend.class arrive.late ASP
'The student(s) were late for the class today.'

On the other hand, no morphological changes are obligatory for the singular and plural meanings:

- (3) 他 *tā* 今天 *jīntiān* 去 *qù* 见 *jiàn* 了 *le* 一 *yí* / 三 *sān* 位 *wèi* 老师 *lǎoshī*.
he today go see ASP one three CL teacher
'He went to see one/three student(s) today.'
- (4) 办公室 *bàngōngshì* 有 *yǒu* 一 *yí* / 三 *sān* 把 *bǎ* 椅子 *yǐzi*.
office have one three CL chair
'There is/are one/three chair(s) in the office.'

Therefore, in a context where there are only three students a, b and c, the extension of *student*, *students* and 学生 *xuéshēng* should be represented as:

1. $[[\text{student}]] = \{a, b, c\}$
2. $[[\text{students}]] = \{a \oplus b, b \oplus c, a \oplus c, a \oplus b \oplus c\}$
3. $[[\text{学生}]] = \{a, b, c, a \oplus b, b \oplus c, a \oplus c, a \oplus b \oplus c\}$

2 The (in)definiteness of bare Ns and N-们 men

Bare Ns in Mandarin can be interpreted as definite or indefinite in different contexts. See (5) for a definite reading and (6) for an indefinite reading.

- (5) **Context:** There were a banana, an apple and a peach on the table. John went close to the table, and then

他 tā 吃 chī 了 le 香蕉 xiāngjiāo。
he eat ASP banana

‘He ate the banana.’

- (6) **Context:** John usually eats fruits for breakfast, and this morning

他 tā 吃 chī 了 le 香蕉 xiāngjiāo。
he eat ASP banana

‘He ate a banana/(some) bananas.’

Different from bare Ns, N-们 men are generally definite. First, 工人们 gōngrénmen ‘workers’ can only be interpreted as the specific workers already known or mentioned in the context, instead of some random workers.

- (7) 我 wǒ 看见 kànjiàn 工人-们 gōngrén-men 在 zài 吃饭 chīfàn。
I see worker-MEN PROG eat.meal

‘I saw the workers eating.’

‘I saw some workers eating.’

Second, N-们 men is not licensed in the object position of existential sentences (definiteness effect).

- (8) *有 yǒu 学生-们 xuéshēng-men 在 zài 跳舞 tiàowǔ。
have student-MEN PROG dance

Intended ‘There are students dancing.’

- (9) *没 méi 有 yǒu 学生-们 xuéshēng-men 在 zài 跳舞 tiàowǔ。
NEG have student-MEN PROG dance

Intended ‘There aren’t students dancing.’

Third, N-们 men can’t be modified by quantificational phrases.

- (10) *三-个 sān-gè 学生-们 xuéshēng-men 在 zài 跳舞 tiàowǔ。
three-CL student-MEN PROG dance

Intended ‘There are three students dancing.’

- (11) *一些 yìxiē 学生-们 xuéshēng-men 在 zài 跳舞 tiàowǔ。
some student-MEN PROG dance

Intended ‘There are some students dancing.’

- (12) *很多 hěnduō 学生-们 xuéshēng-men 在 zài 跳舞 tiàowǔ。
many student-MEN PROG dance

Intended ‘There are many students dancing.’

Fourth, different demonstratives, N-们 men cannot pass the *unimormity test*.

- (13) # 学生-们 xuéshēng-men 在 zài 教室 jiàoshì, 学生-们 xuéshēng-men 不 bù 在 zài
 student-MEN be.in classroom student-MEN NEG be.in
 教室 jiàoshì.
 classroom
 Literal ‘The students are inside the classroom, and the students are not inside the classroom.’
- (14) 那-个 nà-gè 学生 xuéshēng 在 zài 教室 jiàoshì, 那-个 nà-gè 学生 xuéshēng 不 bù
 that-CL student- be.in classroom that-CL student- NEG
 在 zài 教室 jiàoshì.
 be.in classroom
 ‘That student is inside the classroom, and that student is not inside the classroom.’

3 The generic / episodic reading

Bare Ns can contribute to the generic or episodic reading, depending on the types of verbs and contexts. The data below from (15)-(25) and (28)-(29) are based on my judgement. First, for k-level verbs such as 灭绝 mièjué ‘extinct’, only the generic reading is possible.

- (15) 恐龙 kǒnglóng 灭绝 mièjué 了 le.
 dinosaur extinct ASP
 ‘Dinosaurs are extinct.’

Second, for i-level verbs such as 甜 tián ‘sweet’, the generic reading is preferred in a neutral context, but the episodic reading is possible with additional contextual information. Note that in the following data, 很 hěn ‘very’ is required to precede the (monosyllabic) adjective, possibly because of some phonological constraint in Mandarin, but it has no semantic contribution to the sentence.

- (16) 苹果 píngguǒ 很 hěn 甜 tián.
 apple very sweet
 ‘Apples are sweet.’
- (17) **Context:** There were a banana, an apple and a peach on the table. John ate all of them and said
- 苹果 píngguǒ 很 hěn 甜 tián.
 apple very sweet
 ‘The apple is sweet.’

Different classifiers can be used to distinguish between the generic and episodic reading, especially 种 zhǒng ‘kind’ (usually for the generic statement of a subkind), and the general classifier 个 gè, whose literal meaning is *individual*, though this meaning is almost bleached in modern Mandarin.

- (18) 这种 zhè-zhǒng 苹果 píngguǒ 很 hěn 甜 tián.
 this-KIND apple very sweet
 ‘This kind of apples are sweet.’
- (19) 这个 zhè-gè 苹果 píngguǒ 很 hěn 甜 tián.
 this-CL apple very sweet
 ‘This apple is sweet.’

Other classifiers (but not all) include:

1. For the generic reading: 类 *lèi* ‘type’ (e.g., 这类人 *zhèlèirén* ‘this type of people’), and 代 *dài* ‘generation’ (e.g., 这代人 *zhèdàirén* ‘this generation of people’), etc.
2. For the episodic reading: 本 *běn*, classifier for books, journals, and dictionaries, etc. (e.g., 这本书 *zhèběnshū* ‘this book’), 朵 *duǒ*, classifier for flowers (e.g., 这朵花 *zhèduǒhuā* ‘this flower’), 棵 *kē*, classifier for grass or trees (e.g., 这棵草 *zhèkēcǎo* ‘this grass’), 辆 *liàng*, classifier for cars (e.g., 这辆车 *zhèliàngchē* ‘this car’), 栋 *dòng*, classifier for houses (e.g., 这栋房子 *zhèdòngfángzi* ‘this house’), 张 *zhāng*, classifier for paper and tables (e.g., 这张纸 *zhèzhāngzhǐ* ‘this piece of paper’), and 把 *bǎ*, classifier for chairs (e.g., 这把椅子 *zhèbǎyǐzi* ‘this chair’), etc.

Third, for s-level verbs such as 开 *kāi* ‘open’, only the episodic reading is possible.

- (20) 商店 *shāngdiàn* 开 *kāi* 了 *le*.
 shop open LE
 ‘The shop(s) opened.’

Interestingly, the classifiers for the generic reading are also available for s-level verbs, particularly with the help of a distributive operator 都 *dōu*:¹

- (21) 这种 *zhè-zhǒng* 商店 *shāngdiàn* (都 *dōu*) 开 *kāi* 了 *le*.
 this-KIND shop DOU open LE
 ‘All this kind of shops opened.’

This should not be a generic reading, as it is better interpreted in a context where in a special time like the New Year, someone on one street to buy some fireworks called his friend and told him that all of this kind of shops (on the street) opened.

By contrast, classifiers for the episodic reading are not available for k-level verbs:

- (22) ???/* 这个 *zhè-gè* 恐龙 *kǒnglóng* 灭绝 *mièjué* 了 *le*.
 this-CL dinosaur extinct LE
 Literal ‘This dinosaur is extinct.’

Returning to the s-level verbs, if the subject is human, N-们 *men* is always preferred than bare Ns in a neutral context.

- (23) 人们 *rén-men* 投 *tóu* 了 *le* 票 *piào*.
 person-MEN vote ASP ballot
 ‘People voted.’

- (24) ??? 人 *rén* 投 *tóu* 了 *le* 票 *piào*.
 person vote ASP ballot
 Intended ‘People voted.’

However, with a proper context, bare Ns can also be licensed:

- (25) **Context:** There were five students and three teachers in the classroom to select a class monitor.

¹The semantics of 都 *dōu* in Mandarin is a complex problem. Here I adopt Lin (1998) and Li’s (2021) opinion, but see Giannakidou & Cheng (2006) and Xiang (2008) for a maximality operator analysis and Feng & Pan (2018) for a universal quantification analysis.

学生 xuéshēng(-们 -men) 投 tóu 了 le 票 piào, 老师 lǎoshī(-们 -men) 没 méi 投 tóu。
 student -MEN vote ASP ballot teacher -MEN NEG vote

‘The students voted, but the teachers didn’t.’

As for the generic reading of N-们 men, Rygaloff (1973) argues that this reading is inaccessible. However, Jiang (2017) and Li (2021) argue that the following sentences all license it.

- (26) 孩子们 háizi-men 是 shì 祖国 zǔguó 的 de 未来 wèilái。
 child-MEN COP mother.country GEN future

‘Children are the future of their motherlands.’

- (27) 父母 fùmǔ 之间 zhījiān 的 de 争吵 zhēngchǎo 很 hěn 容易 róngyì 给 gěi
 parents between POSS quarrel very easily DAT

孩子们 háizi-men 带 dài 来 lái 伤害 shānghài。
 child-MEN bring come harm

‘Quarrels between parents can bring harms to their children easily.’ (for me: ?)

I agree with Rygaloff. For (24), it is a frequently used statement in China, and therefore owns an implicit context that the speaker is talking about China’s issues. Personally, I would not interpret it as a generic statement about all children like its English translation, because it only says about the case of Chinese children, who are the future of China, but not about other countries. In other words, if 们 men is a maximality operator as argued in Li (2021), then it just marks the maximal amount of children, which in this context, is all Chinese children.

Moreover, if the 祖国 zǔguó ‘motherland’ is replaced by a more neutral word 国家 guójiā ‘country’, the sentence would be degraded for me.

- (28) ??? 孩子们 háizi-men 是 shì 国家 guójiā 的 de 未来 wèilái。
 child-MEN COP country GEN future

Intended ‘Children are the future of their countries.’

- (29) **Context:** A speaker said: There are many children in China, and

孩子们 háizi-men 是 shì 国家 guójiā 的 de 未来 wèilái。
 child-MEN COP country GEN future

‘The children are the future of the country.’

For (25), I don’t find it totally felicitous for a generic reading on 孩子们 háizimen. I would prefer to interpret it as a scenario where there are some specific children under discussion, and the quarrels between all pairs of parents can bring harms to them easily. This interpretation is not available because in real life, it is almost impossible that the quarrels between any parents can do harm to some specific children even when they are not their parents. This encyclopedic knowledge, along with the bare N subject, will force the sentence to have a generic interpretation on 孩子们 háizimen.

4 们 men as maximality operator

Whether bare Ns in Mandarin are argumental or predictive is still in debate. Examples (1)-(2) in section 1 show that they can be the subject of the verb, indicating that they are argumental. However, they are always licensed in quantificational expressions, indicating that they are

predicative. This is because the semantics of Number-Classifier (e.g., 三个 sāngè ‘three-CL’) and other degree modifiers (e.g., 一些 yìxiē ‘some’, 很多 hěnduō ‘many’) in Mandarin are assumed to be the same as Number (e.g., three) in English, which then should be $\langle e, t \rangle, \langle e, t \rangle$ type.²

- (30) 三个 sān-gè 学生 xuéshēng 在 zài 跳舞 tiàowǔ。
 three-CL student PROG dance
 ‘There are three students dancing.’
- (31) 一些 yìxiē 学生 xuéshēng 在 zài 跳舞 tiàowǔ。
 some student PROG dance
 ‘There are some students dancing.’
- (32) 很多 hěnduō 学生 xuéshēng 在 zài 跳舞 tiàowǔ。
 many student PROG dance
 ‘There are many students dancing.’

However, different from English plurals that denote a set of plural members, N-们 men in Mandarin only denotes a specific (maximal) plural member, whose semantic type is $\langle e \rangle$. This explains why N-们 men is not licensed, as mentioned in section 2 (repeated below), in quantificational expressions.

- (33) *三个 sān-gè 学生-们 xuéshēng-men 在 zài 跳舞 tiàowǔ。
 three-CL student-MEN PROG dance
 Intended ‘There are three students dancing.’
- (34) *一些 yìxiē 学生-们 xuéshēng-men 在 zài 跳舞 tiàowǔ。
 some student-MEN PROG dance
 Intended ‘There are some students dancing.’
- (35) *很多 hěnduō 学生-们 xuéshēng-men 在 zài 跳舞 tiàowǔ。
 many student-MEN PROG dance
 Intended ‘There are many students dancing.’

Therefore, N-们 men is argumental instead of predicative. Along with the definiteness it has, Li (2021) argues that 们 men is a maximality operator similar to LOS in Romance languages. While LOS has the restriction on the gender of the N (it should be masculine), 们 men has the restriction on the humanhood of the N (it should be human or personalized thing).

In other words, in 学生们 xuéshēngmen, 们 men selects the unique maximal member of students: $a \oplus b \oplus c$, from the set that 学生 xuéshēng denotes: $\{a, b, c, a \oplus b, b \oplus c, a \oplus c, a \oplus b \oplus c\}$.

The semantics can be represented as:

$$1. \llbracket \text{们} \rrbracket = \lambda P \sigma x. *P_C(x)$$

²Li (2020) argues that Ns in 有 yǒu ‘have’-existentials should be predicative, where 有 yǒu ‘have’ is an incorporating verb.

- (1) 有 yǒu 鬼 guǐ!
 have ghost
 ‘There are ghosts!’
- (2) 有 yǒu 学生 xuéshēng 在 zài 跳舞 tiàowǔ。
 have student-MEN PROG dance
 ‘There are students dancing.’

$$2. \llbracket \text{学生们} \rrbracket = \llbracket \text{们} \rrbracket(\llbracket \text{学生} \rrbracket) = \lambda P \sigma x. *P_C(x)(\lambda x. \text{student}(x)) = \sigma x. * \text{student}(x)$$

5 Pronouns in Mandarin: Pro-NP

Different from English and Romance languages, the plural pronouns in Mandarin are derived from the singular pronouns with N-们 men.

1. 我 wǒ ‘I’
2. 我们 wǒmen ‘we’
3. 你 nǐ ‘you (sg.)’
4. 你们 nǐmen ‘you (pl.)’
5. 他/她/它 tā ‘he/she/it’
6. 他们/她们/它们 tāmen ‘they’

Li (2021), following Déchaine & Wiltschko (2002), argues that (singular) pronouns in Mandarin are pro-NP, which own the typical syntactical properties of Ns. Specifically, they can be modified by adjectives, possessives and demonstratives.

- (36) 伤心 shāngxīn 的 de 我 wǒ 想 xiǎng 哭 kū。
 sad DE 1SG want cry
 ‘As I am sad, I want to cry.’
- (37) 我 wǒ 的 de 他 tā
 1SG GEN 3SG
 ‘my boyfriend (or someone important to me)’
- (38) 你 nǐ 已经 yǐjīng 不 bù 是 shì 我 wǒ 认识 rènshi 的 de 那-nà-gè 你 nǐ 了 le。
 2SG already NEG COP 1SG know DE that-CL 2SG SFP
 ‘You are already not the one that I knew.’ (SFP = sentence final particle)

This explains why singular pronouns can be the input of 们 men. Li argues that in plural pronouns, it acts on an covert argument *participants*, which represents the participants of discourse. The semantics of first plural and second plural are:

1. $\llbracket \text{我们} \rrbracket = \sigma x. * \text{participants}_C(x) \ \& \ \lambda y. \text{speaker}_C(y) \ \& \ y \leq x$
2. $\llbracket \text{你们} \rrbracket = \sigma x. * \text{participants}_C(x) \ \& \ \lambda y. \text{hearer}_C(y) \ \& \ y \leq x$

This analysis will face a problem. As mentioned in section 4, N-们 men is argumental, and plural pronouns should be, too. However, similar to singulars, they can also be modified by adjectives and possessives (but not demonstratives).

- (39) 伤心 shāngxīn 的 de 我们 wǒmen 想 xiǎng 哭 kū。
 sad DE 1PL want cry
 ‘As we are sad, we want to cry.’
- (40) 我 wǒ 的 de 他们 tāmen
 1SG GEN 3PL
 ‘my (ex)boyfriends (or people important to me)’

- (41) 你们 nǐmen 已经 yǐjīng 不 bǔ 是 shì 我 wǒ 认识 rènshi 的 de (*那些 nàxiē)
 2PL already NEG COP 1SG know DE those
 你们 nǐmen 了 le。
 2PL SFP
 ‘You are already not the one that I knew.’ (SFP = sentence final particle)

It is also unclear if the 们 men in plurals are the maximality operator that has the restriction on humanhood of the N, why can the third plural tāmen also refer to non-human (In Chinese characters, when the third plural refers to non-human, it is written as 它们, instead of 他们 or 她们, which are respectively for males and females. But they share the same pronunciation).

- (42) **Context:** I have three dogs in my house, and

它们 tāmen 很 hěn 可爱 kěài。
 3PL very cute
 ‘They are cute.’

The plurals work well with all k-level, i-level, and s-level verbs, although for the k-level verbs, a proper context is preferred.

- (43) **Context:** A paleontologist was introducing *Homo erectus pekinensis* to his students, and he said

他们 tāmen 灭绝 mièjué 了 le。
 3PL extinct ASP
 ‘They are extinct.’

- (44) 我们 wǒmen / 你们 nǐmen / 他们 tāmen 很 hěn 高 gāo。
 1PL 2PL 3PL very tall
 ‘We/You/They are tall.’

- (45) 我们 wǒmen / 你们 nǐmen / 他们 tāmen 投 tóu 了 le 票 piào。
 1PL 2PL 3PL vote ASP ballot
 ‘We/You/They voted.’

Other references

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