Interpretations of Bare Nouns and the Plural Marker -*tachi* by English-speaking learners of Japanese*

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1   Introduction

This study investigates the second language (L2) acquisition of Japanese plural marker -*tachi* by English-speaking learners.   In English, count nouns are obligatorily marked for number, singular or plural.   However, in Japanese, plural marking is not obligatory.   Even when a noun refers to a plural entity, a plural marker is not often used.   However, there are optional plural markers in Japanese, one of which is -*tachi*, which has much more restricted use compared to the English plural marker.[1]   The goal of this study is to investigate whether English speakers come to have the knowledge of restrictions present in the Japanese plural marker, -*tachi*.

The acquisition of number marking in Japanese by English speakers involves allowing bare nouns to refer to plural entities as well as singular ones.   In addition, English speakers need to acquire that -*tachi* is only used with plural, animate and referential nouns.   In this paper, I adopt the general tenets of the Nominal Mapping Parameter (NMP) (Chierchia, 1998).   As we will see in detail in section 2, the NMP categorizes languages into three types.   Japanese and English belong to typologically different languages.   I assume that English speakers need to reset the parameter value of the NMP from the English value to the Japanese value.   After resetting the parameter, based on positive evidence, they must acquire the semantic features associated with -*tachi*.

Two existing hypotheses will be considered for the possibility of parameter resetting in L2 acquisition.   The Full Transfer/Full Access Hypothesis (FT/FA) (Schwartz & Sprouse, 1996) claims that learners' first language (L1) grammar is the initial state of L2 acquisition, and their interlanguage grammars (ILGs) are reconstructed based on positive evidence, interacting with

1   In addition to -*tachi*, there are other plural morphemes, such as -*ra*, -*domo*, and -*gata*.   While -*tachi* is neutral in politeness, these plural markers have differences in their degree of politeness (Nomoto, 2013).   Japanese also uses reduplication to express plurality for certain words, such as *hito-bito* 'person-person' and *ki-gi* 'tree-tree. ' The reduplication process, however, is not at all productive and can only appear with a number of primitive nouns (Martin, 1988).

principles and parameters of Universal Grammar (UG). L1 parameter values are assumed to transfer onto the L2 initial state (White, 1985); in the course of L2 acquisition, the parameter is reset if L2 input contradicts the L1 parameter setting. The FT/FA predicts that English speakers are able to reset the value of the NMP and are able to acquire the interpretations of bare nouns and plural marker *-tachi* since, as we will see later, positive evidence for parameter resetting is available in L2 input.

No UG Access Hypothesis (e.g. Clahsen & Hong, 1995; Bley-Vroman, 1990) claims that L2 learners lose their access to principles and parameters of UG after around puberty, and therefore parameter resetting is impossible. Learners are, instead, assumed to rely on pattern matching. Under such an assumption, they are predicted to be unable to show the target-like interpretations of bare nouns and the plural marker *-tachi*. On the surface, the use of the plural marker *-tachi* appears optional. Some plural nouns appear with *-tachi*, and others do not. If learners are simply trying to learn *-tachi* from its patterns of distribution, it would be used randomly and their interpretations of bare nouns and *-tachi* are predicted to be non-target -like.

The results from the present study showed that the majority of English-speakers demonstrated target-like interpretations of bare nouns and *-tachi* for the tested conditions. The results suggest that English-speaking learners are able to unlearn obligatory number marking, suggesting the resetting of the NMP, and that they are able to learn the semantic feature associated with Japanese plural marker *-tachi*. The results, therefore, support the full UG access hypothesis.

This paper is organized as follows: In the next section, the NMP and the interpretations of the plural marker *-tachi* in Japanese will be summarized. Section 3 describes previous studies of L1 and L2 acquisition relevant to the NMP and the optional plural marker found in classifier languages. The research questions and predictions are discussed in section 4, and the experiment will be presented in section 5. Section 6 discusses and concludes the findings.

2　Theoretical background

2.1　The Nominal Mapping Parameter

Japanese is categorized as a classifier language as it has a wide range of numeral classifier systems, bare nouns are interpreted as singular, plural or mass, and it lacks of obligatory plural marking (e.g., Greenburg, 1972; Chierchia 1998). The differences between classifier languages like Japanese and non-classifier languages like English have attracted a great deal of attention in the literature. The Nominal Mapping Parameter (Chierchia, 1998) is one of the proposals made to capture the typological differences regarding the interpretations and the distribution of noun phrases (NPs). The NMP claims that nouns can be categorized into two types: one is predicative [+pred], which denotes properties. Predicative NPs must combine with determiner (D) to be realized as arguments. The other is argumental [+arg], which is kind-denoting and does not have to combine with D and therefore bare arguments can be realized as arguments. Under the NMP, classifier languages including Japanese are [+arg, −pred], in which all nouns have mass extension, and refer to kinds. Bare nouns can appear

freely without a determiner or plural marking. Languages with the NP type of [−arg, +pred] include Italian and French, and in these languages, nouns cannot appear as bare nouns or bare plurals since NPs must be combined with D and projected into a determiner phrase (DP). The last type found in natural languages is of a type [+arg, +pred], which is the setting most Germanic languages including English adopt. In [+arg, +pred] languages, nouns can be either argumental or predicative. Mass nouns and bare plurals can be argumental and can appear as arguments without a determiner. However, count nouns may appear as predicates, combining with D.

Japanese is categorized as a [+arg, −pred] language, which all nouns have mass extensions, and therefore plural marking should be impossible. However, contrary to what the NMP claims, Japanese and many other classifier languages have optional plural markers. This could be viewed as a problem for the NMP (see, for example, Li, 1999; Nakanishi & Tomioka, 2004; Borer, 2005; Lardiere, 2009, for some arguments on this point). In the next section, the Japanese plural marker, -*tachi*, will be discussed in detail.

2.2 Japanese plural marking

As discussed above, in Japanese there is no count-mass distinction, and no obligatory number marking. Bare nouns can be interpreted as singular or plural. Also lacking are definite and indefinite articles. Thus, as shown in (1), countable nouns such as *gakusei* 'student' and *ringo* 'apple' can be interpreted as singular or plural as well as definite or indefinite.

(1) a. gakusei 'a student / students / the student / the students'
     b. ringo   'an apple / apples / the apple / the apples'

Although Japanese bare nouns can be interpreted as singular or plural, it has an optional plural morpheme, -*tachi*. Nouns suffixed with -*tachi* unambiguously refer to a plural entity, but it cannot be used with inanimate nouns, such as *ringo* 'apple.'

(2) a. gakusei-tachi   b. *ringo-tachi
        student-PL   apple-PL
        'students / the students'   'apples / the apples'

The plural marker, -*tachi*, can be suffixed to a pronoun or a proper name as in (3), as well as to common nouns (CN) as shown in (2a).[2]

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2 A plural marker attached to a pronoun or a proper name is called an associative use of a plural marker (e.g. Corbett, 2000; Moravcsik, 2003). As used in (3b), for example, -*tachi* is not an additive plural, like the plural marker in English, so it does not indicate that more than two people named John are playing. Rather, a phrase refers to the group of people represented by John. Associative plurals are common in natural languages. According to Daniel and Moravcsik (2005), 201 languages of a sample of 238 have a way to express associativity morphologically.

(3)   a. watashi-tachi   b. John-tachi
         I-PL   John-PL
         'we'   'John and people associated with him'

-Tachi is not only associated with the [+plural] feature, but it has been argued to be associated with the definite feature. *-Tachi* in (3a) and (3b) are interpreted as definite because it is attached to a pronoun and a proper name, which are definite.   However, it has been claimed that, when *-tachi* attaches to a common noun, it is also interpreted as definite.   Following a proposal made by Li (1999) on the plural marker in Mandarin Chinese *-men*, which has striking similarities to the Japanese *-tachi*, Ishii (2000) and Kurafuji (2004), and others, posit that common nouns suffixed with *-tachi* are also definite.

While adopting the claims made by Chierchia (1998), Kurafuji (2004) argues that, when used with the plural marker *-tachi*, Japanese human nouns act as predicative and can be pluralized.   Furthermore, Kurafuji assumes that *-tachi* is a definite marker, and therefore, when a [+human] NP combines with *-tachi* it is interpreted as a definite plural.

However, the definiteness effect of CN-*tachi* has been controversial.   For example, Nakanishi and Tomioka (2004) claim that definiteness is not the inherent semantic property of *-tachi*.   They argue that, although in most cases, nouns suffixed with *-tachi* are interpreted as definite, there is evidence that the use of *-tachi* does not always result in definiteness.   As examples, they give the sentences as in (4) and (5), showing that CN-*tachi* can be either definite or indefinite.

(4)   Otokonoko-tachi-ga asonde-iru.
       boy-PL-Nom   play-Prog
       '(The) boys are playing.'   (Nakanishi & Tomioka 2004: 113)

(5)   Kono kooen-de-wa itsumo kodomo-tachi-ga asonde-i-ru.
       This park Loc-Top always child-Pl-Nom   play-Prog-Pres
       always> child-tachi: 'In this park, there are always children playing.'
       child-tachi> always: 'A particular group of children is always playing in this park.'
                                                           (Nakanishi & Tomioka 2004: 121)

The semantic property of *-tachi* is under debate; however, given examples such as in (4) and (5), it seems difficult to maintain that CN-*tachi* is definite.   Nakanishi and Tomioka (2004), for example, claim that *-tachi* is associative, as in (3), even when it is attached to a CN, while Hosoi (2006) argues that it is specific.

In this paper, I will adopt Nomoto's (2013) analysis, who argues that CN-*tachi* is referential.[3]   He draws a parallel from Persian plural marking system (Ghomeshi, 2003).   In Persian, the plural marker *-hâ* attached to an NP is interpreted as definite.   However, Persian

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3   Downing (1996) also proposed that *-tachi* is referential.

has an indefinite marker *-i* and when it attaches to NP-*hâ*, it is interpreted as referential indefinite.　Since the definite marker is null in Persian, when *-hâ* is not attached with the indefinite marker NP-*hâ* it is interpreted as definite by default.　(6) summarizes the interpretations of NPs with their association to the plural marker *-hâ* and the indefinite marker *-i*.　For non-referential indefinites, the attachment of neither *-hâ* nor *-i* is allowed.

(6)　a. NP:　　　　non-referential indefinite
　　　b. NP-*hâ-i*: referential indefinite
　　　c. NP-*hâ*:　definite　　　　　　　　　　　　　(Nomoto, 2013: 116, (36))

Nomoto extends the interpretations obtained from Persian plural marking to Japanese and argues that, although in Japanese both definite and indefinite marking is null, when *-tachi* is attached to an NP, CN-*tachi* is interpreted as either referential indefinite or referential definite.　Nomoto argues that since definite is referential, the definiteness is often observed. Furthermore, some indefinite plural referents like *otokonoko-tachi* 'boy-PL' in (4) are referential indefinite.

　　What all the assumptions have in common is, in addition to being plural, the Japanese plural marker *-tachi* has an additional semantic property.　In fact, according to Corbett (2000), optional plural marking is found universally in languages like Japanese, in which bare nouns are number neutral.　According to Corbett, a plural marker is optionally used "when it matters and not automatically" (Corbett, 2000, p. 14).　"When it matters" differs from language to language. Corbett summarizes the use of number marking in Japanese-type languages as follows:

　　The following characteristics may favor specifying number: being the topic as opposed
　　to non-topic, first mention versus subsequent mention, referential versus non-
　　referential use, human versus non-human, definite versus indefinite'

　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(Corbett, 2000: 14)

"When it matters" in Japanese appears to be when the referent is plural, human, and referential.

　　In L1 acquisition, I assume that Japanese-speaking children acquire the conditions in which plural markers appear based on positive evidence and the NMP.　Since bare nouns can be singular or plural, and most importantly plural nouns do not obligatorily appear with a plural marker, in L1 acquisition, the NMP is set at the [+arg, −pred] value.[4]　Once the NMP is set at the value where bare nouns are allowed to refer to plural referents as well as singular referents, the morpheme *-tachi* cannot be treated simply as a plural marker, because bare nouns can be plural without a plural marker.　Instead, *-tachi* is only used referentially with human nouns (and some nouns referring to domesticated animals).　Japanese children are able to pick

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4　Chierchia (1998) proposes that the [+arg, −pred] value is the default.　If it is, Japanese
　　children do not change its value at all since they receive no evidence which motivates them to
　　change the parameter value.

up this feature associated with *-tachi*.   The research question for the current study is whether English-speaking learners of Japanese can.

3   Previous studies: Optional plural markers and the resetting of the NMP

Only a few studies have been carried out on the acquisition of optional plural markers in classifier languages.   Munn, Zhang, and Schmitt (2009) examined whether Chinese-speaking children correctly interpret the genericity of bare nouns and the definiteness associated with the Chinese plural marker *-men*.   Using a truth-value judgment task, the authors tested whether, in appropriate contexts, bare nouns are interpreted as generic, and CN-*men* is interpreted as definite by children between the ages of 3 and 10.   The results showed that, although children over the age of seven seem target-like, children below the age of six have difficulty with definiteness.   CN-*men* was interpreted as generic at about 55% for the 3- to 4-year-old group and about 35% for the 4- to 6-year-old group.   The younger children (under 6 years old) also had difficulty with plurality and the definiteness effect of *-men*.   These results demonstrate that the acquisition of certain aspects of *-men* takes time in L1 acquisition.

Hwang and Lardiere (2013) tested English-speakers' acquisition of the Korean plural marker *-tul*.   Korean *-tul* has two distinct uses.   One is intrinsic, and used similarly to the Japanese *-tachi*.   The other is extrinsic, which Japanese lacks.   They tested properties associated with *-tul*, such as animacy requirements, prohibition of the use of *-tul* with a numeral classifier, specificity, and distributive readings.   Most relevant to this study was specificity associated with the intrinsic use of *-tul*.   They found that, as proficiency levels rose, L2 learners were more target-like.   As for specificity interpretations, the advanced groups were not significantly different statistically compared to native controls.

There are a number of studies which investigated resetting of the NMP parameter (e.g. Snape, 2008; Ionin & Montrul, 2010; Cuza, Guijarro-Fuentes, Pires, & Rothman, 2012).   Snape (2008) investigated the possibility of resetting the NMP by Japanese- and Spanish-speaking learners of English using a grammaticality judgment task and a forced-choice elicitation task. English, Japanese and Spanish are categorized as all having different parameter settings according to the NMP.   To examine the resetting of the NMP, the author tested learners' acquisition of the mass-count distinction and the different types of definite DPs.   The results from his study showed that both Japanese- and Spanish-speaking learner groups were able to show overall accuracy in mass-count distinction although Japanese speakers tended to have difficulty with plural, mass nouns.   As for definite DPs, Japanese learners showed difficulties with the use of the definite article in mass and plural nouns under some contexts, such as anaphoric use of the definite article.   Although the Japanese speakers showed some difficulties with the definite article, the author concludes that the learners in both L2 groups are able to reset the NMP, evidenced by the learners' sensitivity to the mass-count distinction. Difficulties faced by Japanese learners are not because of failed parameter resetting, but because of failure to acquire appropriate pragmatic conditions for definite articles.

Ionin and Montrul (2010) examined generic interpretations in English by Korean- and Spanish-speaking learners of English.   In English, bare plurals are used for generic

interpretations.   In Spanish, the definite plurals are used and in Korean, bare nouns are used. Therefore, Ionin and Montrul expected that, if L2 learners transfer their L1 generic reference, Spanish speakers would likely interpret definite plurals as generic more frequently than Korean speakers.   The results confirmed their prediction.   At the intermediate level, the Korean intermediate learners were more accurate on the interpretation of definite plurals than the Spanish intermediate learners.   At the advanced level, however, the results from the Korean and Spanish groups were almost identical, showing that the Spanish speakers were able to recover from L1 transfer, and able to reset the NMP.[5]

As shown above, there have been studies investigating optional plural markers Chinese *-men* and Korean *-tul*, but to my knowledge, the acquisition of *-tachi* has never been experimentally investigated.   Furthermore, the resetting of the NMP has been a focus of a number of studies, but resetting the NMP from the [+arg, +pred] or [−arg, +pred] values to the [+arg, −pred] value has not been investigated.   The present study attempts to shed some light on the L2 acquisition of nominal expressions and number marking in Japanese, a [+arg, −pred] language.

4   L2 acquisition of *-tachi* by English speakers

4.1   Research questions

As shown in the previous sections, the Japanese plural marker *-tachi* is associated with a number of properties distinct from English plural morpheme *-s*.   Although both morphemes are associated with a plural feature, only *-tachi* is associated with [+referential] and [+animate] features.[6]   Assuming that learners' L1 grammar is the initial state of their L2 grammar, English speakers acquiring Japanese as an L2 are assumed to transfer singular/ plural number marking.   At this early stage of L1 transfer, English speakers are assumed to have no knowledge of the conditions in which *-tachi* is used.   Therefore, English speakers are assumed to allow *-tachi* to be used with plural, inanimate, non-referential nouns, as well as animate and referential nouns.   What this study is interested in investigating is whether English speakers come to acquire the conditions for the use of *-tachi*.   In other words, it will be investigated if English speakers use *-tachi* only for animate, referential nouns, but do not use it for inanimate, non-referential nouns.

Although the feature [±animate] associated with *-tachi* is an important property of *-tachi*, in this study, only [±referential] is tested.   The [±animate] feature will not be tested since the restriction related to animacy may be taught in the classroom or learned from a dictionary. The following in (7) is one definition given for *-tachi*:

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5   However, in Ionin and Montrul's (2010) study, the results showed that, even at the advanced level, definite plurals in English were not consistently interpreted as definite.   In the definite plural condition, both groups showed the average of 66% accuracy while the native control group showed the average of 90%.

6   See also Lardiere (2009) for the acquisition task faced by English speakers learning optional plural marking in Chinese and Korean.

(7)   A suffix indicating the plural, used for human beings and sometimes animals.
       (*Basic Japanese-English Dictionary*, 2004)

It is also possible that learners receive negative evidence, if they used *-tachi* with an inanimate noun.   As the prohibition of the use of *-tachi* with inanimate referents is an easily accessible rule of Japanese to most native speakers, they can offer this rule when a relevant mistake is made. Furthermore, indirect negative evidence could come into play. Although the effectiveness of indirect negative evidence in L2 acquisition is unclear, since animacy is a salient feature which is also manifested in English (for example, in pronouns), learners may notice that *-tachi* is, in fact, never used for inanimate nouns, and therefore, assume that it is inappropriate.[7]   Since it is possible that learners may have learned the restriction on the use of *-tachi* for inanimate referents by instruction or negative evidence, in this study, the focus will be put on the [+referential] feature of *-tachi*, which is not typically taught in classroom. Moreover, it is unlikely that native speakers of Japanese can give negative evidence on the rule that *-tachi* can only be referential, since Japanese native speakers without a linguistics background are not consciously likely to know this restriction.

4.2   Predictions

The interpretations of bare nouns and CN-*tachi* examined here can have one of the following outcomes:

(8)   Possible results
       a. English speakers use *-tachi* for all plural nouns, both referential and non
          -referential nouns.
       b. English speakers' use of *-tachi* is inconsistent.   They optionally use it for plural
          referential nouns and non-referential nouns.
       c. English speakers use *-tachi* for plural referential nouns but they do not for plural
          non-referential nouns.

 (8a) represents English plural marking.   Thus, if English speakers transfer their L1 plural marking, and are unable to go beyond L1 transfer, they are predicted to show the interpretation of *-tachi* in (8a).   The interpretation in (8b) represents the case where English speakers are unable to acquire the conditions in which *-tachi* is used, so they use it randomly.   Since *-tachi* does not always appear with nouns referring to plural entities, L2 learners may notice that

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7   In addition, learners' first encounter with *-tachi* is likely to be with pronouns, such as in *watashi-tachi*, 'I-PL' and *kanojo-tachi* 'she-PL.'   While *-tachi* is used with pronouns referring to humans, it cannot be used with inanimate pronouns; thus, *sore-tachi* 'it-PL' is impossible and taught that *sore* does not have a plural form.   The use of *-tach*i with human pronouns and the disuse of it with inanimate pronouns may help learners to acquire its restrictions toward inanimate nouns.

-tachi is not obligatorily used as a plural marker. However, if they are unable to acquire the conditions for *-tachi*, their "optional" use of *-tachi* does not match that of the target. The interpretations in (8a) and (8b) are predicted if English speakers have no access to UG, as discussed in the introduction, and therefore, are unable to reset the NMP and to acquire the semantic properties of *-tachi*.

If English speakers are able to reset the NMP to the Japanese value, bare nouns can refer to plural entities in their ILGs. Furthermore, if English speakers are able to associate the [+referential] feature with *-tachi*, they are able to arrive at the target-like interpretations of CN-*tachi*, as represented in (8c). Their acquisition of *-tachi* will support the full UG access hypothesis. The FT/FA predicts the convergence to the target grammar only when there is triggering evidence for restructuring of the ILGs. English speakers have evidence to reset the NMP from [+arg, +pred] to [+arg, −pred] since in Japanese bare nouns are used as arguments and they are number neutral. This type of evidence alone can be used as evidence for parameter resetting, because in English, count nouns are not used as bare arguments. In addition, this kind of evidence is presumably abundantly available from the very beginning of L2 acquisition, as such bare arguments are used in almost all sentences in Japanese. After resetting the NMP, English speakers furthermore must associate the [+referential] feature to *-tachi*. As discussed in section 2.2, it is a universal property of natural languages that classifier languages have optional plural markers, which are associated with features such as [+referential], [+topic], or [+definite]. Japanese input informs English speakers that in Japanese the optional plural marker is associated with the [+referential] feature, since *-tachi* is only used with referential nouns; therefore, if L2 learners have access to UG, the acquisition of *-tachi* is expected to be possible.

5　Study

5.1　Tested conditions

The goal of this study to show whether or not English-speaking learners of Japanese are able to acquire the semantic property [+referential] of the plural marker *-tachi*, which is unattested in their L1 plural marking. To test this research question, I chose two conditions that the use of *-tachi* is strongly dispreferred, and one condition which the use of *-tachi* is possible.[8]

One of the two conditions that the use of *-tachi* is dispreferred is a generic reference. As shown in (9b), CN-*tachi* cannot express genericity.

8　For plural, referential, human nouns, the use of *-tachi* is possible and sometimes preferred. However, it is not the case that the use of *-tachi* is always preferred for plural, referential, human nouns. It seems to me that the use of *-tachi* is preferred when the plurality of the referents is contextually relevant.

(9) Generics
 a. Itariazin-wa yooki-da.
  Italian-Top cheerful-Cop
  ✓ Generic: 'Italians are cheerful.'
  ✓ Non-generic 'Some group of Italians are cheerful.'
 b. Itariazin-tachi-wa yooki-da.
  Italian-PL-Top cheerful-Cop
  * Generic: 'Italians are cheerful.'
  ✓ Non-generic 'Some group of Italians are cheerful.'

<div align="right">(Nakanishi & Tomioka 2004: 114)</div>

Itariajin 'Italians' in (9a) can have a generic interpretation as well as a non-generic interpretation, while *itariazin-tachi* in (9b) is interpreted as referential, but not as generic. Since generic nouns such as *Itariajin* 'Italians' in (9a) are non-referential, the use of *-tachi* is likely to be prohibited.

 Another example in which *-tachi* is dispreferred is when it refers to non-specific referents. Non-specific nouns are non-referential, and therefore, again the use of *-tachi* with such nouns are dispreferred. (10b) shows that CN-*tachi* can only refer to specific nurses.

(10) Non-specific
 a. Sono byooin-wa kangofu-o sagasite-iru.
  That hospital-Top nurse-PL-Acc look for-Prog
  ✓ 'That hospital is looking for nurses (to hire).'
  ✓ 'There is a nurse / nurses that hospital is looking for.'
 b. Sono byooin-wa kangofu-tachi-o sagasite-iru.
  That hospital-Top nurse-PL-Acc look for-Prog
  * 'That hospital is looking for nurses (to hire). '
  ✓ 'There is a group of nurses that hospital is looking for.' (specific)

<div align="right">(Nakanishi & Tomioka 2004: 115)</div>

A bare noun *kangofu* 'nurse' can refer to either specific (referential) or non-specific nurses, but *kangofu-tachi* 'nurse-PL' can only be interpreted as referring to specific nurses.

 The conditions that the use of *-tachi* is possible are shown in (9b) and (10b). The use of *-tachi* is possible in (9b) and (10b) when CN-*tachi* refers to specific Italians and specific nurses. In the current study, two contrasts will be used: generic vs. referential and non-specific vs. referential.

5.2 Participants

 Seventeen native speakers of English and 15 native speakers of Japanese participated. L2 learners were recruited via classified ads on an Internet website and by word of mouth. The English speakers were tested in Gunma Prefecture and Fukuoka Prefecture in Japan. Native speakers of Japanese were undergraduate students at a university in Gunma Prefecture, Japan.

L2 learners were tested individually and controls were tested in small groups by the author in a quiet setting.　All participants took a cloze test that included 43 questions with multiple-choice answers adapted from the test used in Umeda (2008) to determine their Japanese proficiency.　L2 learners' proficiency scores ranged from 19 to 42, and they were considered to be from intermediate to advanced levels.　Biographical data and proficiency test scores are set forth in Table 1.　A Mann-Whitney U test showed that differences in mean scores on the proficiency test were statistically significant between the control group and the L2 group ($p <$ .0001).

Table 1:　Participants

Group	Mean age (range)	Length of study (range)	Length of residence in Japan (range)	Proficiency scores	
				Mean (range)	SD
English (n＝17)	37.1 yrs (24—58)	12.4 years (2—27)	8.9 years (1—27)	31.8 (19—42)	7.54
Control (n＝15)	20.1 yrs (20—21)			41.3 (39—43)	1.10

5.3　Test materials

　　The experimental test was in the form of a forced-choice task.　There were two types of test sentences, and each type was presented within two types of contexts.　The first sentence involved the contrast between generic and referential interpretations of a subject NP.　Each test sentence was presented within a context written in the participants' native language (in English for the L2 group, and in Japanese for the control group).[9]　After reading the context, participants read a Japanese sentence containing a choice between a bare noun and a CN-*tachi*.　Then they chose one of the two choices that they thought was more contextually appropriate.　Examples from the test are given in (11) and (12).　The Japanese sentence was written with Japanese characters and Chinese characters.　Chinese characters were accompanied by phonetic transcription in Japanese characters.

(11)　Generic vs. Referential
　　　a. Mr. Tanaka went to see his friend, Naoko, who has three boys.　He had never met them before but, as boys usually are active and like to play outside, he was thinking of taking them to a park.　However, they sat in front of the TV without moving the entire time.

9　The contexts were presented in Japanese for Japanese native speakers, but in these contexts, -*tachi* was never used.　Instead numeral classifiers were used.　For example, when referring to three boys already established in the context, they were referred to as, *san-nin-no kodomo* 'three-classifier-Gen child.'

> **Tanaka-san-wa (otokonoko/otokonoko-tachi)-wa genki-da   to**
> Tanaka-Mr.-Top (boy/boy-tachi)-Top   energetic-Cop Comp
> **omot-tei-ru.**
> think-Prog-Pres
> "Mr. Tanaka thinks that (boys/the boys) are energetic."

b. Junko and her three children were coming to visit Mr. Tanaka. Children usually don't like vegetables, but he knows that her children love them, so he made them a salad.

> **Tanaka-san-wa (kodomo/kodomo-tachi)-wa yasai-ga   suki-da** to
> Tanaka-Mr.-Top child/child-tachi)-Top   vegetable-Nom like-Cop Comp
> **omot-tei-ru.**
> think-Prog-Pres
> 'Mr. Tanaka thinks that (children/the children) like vegetables.'

In (11a), since the test sentence should refer to boys in general, rather than the specific group of children mentioned in the context, the target answer is *otokonoko*, 'boy,' rather than *otokonoko-tachi* 'boy-PL.' In (11b), on the other hand, based on the context, the test sentence should read 'the children like vegetables,' rather than children in general like vegetables, *kodomo-tachi* 'child-PL' should be preferred.

The second type of test sentences examined the contrast between non-specific and referential interpretations of noun phrases. Examples are shown in (12).

(12)   Non-specific vs. Referential

a. Ms. Araki works at an advertising agency. She needs two male models aged around 10 for an ad for a department store. She called a model agency today and asked if they could send two boys for the job.

> **Araki-san-Top (otokonoko/otokonoko-tachi)-o sagasi-tei-masu.**
> Araki-Mr.-Top (boy/boy-tachi)-Acc   look for-Prog-Pol
> "Ms. Araki is looking for (boys/the boys)."

b. Mr. Takeda runs an English school.   There are three classes in the afternoon, but the three teachers, Alan, Diana, and Jane, are not at the school yet.   Mr. Tanaka is now trying to reach them on their cell phones.

> **Takeda-san-wa (sensei/sensei-tachi)-o   sagasi-tei-masu.**
> Takeda-Mr.-Top (teacher/teacher-tachi)-Acc look for-Prog-Pol
> "Mr. Takeda is looking for (teachers/the teachers)."

Since (12a) includes no identification of the boys Ms. Araki is looking for, *otokonoko-tachi* 'boy-PL is inappropriate; therefore, *otokonoko* 'boy' should be chosen. However, in (12b), the teachers Mr. Takeda is looking for are identified within the context, so *sensei-tachi* 'teacher-PL is a preferred choice.

The participants were given no time limit for the experimental part of the test. Four

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(179)

tokens each were presented for the four conditions exemplified in (11) and (12), and eight distracters were included in the test.[10]   Thus, in total, the test contained 24 questions.   The test sentences were pseudo-randomized so that tests with the same type of sentences were sufficiently separated (at least four questions apart).

5.4   Results
5.4.1   Group results

   Overall results are presented in Table 2.   The score represents the number of tokens which CN-*tachi* was chosen.   Since the number of items for each type of test sentence was four, the maximum score is 4.   For generic (11a) and non-specific referents (12a), the use of -*tachi* is not appropriate, so the score should be close to 0.   In referential contexts (11b) and (12b), CN-*tachi* should be preferred (though it is not obligatory).   Therefore the score should be close to 4.   As can be seen from the results, the control group showed the expected distinctions between generic/referential and non-specific/referential contrasts; however, in the non-specific contexts in (12a), their choice for CN-*tachi* was somewhat higher than that for the generic contexts in (11a).   The learner group showed similar contrasts between generic and referential, and non-specific and referential compared to the control group.

   A Mann-Whitney U test was conducted to compare the results from the learner group and the control group.   The results were not statistically significant, except for the referential context in the Generic/Referential pairs (11b).   The results from statistical comparisons between the two groups are shown in Table 3.

Table 2:   Group Results — The Average Number of N-*tachi* Chosen (max.= 4)

Groups	Generic (11a)		Referential (11b)		Non-specific (12a)		Referential (12b)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
English group (n=17)	0.76	1.30	2.82	1.28	1.06	1.29	3.35	0.70
Control group (n=15)	0.13	0.51	3.73	0.45	1.40	1.54	3.60	0.50

Table 3:   Results of Between Group Comparisons (Probability)

Group	Generic (11a)	Referential (11b)	Non-specific (12a)	Referential (12b)
English vs. Control	0.114	0.027*	0.576	0.411

   Table 4 shows the results from the Wilcoxon single-rank test conducted for the two pairs of contrast, Generic vs. Referential and Non-specific vs. Referential.   It showed that, for both pairs, results were statistically significant.   This indicates that the distinctions between the two contexts were made for both pairs by both groups.

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10   The distracters tested learners' knowledge of singular and plural with respect to the use of -*tachi*.   In singular contexts, bare nouns should be chosen, and in plural contexts CN-*tachi* phrases are preferred, though that may not be obligatory.   The examples and results are given in Appendix A.

Table 4:　A Paired-sample Test Results (The Wilcoxon single-rank test)

Groups	Generic/Referential Pairs	Non-specific/Referential Pairs
English group (n=17)	0.001	0.001
Control group (n=15)	0.000	0.001

5.4.2　Individual results

　　Table 5 summarizes the number of the participants who showed less than 75% (three out of four tokens for each category) accuracy on the expected results. As can be seen in the table, all native speakers preferred using -tachi in the referential contexts. In non-referential contexts ((11a) and (12a)), some native speakers allowed the use of -tachi. The use of -tachi was allowed by more native speakers in the non-specific contexts than generic contexts.[11]

Table 5:　Individual Results — The Number of Participants with Less Than 75% Accuracy

Group	Generic (11a)	Referential (11b)	Non-specific (12a)	Referential (12b)
English Group	2	5	5	2
Control Group	1	0	6	0

　　There were a larger number of participants who did not use -tachi for the referential contexts in the L2 group than in the control group. There were seven learners in total who were non-target-like in the referential contexts. As for non-referential contexts, there were two learners who used -tachi in the generic contexts, and like the native-speaker group, there were a few participants who used -tachi under the non-specific contexts. The two learners who overused -tachi in the generic contexts also used -tachi in non-specific contexts (12a) and referential contexts (11b) and (12b). This means that they used -tachi in all the contexts.

　　What was found was that some English speakers under-used -tachi for referential contexts. As for the non-referential contexts, exactly the same tendency was found between the native speaker group and the learner group; more overuse of -tachi was found in the non-specific contexts than generic contexts.

6　Discussion and conclusion

The results from the control group showed that, although they clearly understood the

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11　One native speaker who used -tachi in generic contexts is also one of six native speakers who allowed the use of -tachi in non-specific contexts. She chose CN-tachi 2 out of 4 in the generic contexts, and 4 out of 4 tokens in the non-specific contexts, and therefore, she seems to freely accept -tachi in non-referential contexts. One may wonder if this participant was paying attention during the test. I believe she was because she didn't chose -tachi in singular contexts which were included in the task as distractors; thus, her lack of concentration is unlikely to be the reason why she overused -tachi.

distinction between generic and referential contrasts, they were not as clear about the distinction between non-specific and referential contrasts. On average, the use of *-tachi* for generic referents was 3%, but for non-specific referents, it was 35%.   The differences between these two types of referents might indicate a varying degree of acceptability in terms of the use of *-tachi*.   Based on those results, it seems that generic referents are less compatible with *-tachi* than non-specific referents.   However, the differences between generic and referential contrasts, and non-specific and referential contrasts, are still statistically significant, which demonstrates that, for native speakers, *-tachi* is less preferred for generic and non-specific referents than referential referents.   This was also evident in the individual results.

The results from the L2 group were not as clearly distinguished in the area of tested contrasts as those of the control group, but the overall results demonstrated that they also have target-like preferences for the use of bare nouns for generic and non-specific referents, and CN *-tachi* for referential plural nouns.   However, there was a significant difference between the control group and the L2 group in the Generic/Referential contrast (11b).   Some learners were less willing to use *-tachi* for referential plural nouns.   This result is difficult to interpret because the use of *-tachi* is not obligatory, and therefore, learners as well as native speakers, do not have to use *-tachi* in (11b).   However, since it is clearly shown that Japanese native speakers prefer *-tachi* here, the difference found between the native group and L2 group must be accounted for.   One possible explanation is that the test sentence in (11b) sounds natural as a generic sentence in isolation.   It may be that, because the learner group had to read contexts in English and the test sentence in Japanese, when they read the test sentence in (11b), they were influenced by the fact that (11b) being natural as a generic sentence and did not use *-tachi*, because they had an extra burden of switching languages when they took the test.   If this is the case, giving both test sentences and contexts in Japanese could reveal whether this was the cause of the difficulties the learner group faced.

I cannot offer any conclusive answer at this point, but the distinction between generic (11a) and referential (11b) was made by the L2 group, suggesting that the English speakers were able to acquire that *-tachi* can be used with referential plural nouns, and it cannot with non-referential nouns.

In addition to addressing the issue discussed above, there are a number of questions which require further investigation.   One of them is the issue of L1 transfer.   This study did not set out to investigate L1 transfer effects, since learners had to be at least at the intermediate level to be able to handle the task, and at their level, they were no longer at L2 inital state. However, there was some evidence of L1 transfer.   As mentioned in section 5.4.3, two English speakers allowed the use of *-tachi* in all four contexts (11a)-(12b).   This suggests that *-tachi* for them marks plurality rather than referentiality.   This is what their L1 plural marker does and thus these results can be taken as evidence of L1 transfer.   In fact, these two learners were some of the lower level learners among the English-speaking participants in this study. Therefore it is quite possible that L1 transfer is indeed the cause of their non-target-like interpretations of *-tachi*.   However, since the number of intermediate learners participated in this study is quite small, further research including learners at the beginning level and low-intermediate level is necessary to shed light on L1 transfer effects of plural marking.

Another remaining issue is that, in the experiment, the referential contexts were all [+definite], and no [−definite], [+referential] plural contexts were included. As mentioned in section 2.2, there were cases where *-tachi* is used for [−definite], [+referential] plural nouns. To examine whether or not L2 learners have the target-like interpretations of *-tachi* further, testing learners with plural nouns with [−definite], [+referential] features is necessary.

The aim of this study was to investigate whether English speakers are able to acquire the plural marker in Japanese, which exhibits distinct semantic properties compared to the English plural marker. The experimental results demonstrated that English-speaking learners are able to distinguish the contexts in which *-tachi* can be felicitously used and the contexts in which it cannot. These results suggest that English speakers are able to reset the NMP to the Japanese value and acquire the [+referential] feature of *-tachi* from positive evidence, supporting the full UG access hypothesis.

Appendix A: Distracters

a. Singular context

Daisuke is planning to throw parties this Saturday and Sunday. He wants to invite some of his classmates, Kenji, Kazuo, and Yoko. Daisuke invited Kenji and Kazuo to the party on Saturday, and Yoko to the Sunday party.

Daisuke-wa   (onnanoko/onnanoko-tachi)-o nichiyoobi-no paatii-ni

Daisuke-Top   (girl/girl-tachi)-Acc   Sunday-Gen   party-to

shootai-simasi-ta.

invite-Pol-Past

'Daisuke invited (a girl/girls) to the Sunday party.'

b. Plural context

Professor Yamada has three students in his seminar. In today's class, the professor gave a book by Jane Austen to Daisuke and Kazuo, and a book by Charles Dickens to Akiko. He asked the students to read them by next week.

Yamada-sensei-wa (gakusei/gakusei-tachi)-ni Austin-no hon-o   watasi-masi-ta.

Yamada-Prof-Top (student/student-tachi)-Dat Austin-Gen book-Acc give-Pol-Past

'Prof. Yamada gave (a student/students) Austin's book.'

c. Results

Table A: Group Results [Distracters] — The Average Number of N-*tachi* Chosen (Max.=4)

Groups	Singular (SD)	Plural (SD)
English group (n=17)	0.29 (0.58)	2.88 (1.49)
Control group (n=15)	0.60 (0.50)	3.33 (1.04)

There were no statistical differences between the English group and the control group in both singular and plural contexts (Singular: $p=0.114$, Plural: $p=0.455$).

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