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Chapter 1 Introduction

Number appears to be a very simple (though significant) natural category, but the investigation of number as a grammatical category is a complex task, and the greatest challenge relates to cross-linguistic differences (Corbett 2000; Jespersen 1924; Lyons 1968). How plurality is represented in numeral classifier languages, especially how plurality interacts with numeral classifiers, has been discussed a lot in theoretical linguistics (Chierchia 1998a, 1998b; Cheng & Sybesma 1999; Li 1999; Nomoto 2013a; Zhang 2014). However, in the literature on second language (L2) acquisition, only a couple of studies have addressed the L2 acquisition of plurality in numeral classifier languages (Lardiere 2009; Hwang & Lardiere 2013; Lee & Lardiere 2019). In this book, I investigate how cross-linguistic similarities and differences in plural representation affect the L2 acquisition of Chinese (a numeral classifier language): whether L2 learners can acquire properties relevant to plurality, whether some properties of plurality are easier to acquire than others, and why. I compare L2 learners whose L1 is Korean (a numeral classifier language) and L2 learners whose L1 is English (a non-classifier language). The present study is conducted from the perspective of the generative approach to SLA, and more specifically, in the framework of the Feature Reassembly Hypothesis (FRH) (Lardiere 2009).

In this chapter, I firstly introduce some data on plurality in Chinese, to show that the acquisition of plurality is a complex task; then I introduce some background to the FRH, to show that the FRH is an appropriate L2 theory to investigate L2 acquisition of plurality; finally, I overview the present study, including its main findings and the organization of the book.

(2014) in analyzing classifier reduplication as another way of expressing plurality (to be discussed in detail in Chapter 3). Some relevant linguistic data is shown below (more data and details will be discussed in Chapter 3).

(i) In Chinese, plural marking is not obligatory on nouns, as shown in Example 1.3.

(1.3) Laoshi-(**men**) hen gaoxing.
 teacher-PL very happy
 ‘The teachers are very happy.’

(ii) The suffix *-men* is restricted in distribution, as it cannot be suffixed to non-human nouns, as shown in Example 1.4.

(1.4) Zhuozi-(***men**) hen ganjing.
 table-PL very clean
 ‘The tables are very clean.’

(iii) The suffix *-men* is prohibited in a numeral classifier phrase, as shown in Example 1.5.

(1.5) san ge xuesheng-(***men**)
 three CL student-PL
 ‘three students’

(iv) The suffix *-men* is incompatible with a generic reading, as shown in Example 1.6.

(1.6) Ren-(***men**) shi burudongwu.
 human-PL be mammal
 ‘A human is a mammal.’/ ‘Humans are mammals.’

(v) Classifiers can be reduplicated to express plurality. Classifier reduplication is optional and yields additional interpretations. One type of classifier reduplication is in the form of *yi Cl Cl*, with the numeral *yi* ‘one’ in it, as shown in Example 1.7; this template has an abundant reading. Another type of classifier reduplication is in the form of *Cl Cl*, and it usually co-occurs

with the particle *dou*, as shown in Example 1.8; this template has a distributive reading.¹

- (1.7) a. *Zhuozi-shang fang-zhe hua.*
 table-on put-DUR flower
 ‘There are flowers on the table.’/ ‘There is a flower on the table.’
- b. *Zhuozi-shang fang-zhe yi duo duo hua.* ABUNDANT
 table-on put-DUR one CL CL flower
 ‘There are many flowers on the table.’
- (1.8) a. *Hua dou hen piaoliang.*
 flower DOU very beautiful
 ‘All the flowers are very beautiful.’/ ‘Each flower is very beautiful.’
- b. **Duo duo** *hua dou hen piaoliang.* DISTRIBUTIVE
 CL CL flower DOU very beautiful
 ‘Each flower is very beautiful.’

As can be seen from the above data, plurality and its interaction with classifiers in Chinese is complicated. In the context of L2 acquisition, one might wonder whether an L2 learner can acquire these subtle properties of plurality: (i) Does an L2 learner of Chinese know that plurality can be expressed via the suffix *-men* and via classifier reduplication? (ii) Does an L2 learner notice the interpretational differences between these different plural forms? (iii) Which properties of plurality are easy to acquire, which are hard to acquire, and why? This book will explore these research questions within the framework of the FRH (Lardiere 2009). In the following section, I will introduce some background of the FRH, to show why the FRH is an appropriate L2 theory to investigate L2 plurality.

1.2 The FRH

Lardiere (2009) discusses some data on plural marking in Chinese, Korean, and English, and speculates on the implications for L2 acquisition. She compares the suffix *-men* in Chinese, the suffix *-tul* in Korean, and the suffix

1 I depart from Zhang (2014), who analyzes these two types of classifier reduplication as the same: same form (i.e. Cl Cl) and same interpretation (i.e. abundance), with *yi* and *dou* as licensors of classifier reduplication (and *dou* triggers the distributive interpretation).

-s in English. She finds some similarities between Chinese and Korean, some similarities between Korean and English, and some unique properties in each language. She argues that these cross-linguistic differences are too micro to be analyzed by traditional parameters and suggests analyzing them in terms of features. Here I provide an overview of some relevant linguistic data in Korean (more data and details will be discussed in Chapter 3).

(i) Similar to Chinese, and unlike English, plural marking is optional in Korean, as shown in Example 1.9 (Lardiere 2009, p. 200, Example 14).

(1.9) Peter-nun ecey haksayng-(**tul**)-ul manna-ss-ta.
 Peter-TOP yesterday student-PL-ACC meet-PAST-DECL
 ‘Peter met (the) students yesterday.’

(ii) Unique in Korean, plural marking is obligatory when a noun co-occurs with a demonstrative, as shown in Example 1.10 (Lardiere 2009, p. 200, Example 15).

(1.10) a. Chelswu-nun ku/i haksayng-ul po-ass-ta.
 Chelswu-TOP that/this student-ACC see-PAST-DECL
 ‘Chelswu saw that/this student.’
 b. Chelswu-nun ku/i haksayng-**tul**-ul po-ass-ta.
 Chelswu-TOP that/this student-PL-ACC see-PAST-DECL
 ‘Chelswu saw those/these students.’

(iii) Similar to English, and unlike Chinese, the suffix *-tul* can be suffixed to non-human nouns, as shown in Example 1.11 (Lardiere 2009, p. 203, Example 22).

(1.11) Wury hakkyo-ka caknyen-ey kenmwul-**tul**-ul manh-i ci-ess-ta.
 Our school-NOM last.year-in building-PL-ACC a.lot-ADV build-PAST-DEC
 ‘Our school built a lot of new buildings last year.’

(iv) Unique in Korean, the suffix *-tul* can co-occur with human classifiers and human nouns, but cannot co-occur with non-human classifiers and non-human nouns, as shown in Example 1.12 (Lardiere 2009, p. 204, Examples 28b and 27b).

- (1.12) a. salam-(**tul**) twu myeng
 human-PL two CL
 ‘two people’
- b. cip-(***tul**) twu chay
 house-PL two CL
 ‘two house’

(v) Similar to Chinese, and unlike English, the suffix *-tul* is incompatible with a generic interpretation, as shown in Example 1.13 (Lardiere 2009, p. 202, Example 20a).

- (1.13) Pendeo-gom-(***tul**)-eun poyudongmul i-da.
 panda-bear-PL-TOP mammal COP-DECL
 ‘A panda is a mammal.’/ ‘Pandas are mammals.’

(vi) Unique in Korean, there are two different *-tuls*: an ‘intrinsic’ *-tul*, which is optionally suffixed to a noun inside the case marker, as shown in Example 1.9; and an ‘extrinsic’ *-tul*, which is optionally attached to various constituents (which can be non-nominals, but have to be c-commanded by a plural subject within the same clause) outside the case marker, and yields a distributive interpretation, as shown in Example 1.14 (Lardiere 2009, p. 205, Example 30).

- (1.14) a. Salam-tul-i ku ai-eykey-**tul** ton-ul cwu-ess-ta.
 person-PL-NOM that child-DAT-EPL money-ACC give-PAST-IND
 ‘Each of the people gave that child money.’
- b. Salam-tul-i ku ai-eykey ton-ul cwu-ess-ta.
 person-PL-NOM that child-DAT money-ACC give-PAST-IND
 ‘People gave that child money.’

In summary, compared to typical non-classifier languages like English, plural marking in typical classifier languages like Chinese and Korean is optional, restricted in distribution, triggers additional interpretations, and shows complex interactions with classifiers. Though some researchers highlight the differences and propose that number is not represented in classifier languages (Chierchia 1998a, 1998b), it is undeniable that if we need a feature to account for the similarity shared by different plural forms in

different languages, the most relevant and appropriate feature would be the [plural] feature.

Lardiere suggests analyzing these cross-linguistic differences in terms of how the [plural] feature is represented in each language. To be specific, what morphological item does a language use to overtly realize the [plural] feature, whether the overt realization of the [plural] feature is obligatory or optional in a language, under what conditions the overt realization of the [plural] feature is obligatory, optional, or prohibited in a language, and with what other features the [plural] feature combines to yield additional interpretations.

The FRH (Lardiere 2009) considers language as a fully assembled set of features, and proposes that L2 acquisition requires the reassembly of features from the way they are represented in the L1 to the way they are represented in the L2. The FRH provides a fine-grained way of exploring the role of L1 grammar in L2 acquisition in terms of how features are assembled. Acquisition difficulty may be expected when features are assembled differently in the L1 and L2.

Such acquisition difficulty would not be anticipated by other feature-based L2 acquisition theories (to be reviewed in Chapter 2), such as the Failed Functional Features Hypothesis (FFFH) (Hawkins & Chan 1997), the Representational Deficit Hypothesis (RDH) (Hawkins & Hattori 2006), and the Interpretability Hypothesis (IH) (Tsimplici & Dimitrakopoulou 2007). These L2 theories assume that acquiring an L2 grammar requires selecting the L2 features. They all focus on whether an L2 feature is present or absent in the L1, and argues that this factor determines whether an L2 feature is acquirable or not. They differ from one another in the distinction of functional features (i.e. features associated with functional categories such as Complementizer, Tense, and Definiteness) vs. lexical features (i.e. features associated with lexical categories such as Noun, Verb, and Adjective) and interpretable features (i.e. features that make semantic contributions) vs. uninterpretable features (i.e. features that do not make semantic contributions).

There are two other aspects where the FRH differs from the FFFH, the RDH, and the IH (to be discussed in Chapter 2).

(i) As mentioned above, the FFFH, the RDH, and the IH explore the role of L1 in terms of feature selection, and make a distinction between functional vs. lexical features and interpretable vs. uninterpretable features; only new functional features and uninterpretable features that are absent in the L1 are claimed to be problematic in adult L2 acquisition. In accordance with the FRH,

on the other hand, lexical and interpretable features might also be problematic, as long as they are assembled differently in the L1 and L2, and new functional features and uninterpretable features are not necessarily more problematic; the FRH argues that the distinction between functional vs. lexical features and interpretable vs. uninterpretable features is irrelevant to L2 acquisition (Lardiere 2017).

(ii) The FFFH, the RDH, and the IH argue that acquisition difficulty caused by L1 transfer will be permanent, and adult L2 learners are not able to acquire new functional features and uninterpretable features that are not present in their L1. However, in accordance with the FRH, acquisition difficulty caused by L1 transfer can be overcome, and successful acquisition outcomes are possible but not guaranteed.

In this book, I select Chinese as the target language, and compare L2 Chinese learners whose L1 is English and L2 Chinese learners whose L1 is Korean, to test and develop the FRH. The language combination of Chinese, Korean, and English has been discussed in the classical paper on the FRH (Lardiere 2009), but has not been addressed in experimental studies yet. In addition to the plural suffix *-men*, which has been discussed in Lardiere (2009), this book will also investigate the L2 acquisition of classifier reduplication, which is another way of expressing plurality in Chinese (Zhang 2014).

1.3 Overview of this book

To investigate cross-linguistic representations of plurality in English, Chinese, and Korean, and the L2 acquisition of plurality in Chinese by English speakers and Korean speakers, this book provides two sub-studies: a theoretical study of how plurality is represented in terms of features in the three languages, and an experimental study testing the L2 acquisition of the features relevant to plurality.

The theoretical study

In the theoretical study (Chapter 3), I describe how plurality is represented in English, Korean, and Chinese, and propose relevant features to analyze cross-linguistic differences. The key points are as follows.

(i) The Chinese plural suffix *-men* is optional, restricted to human nouns, and has a specific reading; the Korean plural suffix *-tul* is optional, and has a specific reading; the English plural suffix *-s* is obligatory on count nouns. In terms of features, the English *-s*, the Korean *-tul* and the Chinese *-men* share

the [Number+plural] feature. The [Number+plural] feature is bundled with the [D+specific] feature in the Korean *-tul* and the Chinese *-men*, yielding the specific interpretation. The [Number+plural] and [D+specific] features are bundled with the [Animacy+human] feature in the Chinese *-men*, restricting *-men* to human nouns.

(ii) When a noun co-occurs with a demonstrative, plural marking is obligatory on the noun in Korean, obligatory on the demonstrative in Chinese, obligatory on both the noun and the demonstrative in English. This is analyzed as a difference in a condition on the realization of plural marking, namely the co-occurrence condition on plural marking with demonstratives.

(iii) When a noun co-occurs with a classifier, plural marking is prohibited in Chinese, and prohibited in Korean except for human classifier and human noun. This is analyzed as another difference in conditions on the realization of the plural marker, namely a co-occurrence condition on plural marking with classifiers. This condition is irrelevant in English, as English is not a classifier language.

(iii) Classifiers can be reduplicated to express plurality in Chinese: *yi Cl Cl* reduplication has an abundant reading, and *Cl Cl* reduplication has a distributive reading. These two types of classifier reduplication share the [Number+plural] feature. The [Number+plural] feature is bundled with the [Q+abundant] feature in *yi Cl Cl* reduplication, yielding the abundant interpretation. The [Number+plural] feature is bundled with the [Q+distributive] feature in *Cl Cl* reduplication, yielding the distributive interpretation.

(iv) In Korean, *-tul* can be used as an extrinsic plural maker: when it is attached outside a case-marker or to a non-nominal, and triggers a distributive reading. In terms of features, the [Number+plural] feature and the [Q+distributive] feature are proposed to be bundled together in the extrinsic *-tul*, yielding the distributive interpretation.

(v) English does not have abundant plural or distributive plural. In English, the [Q+abundant] and [Q+distributive] are proposed to be associated with the quantifier ‘many’ and ‘each’ respectively.

The experimental study

In the experimental study (Chapters 4, 5, 6), I design a Grammaticality Judgment Task (GJT) and a Truth Value Judgment Task (TVJT) to test the L2 acquisition of forms and interpretations concerning plurality in Chinese by intermediate and advanced English speakers and by intermediate and advanced

Korean speakers. The main findings are as follows.

(i) For the plural suffix *-men*, all the L2 groups have acquired its three features (i.e. [Number+plural] [D+specific] and [Animacy+human]), suggesting successful feature reassembly. Korean speakers perform better than English speakers in the [D+specific] feature, suggesting a role of L1 in feature reassembly, as [D+specific] is shared by the Korean *-tul* and the Chinese *-men*, but not by the English *-s*.

(ii) For the co-occurrence condition with demonstratives, except for the intermediate Korean learners, all the other L2 groups have acquired this condition. The results suggest that differences in conditions on feature realization between L1 and L2 can cause acquisition difficulty, but such acquisition difficulty can be overcome. English speakers perform better than Korean speakers, suggesting that acquisition outcome can be affected by the type of evidence needed: English speakers need positive evidence and Korean speakers need negative evidence to know that plural marking is obligatory on the demonstrative and optional on the noun in Chinese.

(iii) For the co-occurrence condition with classifiers, except for the intermediate Korean learners, all the other L2 groups have acquired this condition. Again, the results suggest that differences in conditions on feature realization between L1 and L2 can cause acquisition difficulty, but such acquisition difficulty can be overcome. English speakers perform better than Korean speakers in this condition, suggesting that lacking classifiers in the L1 English is not necessarily disadvantageous in acquiring linguistic properties involving classifiers.

(iv) For *yi Cl Cl* reduplication, only the two advanced groups have acquired the fact that only the numeral *yi* ‘one’ can occur in this type of classifier reduplication; again only the two advanced groups have acquired the [Num+pl] feature; none of the L2 groups have acquired the [Q+abundant] feature. The results suggest that the features of a composing lexical item can affect feature reassembly, as the numeral *yi* ‘one’ is distracting, which hinders L2 learners from detecting the [Num+pl] and [Q+abundant] features. The results also suggest that even when the [Q+abundant] feature is interpretable (i.e. features that make a semantic contribution) and present in the L1 (associated with the quantifier ‘many’), it is still hard to acquire.

(v) For *Cl Cl* reduplication, except for the intermediate English learners, all the other L2 groups have acquired the form of *Cl Cl* reduplication; all the L2 groups have acquired the [Number+pl] feature and the [Q+distributive]

feature. The results again suggest that the feature of a co-occurring lexical item can affect feature reassembly, as this type of classifier reduplication usually co-occurs with the particle *dou* (a distributive operator), which facilitates the detection of the [Q+distributive] and [Number+plural] feature.

(vi) Comparing the two ways of expressing plurality, L2 learners do better in reassembling the features of the plural suffix *-men* than classifier reduplication. The findings suggest that morphological complexity and input frequency can affect acquisition outcome, as classifier reduplication involves reassembling features (associated with a plural suffix) to a different syntactic category, and it is less frequent in the input (compared to a simple classifier phrase).

Plurality in L2 Chinese

Recall that in Section 1.1, I raised some research questions relating to the L2 acquisition of plurality in Chinese. The findings of this book shed light on these questions.

(i) Does an L2 learner of Chinese know that plurality can be expressed via the suffix *-men* and via classifier reduplication?

All the L2 groups that are tested in the study know that plurality can be expressed via the plural suffix *-men* and via *Cl Cl* reduplication. Only the two advanced L2 groups know that plurality can be expressed via *yi Cl Cl* reduplication.

(ii) Does an L2 learner notice the interpretational differences between these different plural forms?

All the L2 groups know that the plural suffix *-men* yields a specific interpretation, and *Cl Cl* reduplication yields a distributive interpretation; however, none of the L2 groups know that *yi Cl Cl* reduplication yields an abundant interpretation.

(iii) Which properties of plurality are easy to acquire, which are hard to acquire, and why?

For English speakers, classifier reduplication is harder to acquire than the plural suffix *-men* and its relevant conditions. For Korean speakers, the plural suffix *-men* is easier to acquire than its relevant conditions and classifier reduplication. L1 grammar plays a crucial role in explaining the pattern of acquisition outcome, in terms of differences in how plurality is represented between the L1 and L2, i.e. in what morpholexical item the plural feature is assembled, with what other features the plural feature combines, and under