THE SEMANTICS OF PLURALITY IN BURMESE

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I hereby declare that this thesis is my original work and it has been written by me in its entirety. I have duly acknowledged all the sources of information which have been used in the thesis.

This thesis has also not been submitted for any degree in any university previously.

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SUMMARY

Through original fieldwork, I investigate the semantics of plural morphemes in Burmese. I show that there are two types of plurals in the language, one being the general plural which is *twe*/*dwe* in the colloquial register and *myà* in the formal register. The other type of plural is the associative plural *tó*/*dó*. In the literature, plural expressions are often classified by whether their referent consists of a sum of atoms that are *homogeneous* or *non-homogeneous*. I argue that the notion of *homogeneity* is insufficient in capturing the differences observed amongst the inventory of plural expressions in Burmese. I suggest that a productive way to classify plurals is in terms of *extendedness*: whether the referents of plural expressions can include atoms that do not satisfy the relevant description of the overt nominal predicate in the expression. I thus report that plural expressions formed with *twe*/*dwe* and *myà* are consistently non-extending: they cannot include in their referent atoms that do not fit the nominal description(s) in the expression. In contrast, plural expressions formed with the associative plural *tó*/*dó* can have referents that extend to include individual(s) that are not named by its nominal(s).

I further report that the associative plural *tó*/*dó* has a non-extending, internal plural use, where the multiplicity inference is satisfied internally by the referents named in the plural expression. I propose a post-suppositional analysis for *tó*/*dó* that can account for both the regular associative use, as well as the internal plural use of *tó*/*dó*. Specifically, I argue that the contribution of *tó*/*dó* is an at-issue post-

suppositional meaning. I propose that the timing of the evaluation of the multiplicity inference (delayed as a post-supposition or not) is a point of cross-linguistic variation between associative plurals.

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ABBREVIATIONS

1	first person
2	second person
3	third person
ACC	accusative
ASSOC	associative plural
COMP	complementiser
CL	classifier
CN	Common Noun
CONJ	conjunction
Dem	Demonstrative
N	Noun
FUT	future
IMP	imperative
NEG	negation
NFUT	non-future
NOM	nominative
Num	Numeral
OBL	oblique
PERF	perfective
PL	plural
PN	Proper Noun
PROG	progressive tense
PAST	past tense
RC	Relative Clause
Q	question particle

CHAPTER 1
INTRODUCTION

This thesis is concerned with the semantics of plurals in Burmese. Many existing works on plurality describe the semantics of different plural expressions based on the notion of homogeneity, or uniformity. Consider the interpretation of the English bare plural indefinite:

(1) Joel owns guitars.

The first thing that stands out is the 'more than one', non-unary meaning component introduced by the plural morpheme the plural morpheme *-s*. Following Zweig (2009), I refer to this as the *multiplicity inference* of the plural morpheme *-s*. The inference that arises from (1) is that Joel owns more than one guitar. Additionally, the English plural expression refers to a plural sum that is *homogeneous* or *uniform*, in the sense of Nakanishi and Tomioka (2004) and Smith (2020). This means that every individual of the plural sum it refers to has the property named by the host of the plural morpheme: (1) asserts that Joel owns a set of entities of which every member is necessarily a guitar. In other words, the bare plural "guitar-s" denotes a plurality whose atomic parts are all individually guitars.

Moravcsik (2003) and Nakanishi and Tomioka (2004) were among the first to point out that the notion of homogeneity is important in distinguishing English-type bare plurals from associative plurals. Smith (2020) subsequently highlights similative plurals as another class of plural expressions that are non-homogeneous. English does not exhibit associative plurals or similative plurals, but they are in fact commonly attested in the languages of the world. For instance, Japanese famously exhibits both:

(2) **Japanese associative plurals:** (Smith 2020:13)

Taro-**tachi**-ga ki-ta.

Taro-TACHI-NOM come-PAST

'Taro and his associates came.'

(3) **Japanese similative plurals:** (Smith 2020:13)

Taro-**toka**-ga ki-ta.

Taro-TOKA-NOM come-PAST

'Taro and someone else like that came.'

Associative plurals are non-homogeneous, or non-uniform plurals: the referent of an associative plural expression is a plurality that is composed of individuals that do not uniformly have the named property of the host of the plural morpheme. *Taro-tachi* in (2) denotes a plural entity that includes Taro as the most prominent member, along with those associated with him in some way, possibly his friends, family, or colleagues. Crucially, the plural entity is *not* made up of multiple Taro's.

Similative plural expressions also have a non-homogeneous interpretation. The referent of a similative plural expression includes objects that do not share the property described by the nominal head. *Taro-toka* in (3) is understood to refer to Taro, and at least one other individual similar to Taro. Again, the plurality is *not* made up of multiple Taro's.

In this thesis, I argue that homogeneity or uniformity is not the only way of distinguishing regular plurals from associative plurals and similative plurals. I will suggest that a logically independent classification would be to define plural expressions in terms of whether or not their referent may extend to include atoms or parts that are not named by the nominal head. Burmese complex

plurals show that this is a necessary distinction to make for a comprehensive understanding of plural expressions. Burmese exhibits plural expressions that can be made up of two distinct nominals. Compare (4) involving the regular plural morpheme *twe*/*dwe* and (5) involving the associative plural *tó*/*dó*.

(4) Nga=gá **pàndhì-dwe leinmawdhì-dwe** weh-géh-deh.
1=NOM apple-PL orange-PL buy-PAST-NFUT
'I bought apples and oranges.'

(5) **Aun-dó Hlahla-dó** la-géh-deh.
Aung-ASSOC Hlahla-ASSOC come-PAST-NFUT
'Aung and Hlahla (and their associates) came.'

Both plural expressions in (4) and (5), in bold, refer to plural entities. The crucial difference between (4) and (5) is that the referent of the expression in (4) cannot include things that are not apples or oranges, but the referent of the expression in (5) may include individuals that are not Aung or Hlahla. Notice that this difference cannot be captured by the notion of homogeneity: both (4) and (5) are straightforwardly non-homogeneous since their referent are sums of individuals which satisfy different relevant descriptions.

Throughout this thesis, I will refer to plural expressions of the type in (5) as *extended plurals*. These are plural expressions whose referents can (and in some structures, must) be extended to include atoms that are not named by the nominal(s) in the expression. These therefore will include associative plurals, similative plurals, as well as the form of the plural expression in (5). The English-type bare plural and the plural expression in (4) are plurals that are *not extended*.

1.1 Organisation of thesis

This thesis is organised by the different forms of plural expressions attested in Burmese. I begin in Chapter 2 by discussing plural expressions that contain only one nominal predicate in Burmese. I call these "simplex plurals". In Chapter 3, I turn to plural expressions that contain more than one nominal predicate, and I refer to these as "complex plurals". As you can see in (6b), there are three types of complex plurals that I identify. The first type, discussed in section 3.1, involves a conjunction of nouns in the plural expression. Section 3.2 discusses the second type which have nominals formed in a symmetric structure, as in N-PL N-PL. Section 3.4 discusses similative plurals of the form N-PL *wh*-PL.

(6) a. **Simplex plural constructions:**

... NP-PL ...

b. **Complex plural constructions:**

... [NP CONJ NP]-PL ...

... NP-PL NP-PL ...

... NP-PL *wh*-PL ...

In chapter 4, I show how the thorough consideration of the semantic interpretation of plural expressions contributes to the formulation of a uniformed semantics of plural morphemes in Burmese. I highlight how the notions of extendedness and internal plurality gives us tools to pursue a post-supposition theoretical account for Burmese plural expressions.

1.2 Methods

Unless otherwise noted, the Burmese data in this thesis are novel data that has come out of my original fieldwork. The data were collected in 2020 from

primary fieldwork with two native speakers. The consultants are 24 and 25 years of age respectively, and were born in Myanmar before moving to live in Singapore.

The fieldwork conducted employs methods of semantic elicitation described in e.g. Matthewson (2004). Elicitation sessions were conducted with individual speakers separately, each typically lasting 1–1.5 hours. In the sessions I ask for three types of judgements: judgments of well-formedness, judgements about truth values in specific situations and judgements about felicity in specific situations. Judgements on well-formedness were elicited by asking questions such as 'Does this sentence sound like a possible sentence to you?' while presenting a sentence. Judgements about truth values were elicited by first describing a context in English, before presenting the Burmese sentence and asking if it can be truthfully used in the described context. Judgments about felicity were elicited by describing a context in English, before presenting a Burmese sentence and asking questions like 'Does this sentence sound OK to say in this context?' When needed, continuations and/or preceding utterances would also be used and these would be presented in Burmese. In communicating contexts, care was taken to minimise misunderstandings by keeping the descriptions short and simple. Where more complex situations are required, consultants would be asked to repeat the description of the situation back. Comments about interpretations are also always noted and used to triangulate judgements. The full range of elicitation techniques described here are used together to arrive at the claims about interpretation in this thesis. The judgements reported in this paper have been uniform across the two speakers, across multiple sessions, and disagreements and variation are otherwise noted.

CHAPTER 2
SIMPLEX PLURAL CONSTRUCTIONS

In this chapter, I document the use of Burmese plural morphemes in simplex plural noun phrases in Burmese. As mentioned in the previous chapter, I am using the term *simplex plurals* to refer to plural constructions containing one nominal head (7a), as opposed to complex plural constructions with more than one (7b).

(7) a. **Simplex plural constructions:**

... NP-PL ...

b. **Complex plural constructions:**

... [NP CONJ NP]-PL ...

... NP-PL NP-PL ...

... NP-PL *wh*-PL ...

As we will see, Burmese has three plural morphemes: *twe*/*dwe*, *myà* and *tó*/*dó*. I will show that *twe*/*dwe* and *myà* are general plurals that are very similar to the English plural *-s* in terms of its meaning. Burmese also has a different plural marker *tó*/*dó*. I will show that *tó*/*dó* is an associative plural that are in a number of ways similar to associative plurals crosslinguistically. In the description of each plural morpheme, I also investigate their meanings in range of environments varying in monotonicity.

The rest of this chapter structured as follows: I begin by introducing necessary background on Burmese with a specific emphasis on the interpretation of bare nouns in section 2.1. I then describe the syntactic and semantic properties of the general plurals *twe*/*dwe* and *myà* in section 2.2, as well as the associative plural *tó*/*dó* in section 2.3. In section 2.4, I show how plural pronouns are

formed using the associative plural *tó/dó*.

2.1 Background on Burmese and its bare nouns

Burmese is a Tibeto-Burman language spoken primarily in Myanmar. Burmese is commonly described as having two complementary registers: colloquial Burmese and literary Burmese. Colloquial Burmese is used in spoken conversations or informal writing. Literary Burmese is used orally in formal settings, such as in speeches or news broadcasting. One notable difference between the registers lies in differences in their functional-grammatical morphemes such as the sentence-final mood markers and nominalisers (Simpson 2008). This thesis concentrates on the facts for colloquial Burmese.

Syntactically, Burmese is a rigidly head-final language with basic SOV word order, although the arguments in the preverbal domain are relatively freely ordered. (8a) shows the canonical word order, and (8b) is OSV order presumably derived via scrambling of the accusative argument. Burmese has nominative-accusative case alignment, where the nominative case is *ká/gá* and the accusative case is *ko/go*. Case-markers, especially the accusative *=ko/go* may be dropped.

(8) a. Hlahla=gá Aun=go su-géh-deh.[2]
Hlahla=NOM Aung=ACC scold-PAST-NFUT

b. Aun=go Hlahla=gá su-géh-deh.
Aung=ACC Hlahla=NOM scold-PAST-NFUT
'Hlahla scolded Aung.'

2. Throughout this thesis, I follow the romanisation for Burmese employed in Okell (1994, 2010). The coda *q* represents a glottal stop and ă indicates a schwa. Underlyingly unvoiced syllable-intial consonants are voiced word-internally except after a gltotal stop or a schwa.

Burmese exhibits frequent argument drop. Verbs are conjugated for tense, aspect, negation, and mood. Conditionals, which will feature heavily in our discussion, are also formed with verbal morphology. The sentence in (9) illustrates some of these features.

(9) Thu pa-meh-hmàn thí-géh-yin cănaw mă-la-bù.
3 included-FUT-COMPL know-PAST-if 1 NEG-come-NEG
'If (I) had known that he would be here, I wouldn't have come.'

(Jenny and Hnin Tun 2016:267)

A schema of the Burmese nominal phrase is given in (10), taken from Lim and Erlewine (to appear) who build on descriptions in Soe 1999 ch. 3 and Simpson 2005. All plural morphemes follow postverbal adjectives and precede numerals and classifiers. Most adjectives follow the noun, although some do occur pre-nominally, such as adjectives that describe colour. Case-marking enclitics follow the entire noun phrase.

(10) **Burmese nominal schema (Lim and Erlewine to appear):**
(Dem) (RC) N (Adj) (PL) (Num-CL)

Moving on to the interpretation of the bare noun, consider (11) which has bare nouns in both subject and object position. First, notice that in the subject position, the bare noun can only have a definite reading, and in object position, the bare noun can have be both definite or indefinite (see Lim and Erlewine to appear for further details). Importantly for our purposes, bare nouns in Burmese do not seem to be number-neutral. In both subject and object position, they necessarily pick out singular referents and are incompatible with plural referents.

(11) **Burmese bare nouns:**

S'ăya=gá sa.ouq(=ko) weh-gèh-deh.

teacher=NOM book(=ACC) buy-PAST-NFUT

'The/#A teacher bought a/the book.'

'Teachers bought a book.'

'The teacher bought books.'

Bare nouns also do not receive generic or kind-reference readings. Instead, these interpretations would require the use of postnominal plural marking. For the intended generic reading in (12) and kind reading in (13), the noun must be marked by the plural morpheme, *twe/dwe* which we will see more of later.

(12) **Generic reading unavailable with bare noun:**

Sa.ouq-*(dwe)=gá nin-ătwehq kaùn-deh.

Book-PL=NOM 2-OBL good-NFUT

'Books are good for you.'

(13) **Kind reading unavailable with bare noun:**

Ămyo.dhămì-yèh-*(dwe)=gá shà-deh.

female-police-PL=NOM rare-NFUT

'Female police officers are rare.'

2.2 General plurals *twe/dwe* and *myà*

2.2.1 Syntactic distribution

The first type of plural morpheme attested in Burmese is what I will refer to as the *general plural*. There are two instantiations of the general plural: *twe/dwe*

and *myà*. Both *twe*/*dwe* and *myà* occur postnominally, right after the noun or after adjectives in some cases. *Twe*/*dwe* is commonly used in colloquial Burmese (14), whereas *myà* is mostly reserved for the literary register. This is shown in the following examples: (14) features the colloquial mood ending *teh*/*deh* on the verb and (15) has the literary mood ending *thi*/*dhi* on the verb (Simpson 2008). In the following examples, I also demonstrate that *twe*/*dwe* can be used with both human entities (14a, 15a), as well as non-human entities (14b and 15b). Generally, there is no animacy restriction on *twe*/*dwe* (Jenny and Hnin Tun 2016; Soe 1999). I will address the interpretation of the plural in the following section.

(14) ***Twe*/*dwe* in colloquial Burmese:**

a. Yèh-**dwe/*myà**=gá la-géh-**deh**.
police-PL=NOM come-PAST-NFUT
'Police officers came.'

b. C'ănaw=gá pàndhì-**dwe/*myà**=go weh-géh-**deh**.
1=NOM apple-PL=ACC buy-PAST-NFUT
'I bought apples.'

(15) ***Myà* in literary Burmese:**

a. Yèh-**myà/*dwe**=gá la-géh-**dhi**.
police-PL=NOM come-PAST-NFUT.LIT
'Police officers came.'

b. C'ănaw=gá pàndhì-**myà/*dwe**=go weh-géh-**dhi**.
1=NOM apple-PL=ACC buy-PAST-NFUT.LIT
'I bought apples.'

These examples in (14) and (15) involve common nouns. Aside from the difference in register, there does not seem to be a difference between *twe*/*dwe* and *myà* when used with count nouns. The claims in the literature about the compatibility of mass nouns with plural inflections are seemingly contradictory. On one hand, Jenny and Hnin Tun (2016) note that "the use of *twe*/*dwe* is usually restricted to nouns denoting countable entities, though there are exceptions, especially when *twe*/*dwe* is used to express a non-specific or generalised nouns" but they do not provide elaboration or examples for this claim. On the other hand, Soe (1999) reports that *twe*/*dwe* can follow mass nouns but *myà* cannot, supplementing the claim with the following contrasts in (16) which are also shared by my consultants.

(16) ***Twe*/*dwe* can modify mass nouns, but not *myà*:** (Soe 1999:60–61)

a. S'i-**dwe/*myà** p'ei-thwà-bi.
   oil-PL spill-go-PERF
   'The oil has spilt.'

b. S'à-**dwe/*myà** mă-t'éh-néh.
   salt-PL NEG-put-IMP
   'Don't put a lot of salt.'

c. Ye-**dwe/*myà** sin-koun-bi.
   water-PL splash-all-PERF
   '(They) have (all) been splashed with water.'

In other words, while Jenny & Hnin Tun say that *twe*/*dwe* is largely incompatible with mass nouns, Soe reports examples of *twe*/*dwe* used with mass nouns. If Jenny & Hnin Tun's observation about mass nouns is accurate, Soe's examples

in (16) could be examples of Jenny & Hnin Tun's exceptional category of "non-specific or generalised nouns." In my own fieldwork, I pursued Jenny & Hnin Tun's observation and found that other examples of non-specific or generalised mass nouns indeed resist *twe*/*dwe*. At the same time, mass nouns with more definite or specific interpretations are compatible with *twe*/*dwe*. Consider the following pairs in (17) and (18).

(17) a. **Thèh-(*dwe/*myà)**-dèh=hma p'ănaq pyauq-thwà-deh.
sand-PL-inside=LOC slipper lost-go-NFUT
'I lost (my) slipper in the sand.'

b. Di k'enche=ye **thèh-(dwe/*myà**)-dèh=hma ngá p'ănaq
this beach= sand-PL-inside=LOC 1.POSS slipper
pyauq-thwà-deh.
lose-go-NFUT
'I lost my slipper in the sand of this beach.'

(18) a. **Hsi-(*dwe/*myà**)=(gá) nin=ătwehq mă-kaùn-bù.
Oil-PL=NOM 2=OBL NEG-good-NEG
'Oil is bad for you.'

b. Di **hsi-(dwe/*myà**)=(gá) nin-ătwehq mă-kaùn-bù.
this oil-PL=NOM 2-OBL NEG-good-NEG
'This oil is bad for you.'

The pairs in (17) and (18) were set up in a way such that the relevant mass noun in the (b) examples have a more specific interpretation than their corresponding (a) examples. This is achieved by having the mass noun in a relative clause in (17b) and by adding a proximal demonstrative *di* in (18). As shown in the

examples, the non-specific mass nouns resist inflection by both *twe*/*dwe* and *myà*, whereas the (more) specific mass nouns in the (b) examples allow optional inflection with *twe*/*dwe*. *Myà* seems to be incompatible with mass nouns in all cases, consistent with Soe's (1999) description.

2.2.2 Semantic interpretation

Twe/*dwe* and *myà* are identical in the truth-conditional contribution they make in simplex plurals. For ease of reference, I repeat the basic examples here:

(19) a. ***Twe*/*dwe* is appropriate for colloquial Burmese:** **=(14a)**

Yèh-dwe=gá la-géh-deh.

police-PL=NOM come-PAST-NFUT

'Police officers came.'

True if more than one police officers came.

False if less than two police officers came.

b. ***Myà* is appropriate for literary Burmese:** **=(15a)**

Yèh-myà=gá la-géh-dhi.

police-PL=NOM come-PAST-NFUT.LIT

'Police officers came.'

True if more than one police officers came.

False if less than two police officers came.

(19a) and (19b) are true if two or more police officers came, and infelicitous if exactly one police officer came or no police officer came. In other words, they give rise to a multiplicity inference similar to English bare plural indefinites. In addition, the plural expression is interpreted *homogeneously*: every member of the set described by the nominal has the property named by the nominal host of the plural morphemes. So far, the descriptive meanings of *twe*/*dwe* and *myà*

are identical to that of English bare plurals.

From the examples in (19), it seems clear that Burmese plurals require multiplicity as part of their denotation. However, it has been observed since Krifka 2004 and Sauerland et al. 2005 that bare plurals cross-linguistically behave differently in other contexts, in particular downward-entailing contexts. This observation has been especially important in the formulation of the exact meaning contribution of plural morphemes. For this reason, my investigation of Burmese plurals will also consider the meaning of plurals in contexts varying in monotonicity. I will show that the Burmese *twe*/*dwe* and *myà* likewise does not always have a multiplicity inference. Before doing that, I first summarise some reasons to believe that the English bare plural does not include a multiplicity requirement as part of its denotation.

At first glance, it seems clear that multiplicity is part of the denotation of bare plurals because affirmative declaratives such as (20) have a clear multiplicity requirement.

(20) Police officers came yesterday.
$\rightsquigarrow$ More than one police officer came yesterday.

However, Krifka and Sauerland et al. show that the multiplicity inference seems to disappear in downward-entailing or non-monotonic environments, such as negation, polar questions and conditionals.

(21) a. Police officers didn't come yesterday.
$\rightsquigarrow$ Zero police officers came yesterday.
$\not\rightsquigarrow$ Less than two police officers came yesterday.

b. Q: Did police officers come yesterday?
A: Yes, one police officer came yesterday.

A': # No, one police officer came yesterday.

c. If police officers came, I'd be surprised.
   $\rightsquigarrow$ If one or more police officers come, I'd be surprised.

Observe that (21a) is not the logical negation of (20): (21a) does not mean that it is false that more than one police officers came. Rather, it means that no police officer came at all. Likewise, the multiplicity inference vanishes in polar questions, another downward-entailing environment. The polar question in (21b) is not asking specifically if multiple police officers came, but instead, an affirmative answer only requires that at least one police officer came. A similar effect is also observed when the plural is embedded in the antecedent of a conditional. The sentence in (21c) suggests that the speaker does not expect any police officer to come at all, not that they don't expect multiple police officers to come.

Based on these observations about plural NPs in downward-entailing contexts, we therefore conclude that bare plurals do not always require their multiplicity inference to hold. Examples of such work include Krifka 2004, Sauerland et al. 2005, de Swart 2006, Spector 2007 and Zweig 2009, all of whose proposals vary in their details, but share the common conclusion that the multiplicity inference is in fact a conversational implicature.

Returning to Burmese plurals, there is also evidence that the multiplicity inference of *twe*/*dwe* and *myà* vanishes in downward-entailing contexts. Because the truth conditions of *twe*/*dwe* and *myà* are identical, I only show examples with *twe*/*dwe* in the colloquial register here.

Consider the interpretation of *twe*/*dwe* plurals under the following downward-entailing environments. First, under negation, *twe*/*dwe* does not refer to a plural set. The negative assertion in (22) is true if there were zero police officers

who came, and false even if exactly one police officer came. This leads us to conclude that *twe*/*dwe* does not have a multiplicity inference under negation. If it did, we could expect (22) to mean that it is not true that multiple police officers came. This is *not* the reading attested.

(22) **No multiplicity condition under negation:**

Yèh-dwe **mǎ**-la-**bù**.

police-PL NEG-come-NEG

'Police officers didn't come.'

True if no police officers came.

False if one or more police officers came.

Likewise, the multiplicity inference of *twe*/*dwe* vanishes in polar questions. If exactly one police officer came, the polar question in (23) is answered with an affirmative answer, rather than a negative answer. In other words, the polar question in (23) is asking if there was any police officer that came at all. Since polar questions are another instance of a downward-entailing environment, this is support that the multiplicity inference of *twe*/*dwe* is absent in downward-entailing environments.

(23) **No multiplicity inference in polar questions:**

Q: Yèh-dwe la-géh-**là**?

police-PL come-PAST-Q

'Did police officers come?'

A: {✓Houq-teh./#Mǎ-houq-p'ù.} Yèh tǎ-yauq la-géh-deh.

{✓right-NFUT/#NEG-right-NEG} police one-CL come-PAST-NFUT

'Yes, one police officer came.' / # 'No, one police officer came.'

A similar effect is observed with conditionals. The conditional in (24) suggests that Su's happiness is guaranteed as long as one dog comes. Again, *twe*/*dwe* does not have a 'more than one' meaning in conditionals.

(24) **No multiplicity inference in conditionals:**

K'wè-dwe la-**yin**, Su=gá pyaw-meh.
dog-PL come-if Su=NOM happy-FUT
'If dogs come, Su will be happy.'

⇝ If one dog comes, Su will be happy.
⇝ If two dogs come, Su will be happy.
⇝ If no dog comes, Su will not be happy.

All in all, *twe*/*dwe* plurals do not always require multiplicity if its referent. In upward-entailing environments, it necessarily leads to a multiplicity inference. However, this requirement is not present in downward-entailing environments such as negation, polar questions, and conditionals.

2.3 Associative plural *tó*/*dó*

The second type of plural morpheme that exists in Burmese is the associative plural. As we have seen, *twe*/*dwe* and *myà* plurals denote a sum in which each atomic subpart is required to share the same property described by the nominal. For instance, *k'wè-dwe*, 'dog-PL' denotes a set of at least two entities, of which each member is a dog. In associative plurals, the plurality is composed descriptively of a core individual or group of individuals, along with those associated with the individual in some way, such as family members, friends, or colleagues. Associative plurals have been widely discussed in the literature. Some well-known examples are the Japanese associative plural with *tachi* (25a), Hungarian *ék* (25b), and the Afrikaans *hulle* (25c).

(25) a. **Japanese *tachi*:** (Moravcsik 2003:469)

Tanaka-**tachi**

Tanaka-ASSOC

'Tanaka and his family or friends or associates'

b. **Hungarian *ék*:** (Moravcsik 2003:469)

Péter-**ék**

Peter-ASSOC

'Peter and his family or friends or associates'

c. **Afrikaans *hulle*:** (den Besten 1996:14)

Pa-**hulle**

dad-ASSOC

'Dad and mom' / 'Dad and his associates'

The referent of (25a), for example, is composed of the "core individual" *Tanaka*, as well as those associated with him such as his family, friends, or colleagues. Associative plurals are necessarily non-homogeneous: not all individuals in *Tanaka-tachi* are *Tanaka*. Even though there are no associative plurals in English, Moravcsik (2003) highlights that associative plurals are in fact attested in 201 languages out of 238 surveyed. In this section, we will see that the associative plural in Burmese with *tó*/*dó* (at least in simplex plural constructions) behaves much like associative plurals cross-linguistically: they are compatible with animate nouns including proper names but resist inanimate descriptions, they have a non-homogeneous plural inference, and they have a multiplicity inference in both upward-entailing and downward-entailing environments.

2.3.1 Syntactic distribution

Cross-linguistically, the use of associative plurals is restricted to animate expressions, or even only human beings (Moravcsik 2003). This animacy requirement is also true of Burmese associative plurals with *tó/dó*: *tó/dó* can only be used with human entities (26a) and not with non-human ones (26b)[3].

(26) ***Tóu* has an animacy restriction:**

a. Su=gá **yèh-dó**=go twé-géh-deh.
Su=NOM police-ASSOC=ACC meet-PAST-NFUT
'Su met a police officer/police officers and their associate(s).'

b. *Aun=gá **pàndhì-dó** weh-géh-deh.
Aung=NOM apple-ASSOC buy-PAST-NFUT

A common characteristic of associative plurals is that it can be used with proper names. We have seen this in Japanese in (25a) and Hungarian in (25b). This is true of the Burmese associative plural *tó/dó*, as shown in (27). The homogeneous plural *twe/dwe*, on the hand, can't be used with proper names, except under the odd interpretation referring to a group of people whose names are all *Aung*.

(27) ***Tóu* can have a proper name as its host:**
Aun-dó/*dwe=(gá) la-géh-deh.
Aung-ASSOC/PL=NOM come-PAST-NFUT
'Aung and his associates came.'

3. Animals can take *tó/dó* only if they are highly animate. For example, *c'inte-dó*, 'lion and its associates' could be used in a context where the lion is a character in a story or a religious text.

Cross-linguistically, it is common for associative plurals to display a definiteness requirement: the associative plural phrase must be interpreted as definite (Moravcsik 2003). This generalisation does not hold of *tó*/*dó*. As (28) demonstrates, a *tó*/*dó* phrase can in fact be the pivot argument of an existential construction. Since the argument of existential clauses only take indefinites as its pivot argument, it follows that *tó*/*dó* phrases are not subject to the definiteness requirement. In this respect, the Burmese associative plural differs from Hungarian *ék* and Afrikaans *hulle* (Moravcsik 2003), but behaves like Japanese *tachi* (Nakanishi and Tomioka 2004; Smith 2020).

(28) ***Tóu* plurals can be indefinite:**

Pànjan-dèh=hma k'ălè-dó shí-deh.

park-inside=LOC child-ASSOC exist-NFUT

'There were children at the park.'

2.3.2 Semantic interpretation

Tóu plurals in upward-entailing contexts necessarily have a multiplicity inference. *Tóu* picks out a sum of more than one individual. (29a) is true if Su met at least one police officer *and* their associate(s). It can also truthfully be used where Su met a group of police officers. (29a) is false if Su only met one police officer, or if she only met the police officer's associate(s) but not the police officer themself. Likewise, (29b) is true if both Aung *and* his associates come, and false if only Aung comes.

(29) a. Su=gá **yèh-dó**=go twé-géh-deh.

Su=NOM police-ASSOC=ACC meet-PAST-NFUT

'Su met a police officer/police officers and their associate(s).'

True if Su met one or more police officer and their non-officer associate(s).

True if Su met more than one police officer.

False if Su met one police officer and no associate.

False if Su met no police officer but met their associate(s).

b. **Aun-dó** la-géh-deh.

Aung-ASSOC/PL come-PAST-NFUT

'Aung and his associates came.'

True if Aung and at least one of his associates come.

False if Aung came with no associates.

False if Aung didn't come but his associates did.

Crucially, the plural inference of *twe/dwe* is *non-homogeneous*: the plurality is composed of a core individual, or a group of individuals, along with other individuals that are socially related to the individual.

In section 2.2 we saw that the multiplicity inference of *twe/dwe/myà* does not survive in downward-entailing environments. Here, the associative plural *tó/dó* is different: *tó/dó* retains its multiplicity inference in downward-entailing environments. First consider the interpretation of *tó/dó* under negation, as in (30). (30) entails that both Aung and at least one of his associates did not come. (30) is false if only Aung came. We see that under negation, the plural expression of *tó/dó* still has a "more than one" inference.

(30) ***Tóu* retains multiplicity inference under negation:**

Aun-dó mă-la-géh-bù.

Aung-ASSOC NEG-come-PAST-NEG

'Aung and his associates didn't come.'

True if both Aung and his associates did not come.

False if Aung came and his associates did not come.

False if Aung's associates came and Aung did not come.

In the antecedent of conditionals, *tó*/*dó* also retains its multiplicity meaning component. (31) implies that Su's happiness is only assured if both Aung and his associates come. If only Aung comes, or only his associates come, Su's happiness is not guaranteed.

(31) ***Tóu* retains multiplicity inference in conditionals:**

Aun-dó la-yin, Su=gá pyaw-meh.

Aung-ASSOC come-if Su=NOM happy-FUT

⇝ If Aung and his associates come, Su will be happy.

⇝ If only Aung comes, Su is not guaranteed to be happy.

⇝ If Aung didn't come and his associates come, Su is not guaranteed to be happy.

Finally, *tó*/*dó* in a polar question also has a multiplicity inference, as shown in (32). The polar question in (32) can only be answered affirmatively if both Aung and his associates came. As demonstrated in (32A2), the polar question should not be answered affirmatively if only Aung came, or if only his associate comes.

(32) Q: Aun-dó la-géh-là?
Aung-ASSOC come-PAST-Q
'Did Aung and his associates come?'

A1: Houq-teh. Aun =néh Hlahla la-géh-deh.
right-NFUT Aung =CONJ Hlahla come-PAST-NFUT
'Yes. Aung and Hlahla came.'

A2: #Houq-teh. Aun=gá la-géh-deh.
right-NFUT Aung=NOM come-PAST-NFUT
'Yes, Aung came.'

Smith (2020) observes that cross-linguistically, associative plurals seem to differ from other attested varieties of plurals in exactly this way: associative plurals have a multiplicity inference in both upward and downward-entailing contexts, whereas other varieties of plurals do not have the multiplicity condition in downward-entailing contexts.

2.4 Plural pronouns

The modification of pronominal forms to form plural pronouns is possible exclusively with *tó*/*dó*; *twe*/*dwe* is not used to express plural pronouns. Table 1 summarises the expressions of plural pronouns. The list of pronominal forms in Table 1 is non-exhaustive. Even though Burmese used to have a closed class of personal pronouns, the pronominal paradigm has since been expanded by the use of kinship terms and professional and social terms (Jenny and Hnin Tun 2016:60). The common pronominal forms now are also sensitive to levels of politeness which is in turn influenced by social status, as well as the gender of the speaker and addressee.

	Burmese	Translation
first person	nga-dó 1-ASSOC	‘we’ (informal)
	c’ănaw-dó 1-ASSOC	‘we’ (polite, male speaker)
	c’ămá-dó 1-ASSOC	‘we’ (polite, female speaker)
second person	mìn-dó 2-ASSOC	‘you all’ (informal, male speaker)
	nin-dó 2-ASSOC	‘you all’ (informal, female speaker)
	k’ămyà-dó 2-ASSOC	‘you all’ (polite, male speaker)
	shin-dó 2-ASSOC	‘you all’ (polite, female speaker)
third person	thu-dó 3-ASSOC	‘they all’

Table 1: Burmese plural pronouns

CHAPTER 3
COMPLEX PLURAL CONSTRUCTIONS

In this chapter, I discuss plural expressions that involve more than one nominal predicate. I identify three types of plural expressions in Burmese that fall under this category and they are represented schematically in (33b).

(33) a. **Simplex plural constructions:**

... NP-PL ...

b. **Complex plural constructions:**

... [NP CONJ NP]-PL ...

... NP-PL NP-PL ...

... NP-PL *wh*-PL ...

In section 3.1, I will first address [N CONJ N]-PL expressions, where the host of the plural morpheme is a conjunction of noun phrases. I refer to these as *noun phrase conjunction plural expressions*. In section 3.2, I turn to look at the bare conjunction N-PL N-PL.

In the existing literature, cross-linguistic work on such conjoined plural expressions has been scant. It turns out that, at least in Burmese, a consideration of such conjoined plural expressions is important for a precise semantics of plural morphemes. A crucial empirical contribution of this chapter is going to be the observation of *internal plural readings*: where the named individuals in a conjunction of associative plurals internally satisfy their multiplicity requirements. The availability of such an internal plural reading has to my knowledge never before been described in the literature, in any language.

In section 3.4, I document the meaning of plural expressions formed with the *wh* phrase *ba*, 'what'. I will show that N-PL *wh*-PL constructions have meanings

that coincide with what are known as similative plurals in the literature (Smith 2020).

3.1 Noun phrase conjunction plurals

In the discussion of simplex plurals, we considered constructions where the hosts of plural morphemes described a single nominal predicate. This section is concerned with what happens when the nominal host is a conjunction of nouns. I will consider, in turn, the conjunction of proper names, non-human nouns, and human common nouns.

3.1.1 Animate nominal predicates: proper names

First, (34) involving proper names is only compatible with *tó*/*dó*, preserving the generalisation that only *tó*/*dó* can modify proper names.[4]

(34) **[Hlahla =néh Aun] =✓dó/*dwe** la-géh-deh.
Hlahla =CONJ Aung =ASSOC/PL come-PAST-NFUT
'Hlahla and Aung came.'

True if Hlahla and Aung came with no associate.

True if Hlahla, Aung, and their associate(s) came.

False if Hlahla didn't come.

False if Aung didn't come.

4. Notice that the structure that I am interested in for the discussion here is [A and B]-PL. In these examples, there is a possibility for the structure to also have a parse as [A and [B-PL]]. The former interpretation tends to arise when the conjoined arguments are more closely related, intrinsically or as a result of the context. For example, apples and oranges in (37) seem to have a strong enough lexical association, whereas teachers and students in (36) can be made to have a stronger association using the adjunct 'from school'.

As an example, the [A and [B-PL]] parse is more apparent when the conjoined nouns are more semantically unrelated, such as books and oranges, as shown in (i). Because books and oranges do not naturally have a strong semantic association, the interpretation that arises from (i) is that one book and multiple oranges were bought, unless there is reason in the context to group books

When presented with the example in (34), both of the Burmese speakers consulted volunteer the comment that the "most natural interpretation" that arises is that only Aung and Hlahla came, although it can also mean that Aung, Hlahla and their associates came. Smith (2020) describes an interpretation like that as *weakly non-homogeneous*. This means that the set picked out by the plural construction can be comprised solely of the overtly named individuals, and then optionally include their associates. The non-homogeneity inference here is weakened compared to when *tó*/*dó* is used in a simplex plural. For comparison, I repeat in (35) the example of simplex plural *tó*/*dó* we saw in (27):

(35) **N-*tó*/*dó* is strongly non-homogeneous:** =(27)

Aun-dó la-géh-deh.

Aung-ASSOC come-PAST-NFUT

'Aung and his associates came.'

True if Aung and at least one of his associates come.

False if Aung came with no associate.

False if Aung didn't come but his associates did.

Recall that (35) requires not only that Aung comes, but that he comes with at least one associate. Smith (2020) describes this as a *strongly non-homogeneous* interpretation, because the plurality necessarily involves the individual that is overtly named *and* some other individual(s) not in the overt description.

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and oranges together.

(i) C'ănaw=gá **sar.ouq =néh leinmawdhì -dwe** weh-géh-deh.
1=NOM book =CONJ orange -PL buy-PAST-NFUT
'I bought the book and oranges.'

3.1.2 Animate nominal predicates: common nouns

Conjoined animate common nouns are compatible with both *twe*/*dwe* and *tó*/*dó* albeit with some important differences in their interpretation.

(36) a. **[S'ăya =néh caùn.dhà] =dwe** caùn=gá la-géh-deh.
teacher =CONJ student =PL school=from come-PAST-NFUT
'Teachers and students came from school.'

True if one teacher and one student came.
True if more than one teacher and more than one student came.
False if teachers, students, and their associates came.

b. **[S'ăya =néh caùn.dhà] =dó** caùn=gá la-géh-deh.
teacher =CONJ student =ASSOC school=from come-PAST-NFUT
'Teachers and students (and their associate(s)) came from school.'

True if one teacher and one student came.
True if more than one teacher and more than one student came.
True if teachers, students, and their associates came.

Notice that (36a) and (36b) are similar in that both require that at least one teacher *and* one student came. The plural expression as a whole has a multiplicity inference i.e. the plurality of the whole expression requires at least two atoms in the sum. Interestingly, the multiplicity requirement of both *twe*/*dwe* and *tó*/*dó* in noun conjunction plurals can also be satisfied by just one of each of the named nominals: the examples in (36) can be uttered truthfully in a context where only one teacher and one student came. I call this the possibility of the *internal plural reading*: the intuition is that the multiplicity requirement of the plural expression is satisfied *internally* by its parts.

(36a) and (36b) crucially differ in whether they allow the referent plural sum to

include entities that are neither teachers nor students. With *twe*/*dwe* in (36a), the plural expression is not domain-extending: the referent does not include entities that are not in the domain of the overtly-named nominals: teachers and students. On the other hand, the plural expression with *tó*/*dó* in (36b) is domain-extendable: the referent of the plural expression can include entities that do not have the property of being a teacher or a student. The referent of *[săya néh caùn.dhà]-dó* can perfectly well include associates of the teachers and students who may not be teachers or students themselves.

3.1.3 Inanimate nominal predicates

Turning now to inanimate nominal predicates, *twe*/*dwe* is an appropriate plural morpheme but not *tó*/*dó*, unsurprisingly since *tó*/*dó* is generally restricted to human nouns.

(37) C'ănaw=gá **[pàndhì =néh leinmawdhì] =dwe/*dó** weh-géh-deh.
1=NOM apple =CONJ orange =PL/ASSOC buy-PAST-NFUT
'I bought apples and oranges. '

True if speaker bought one apple and one orange.
True if speaker bought more than one apple and more than one orange.
False if speaker bought apples, oranges, and something else.
False if speaker bought apples and no oranges, or oranges and no apples.

Once again, the plural expression allows the internal plural reading where only one apple and one orange was bought. The plural expression is also non-extending: the referent of the plural expression does not and may not include atoms that are not within the domain of the nominal predicates in the expression. This accords with the behaviour of animate noun phrase conjunction plurals with *twe*/*dwe*, as in (36a) above.

3.1.4 Noun conjunction plurals in downward-entailing environments

Now, we will consider the interpretation of noun phrase conjunction plurals in downward-entailing environments, starting with the conjunction of proper names. Under negation (38) and in polar questions (39), the multiplicity inference is retained. (38) requires that both Hlahla and Su did not come and would be false if either of them turns up. The polar question in (39) must not be answered affirmatively if only Hlahla came, or if only Su came.

(38) **Multiplicity of *tó*/*dó* retained under negation:**

[Hlahla =néh Su] =dó mă-la-géh-bù.

Hlahla =CONJ Su =ASSOC NEG-come-NEG

'Hlahla and Su didn't come.'

True if Hlahla didn't come and Su didn't come.

False if Hlahla came and Su didn't come.

False if Su came and Hlahla didn't come.

(39) **Multiplicity retained in polar questions:**

Q: **[Hlahla =néh Su] =dó** la-géh-là?

Hlahla =CONJ Su =ASSOC come-PAST-Q

'Did Hlahla and Su come?'

A1: Houq-teh. Hlahla =néh Su la-géh-deh.

right-NFUT Hlahla =CONJ Su come-PAST-NFUT

'Yes. Hlahla and Su came.'

A2: Hlahla=gá la-géh-deh.

right-NFUT Hlahla=NOM

'Yes, Hlahla came.'

Turning to non-human noun conjunctions which are compatible only with *twe*/*dwe*, the multiplicity inference is absent in downward-entailing environments. (40) requires that the speaker bought zero apples and zero oranges; it is not a negation of the assertion that more than one fruit was bought. The same effect is found in the scope of polar questions, as in (41). The polar question should be answered affirmatively even if only apples were bought, indicating that the question is about whether any apple or orange was bought at all, rather than whether apples *and* oranges were bought.

(40) **No multiplicity inference of *twe*/*dwe* under negation:**

C'ănaw=gá **[pàndhì =néh leinmawdhì] =dwe** mă-weh-géh-bù.
1=NOM apple =CONJ orange =PL NEG-buy-PAST-NEG
'I didn't buy (any) apples or oranges.'

(41) **No multiplicity inference of *twe*/*dwe* in polar questions:**

Q: Hlahla=gá **[pàndhì =néh leinmawdhì] =dwe** weh-géh-là?
Hlahla=NOM apple =CONJ orange =PL buy-PAST-Q
'Did Hlahla buy apples and oranges?'

A1: Houq-teh. Hlahla=gá pàndhì hnă-loùn leinmawdhì ngà-loùn
right-NFUT Hlahla=NOM apple two-CL orange five-CL
weh-géh-deh.
buy-PAST-NFUT
'Yes. Hlahla bought five apples and two oranges.'

A2: {✓Houq-teh./#Mă-houq-p'ù.} Hlahla=gá pàndhì=go weh-géh-deh.
{✓right-NFUT/#NEG-right-NEG} Hlahla=NOM apple=ACC come-PAST-NFUT
✓'Yes, Hlahla bought an apple.' / # 'No, Hlahla bought an apple.'

3.1.5 Section summary

I summarise the interpretations of noun phrase conjunction plurals in Table 2.

	UE environments			DE environments
Expression	Multiplicity inference	Internal plural reading	Extended plural	Multiplicity inference
[PN CONJ PN]=*tó*	✓	✓	✓	✓
[CN CONJ CN]=*tó* (human)	✓	✓	✓	✓
[CN CONJ CN]=*twe* (human)	✓	✓	×	×
[CN CONJ CN]=*twe* (non-human)	✓	✓	×	×

Table 2: Summary of noun phrase conjunction plurals

The type of the conjoined nominals determine which plural morpheme the conjunction can take. The plural morpheme in turn determines the semantic interpretation of the noun conjunction plural expression. Regardless of the type of nominal predicate, the [N CONJ N]-*tó*/*dó* constructions always allow both internal plural and extended plural readings.

3.2 N-PL N-PL constructions

This section is concerned with plural constructions of the form N-PL N-PL, where the plural morpheme can be the general plural markers *twe*/*dwe* and *myà* or the associative plural *tó*/*dó*. The two instances of the plural morphemes are necessarily the same one, i.e. grammatical forms include X-*twe*/*dwe* Y-*twe*/*dwe*, X-*myà* Y-*myà*, or X-*tó*/*dó* Y-*tó*/*dó*. Attempts to construct complex plurals where the plural morphemes are mismatched lead to ungrammaticality in all cases.

We will see that *twe*/*dwe*/*myà* and *tó*/*dó* have different syntactic distributions and give rise to different truth conditions in complex plural constructions. Again, this section is organised by different possible kinds of nominal predicates. I begin with proper names (PNs) in section 3.2.1, then I address animate common nouns (CNs) in section 3.2.2, followed by inanimate nouns in section 3.2.3.

3.2.1 Animate nominal predicates: proper names

With proper names as arguments, only the associative plural *tó*/*dó* can be used, again preserving the previous generalisation that only *tó*/*dó* is compatible with proper names, and *twe*/*dwe* and *myà* are not. (42) can be used truthfully to describe a situation where only Aung and Hlahla came (an internal plural reading), or if Aung, Hlahla, and a group of people associated with either or both of them came. (42) cannot be used truthfully if either Aung or Hlahla did not come.

(42) **N-PL N-PL with proper names:**

Aun-dó/*dwe/*myà Hlahla-dó/*dwe/*myà la-géh-deh.

Aung-ASSOC/PL Hlahla-ASSOC/PL come-PAST-NFUT

'Aung and Hlahla came.' or 'Aung, Hlahla, and their associate(s) came.'

True if Aung and Hlahla came.

True if Aung, Hlahla, and their associate(s) came.

False if Aung came but Hlahla didn't.

False if Hlahla came but Aung didn't.

This means that the plural expression, as a whole, has a multiplicity inference since the plurality necessarily contains more than one atom. Additionally, N-PL N-PL constructions with proper names are an extended plural: its referent can be extended to include entities that are not in the domain of the nominal

descriptions.

The multiplicity inference is retained in downward-entailing contexts. Considering polar questions, the example in (43) can only be answered affirmatively if Aung and Hlahla come (43A1). If only Aung or only Hlahla comes, it cannot be answered affirmatively (43A2-A3).

(43) **Multiplicity inference in polar questions:**

Q: Aun-dó Hlahla-dó la-géh-là?
Aung-PL Hlahla-PL come-PAST-Q
'Did Aung and Hlahla come?'

A1: Houq-teh. Aun =néh Hlahla la-géh-deh.
right-NFUT Aung =CONJ Hlahla come-PAST-NFUT
'Yes. Aung and Hlahla came.'

A2: {#Houq-teh./✓Mă-houq-p'ù.} Aun la-géh-deh.
{#right-NFUT/✓NEG-right-NEG} Aung come-PAST-NFUT
#'Yes, Aung came.' / ✓ 'No, Aung came.'

A3: {#Houq-teh./✓Mă-houq-p'ù.} Hlahla la-géh-deh.
{#right-NFUT/✓NEG-right-NEG} Hlahla come-PAST-NFUT
#'Yes, Hlahla came.' / ✓ 'No, Hlahla came.'

In a conditional, N-*tó*/*dó* N-*tó*/*dó* again retains its multiplicity requirement. The interpretation of (44) is such that Su's happiness is assured if she meets the plural entity of at least two atoms: Aung and Hlahla, and in addition to that, optionally their associates. It is not sufficient for Su to just meet Aung or Hlahla in order for her to be happy.

(44) **Multiplicity inference in conditionals:**

Su=gá Aun-dó Hlahla-dó twé-yin, thu.ma=gá pyaw-meh.
Su=NOM Aung-ASSOC Hlahla-ASSOC meet-if 3.FEM=NOM happy-FUT

'If Su meets Aung or Hlahla, she will be happy.'

⇝ If Su only meets Aung she is not guaranteed to be happy.

⇝ If Su only meets Hlahla, she is not guaranteed to be happy.

⇝ If Su meets Aung and Hlahla, she will be happy.

⇝ If Su meets Aung, Hlahla, and their associate(s), she will be happy.

3.2.2 Animate nominal predicates: common nouns

With animate common nouns, both *twe*/*dwe* and *tó*/*dó* are possible in the N-PL N-PL construction, as shown in (45). One context that distinguishes their truth conditions is highlighted in bold.

(45) **N-PL N-PL with common nouns:**

a. **S'ăya-dwe caùn.dhà-dwe** caùn-gá la-géh-deh.
teacher-PL student-PL school-from come-PAST-NFUT

'Teachers and students came from school.'

True if more than one teacher and more than one student came.

False if one student and one teacher came from school.

False if one or more teachers came and no students came.

False if one or more students came and no teachers came.

b. **S'ăya-dó** **caùn.dhà-dó** caùn-gá la-géh-deh.
teacher-ASSOC student-ASSOC school-from come-PAST-NFUT
'Teachers and students came from school.'

True if more than one teacher and more than one student came.
True if one student and one teacher came.
False if one or more teachers came and no students came.
False if one or more students came and no teachers came.
True if one or more teacher, one or more student, and their associates came.

The N-PL N-PL plural expressions in both (45a) and (45b) have a multiplicity inference, requiring more than one atom in their referents. However, notice that N-*tó*/*dó* N-*tó*/*dó* permits the internal plural reading but N-*twe*/*dwe* N-*twe*/*dwe* does not: (45b) is felicitous in a context where just one teacher and one student came, but (45a) is infelicitous in that context.

We also learn that N-*tó*/*dó* N-*tó*/*dó* is an extending plural, permitting its referent to include atoms that do not have the properties named by either of the nominal predicates in the expression. We know this because (45b) is appropriate in a context where teachers, students, and their associates who are not necessarily teachers and students came. In contrast, N-*twe*/*dwe* N-*twe*/*dwe* is not extending. The referent of the expression in (45a) cannot include individuals who are neither teachers nor students.

In downward-entailing environments, N-*twe*/*dwe* N-*twe*/*dwe* loses its multiplicity inference. This can be shown in polar questions, as in (46). The polar question containing the plural expression in (46) can be answered affirmatively as long as either one police officer or one thief came (46A2, 46A3).

(46) **No multiplicity inference in polar questions:**

Q: Yèh-dwe thăk'ò-dwe la-géh-là?
police-PL thief-PL come-PAST-Q
'Did police officers and thieves come?'

A1: Houq-teh. Yèh hnă-yauq =néh thăk'ò ngà-yauq la-géh-deh.
right-NFUT Police two-CL =CONJ thief five-CL come-PAST-NFUT
'Yes. Two policemen and five thieves came.'

A2: {✓Houq-teh./#Mă-houq-p'ù.} Yèh tă-yauq la-géh-deh.
{✓right-NFUT/#NEG-right-NEG} police one-CL come-PAST-NFUT
✓'Yes, one police officer came.' / # 'No, one police officer came.'

A3: {✓Houq-teh./#Mă-houq-p'ù.} Tă.kou tă-yauq la-géh-deh.
{✓right-NFUT/#NEG-right-NEG} thief one-CL come-PAST-NFUT
✓'Yes, one thief came.' / # 'No, one thief came.'

A similar effect is shown when the plural expression is in the antecedent of conditionals. In the conditional in (48), Hlahla's happiness is guaranteed if she meets any police officer or thief at all.

(47) **No multiplicity inference in conditionals:**

Hlahla=gá yèh-dwe thǎk'ò-dwe twé-yin, thu.ma=gá pyaw-meh.
Hlahla=NOM police-PL thief-PL meet-if 3.FEM=NOM happy-FUT

'If Hlahla meets any police officer or thief, she will be happy.'

⇝ If Hlahla meets one police officer, she will be happy.
⇝ If Hlahla meets one thief, she will be happy.
⇝ If Hlahla meets no police officer and no thief, she is not guaranteed to be happy.

With N-*tó*/*dó* N-*tó*/*dó*, the non-homogenous plural inference persists in downward-entailing environments. I show this with polar questions (48) and conditionals (49). The polar question in (48) cannot be answered affirmatively if only one police officer or one thief came.

(48) **Multiplicity inference in polar questions:**

Q: Yèh-dó thǎk'ò-dó la-géh-là?
police-PL thief-PL come-PAST-Q

'Did police officers and thieves come?'

A1: Houq-teh. Yèh hnă-yauq =néh thǎk'ò ngà-yauq la-géh-deh.
right-NFUT Police two-CL =CONJ thief five-CL come-PAST-NFUT

'Yes. Two policemen and five thieves came.'

A2: {#Houq-teh./✓Mă-houq-p'ù.} Yèh tă-yauq la-géh-deh.
{#right-NFUT/✓NEG-right-NEG} police one-CL come-PAST-NFUT

'Yes, one police officer came.' / ✓ 'No, one police officer came.'

A3: {#Houq-teh./✓Mă-houq-p'ù.} Thăk'ò tă-yauq la-géh-deh.
{#right-NFUT/✓NEG-right-NEG} thief one-CL come-PAST-NFUT
'Yes, one thief came.' / ✓ 'No, one thief came.'

In the antecedent of the conditional, as in (49), the plural expression N-*tó*/*dó* N-*tó*/*dó* still retains its multiplicity inference. In (49), Hlahla's happiness is guaranteed only if at least one police officer *and* at least one thief shows up.

(49) **Multiplicity inference in conditionals:**
Hlahla=gá yèh-dó thăk'ò-dó twé-yin, thu.ma=gá pyaw-meh.
Hlahla=NOM police-ASSOC thief-ASSOC meet-if 3.FEM=NOM happy-FUT
'If Hlahla meets any police officer or thief, she will be happy.'

⇝ If Hlahla meets one police officer, she is not guaranteed to be happy.
⇝ If Hlahla meets one thief, she is not guaranteed to be happy.
⇝ If Hlahla meets more than one police officer and more than one thief, she will be happy.
⇝ If Hlahla meets one police officer and one thief, she will be happy.

3.2.3 Inanimate nominal predicates

Finally, we consider inanimate arguments in N-PL N-PL constructions. With inanimate arguments, *twe*/*dwe* can appropriately be used but not *tó*/*dó*, as shown in (50). This is unsurprising as *tó*/*dó* is generally limited to animate objects.

(50) Aun=gá **pàndhì-✓dwe/*dó leinmawdhì-✓dwe/*dó** weh-géh-deh.
Aung=NOM apple-PL/ASSOC orange-PL/ASSOC buy-PAST-NFUT
'Aung bought apples and oranges.'

True if Aung bought more than one apple and more than one orange.
False if Aung bought one apple and one orange.
False if Aung bought apples and no oranges.
False if Aung bought oranges and no apples.

From the judgements in context presented in (50), we can tell that N-*twe*/*dwe* N-*twe*/*dwe* with inanimate nominal predicates have a multiplicity meaning component in upward-entailing contexts, in the sense that the plural expression as a whole has a plurality which is comprised of more than one atom. Moreover, the internal plural reading is not available: (50) cannot truthfully be uttered in a context where only one apple and one orange was bought. Finally, the plural expression is not extending, since its referent must not include entities that are not in the domain of the nominal predicates overtly expressed.

In downward-entailing environments, the multiplicity inference vanishes. The polar question in (51) should get an affirmative response as long as Aung buys just one apple, or if he buys just one orange.

(51) **No multiplicity inference in polar questions:**

Q: Aun=gá **pàndhì-dwe leinmawdhì-dwe** weh-géh-la?
Aung=NOM apple-PL orange-PL buy-PAST-Q
'Did Aung buy apples and oranges?'

A1: Houq-teh. Aun=gá pàndhì hnă-loùn =néh leinmawdhì
right-NFUT Aung=NOM apple two-CL =CONJ orange
ngà-loùn weh-géh-deh.
five-CL buy-PAST-NFUT
'Yes. Aung bought two apples and five oranges.'

A2: {✓Houq-teh./#Mă-houq-p'ù.} Aun=gá pàndhì tă-loùn
{✓right-NFUT/#NEG-right-NEG} Aung=NOM apple one-CL
weh-géh-deh.
buy-PAST-NFUT
✓ 'Yes, Aung bought one apple.' / # 'No, Aung bought one apple.'

A3: {✓Houq-teh./#Mă-houq-p'ù.} Aun=gá leinmawdhì tă-loùn
{✓right-NFUT/#NEG-right-NEG} Aung=NOM orange one-CL
weh-géh-deh.
buy-PAST-NFUT
✓ 'Yes, Aung bought one orange.' / # 'No, Aung bought one orange.'

Further, in the conditional in (53), the addressee should notify the speaker as long as Aung bought any apples, or any oranges at all. This signals that N-*twe*/*dwe* N-*twe*/*dwe* with inanimate nominals in conditionals does not have a multiplicity inference.

(52) **No multiplicity inference in conditionals:**

Aun=gá pàndhì-dwe leinmawdhì-dwe weh-yin, nga=go pyàw.
Aung=NOM apple-PL orange-PL buy-if 1=ACC tell

'If Aung bought apples and oranges, tell me.'

⇝ If Aung buys one apple, the addressee should inform the speaker.

⇝ If Aung buys one orange, the addressee should inform the speaker.

⇝ If Aung buys no apples and no oranges, the addressee does not need to inform the speaker of anything.

3.2.4 Section summary

Table 3 summarises the properties that we discussed of the interpretation of N-PL N-PL plural expressions.

	UE environments			DE environments
Expression	Multiplicity inference	Internal plural reading	Extended plural	Multiplicity inference
PN-*tó* PN-*tó*	✓	✓	✓	✓
CN-*tó* CN-*tó* (human)	✓	✓	✓	✓
CN-*twe* CN-*twe* (human)	✓	×	×	×
CN-*twe* CN-*twe* (non-human)	✓	×	×	×

Table 3: Summary of N-PL N-PL plural expressions

Comparing the noun conjunction plural (Table 3) with the N-PL N-PL plural (Table 2), we notice that [N CONJ N]-*tó*/*dó* is identical to N-*tó*/*dó* N-*tó*/*dó* in terms of the properties under discussion. Across the two structures, there is a noteworthy difference amongst the complex plurals with *twe*/*dwe*. The difference is that [N CONJ N]-*twe*/*dwe* allows the internal plural reading but the N-*twe*/*dwe* N-*twe*/*dwe* expression does not.

3.3 Previous work on conjoined plural expressions

To my knowledge, there have only been a handful of previous works that describe complex plural expressions in other languages. For example, den Besten (1996) notes that in Afrikaans, the nominal host of the associative plural *hulle* can be a conjunction of nominals. As shown in (53), the Afrikaan [N & N]-ASSOC

structure seems to be extending, and the internal reading is also attested.

(53) **Afrikaans noun phrase conjunction plural:** (den Besten 1996:15)

Piet en Koos-hulle.

Piet and Koos-ASSOC

'Piet and Koos and their associates.'/'Piet and Koos.'

Tatsumi (2017) also makes a similar observation in Japanese to show that plural arguments can also take the associative plural marker *-tati* to derive an associative interpretation.

(54) **Japanese noun phrase conjunction plural:** (Tatsumi 2017:240)

Taro to Sayuri-tati.

Taro and Sayuri-ASSOC

'Taro and Sayuri and their associates.'/'Taro and Sayuri.'

Smith and Kobayashi 2017 makes note of bare conjunction plural expressions in Japanese. They report that in Japanese, the similative plural markers *toka* and *tari* are used in coordinated structures to express a non-exhaustive conjunction of arguments. (See Smith (2020) for evidence that *toka* and *tari* are similative plural markers.) *Toka* is used when conjoining nominal arguments whereas *tari* is used when conjoining verbal arguments. As far as I can tell, the internal reading is not reported by Smith and Kobayashi (2017) as a possible reading of the examples in (55).

(55) **Japanese NP-*toka* NP-*toka*:** (Smith and Kobayashi 2017:205)

a. Taro **-toka** Hanako **-toka** -ga ki -ta.
Taro -TOKA Hanako TOKA -NOM come -PAST
'Taro, Hanako, and someone else came.'

b. Taro-wa heya-o sooji si **-tari** sentaku-o si **-tari** si -ta.
Taro-TOP room-ACC clean do -TARI laundry-ACC do -TARI do -PAST
'Taro cleaned his room, did the laundry, and did other such things.'

3.4 N-PL *wh*-PL similative plurals

The third and final type of complex plural is the similative plural which combines a nominal predicate, a *wh*-phrase, and plural morphemes in the form N-PL *wh*-PL. Specifically, the only *wh*-phrase phrase can be used is *ba*, 'what'. Jenny and Hnin Tun 2016 describes complex plurals of the form N-PL *ba*-PL, 'N-PL what-PL', as "express[ing] vagueness and non-specific or non-referential objects" (pg. 128). As demonstrated in (56), plural morphemes that are possible in this construction are the general plural marker *twe/dwe* (56a) and the associative plural *tó/dó* (56b). The literary plural marker *myà* is not used to form this construction (56c).

(56) a. Hlahla=gá **sa.ouq-twe** **ba-dwe** p'yeh-géh-deh.
Hlahla=NOM book-PL what-PL tear-PAST-NFUT

b. Hlahla=gá **sa.ouq-tó** **ba-dó** p'yeh-géh-deh.
Hlahla=NOM book-ASSOC what-ASSOC tear-PAST-NFUT

c. *Hlahla=gá **sa.ouq-myà ba-myà** p'yeh-géh-deh.
Hlahla=NOM book-PL what-PL tear-PAST-NFUT
≈ 'Hlahla tore books and similar stuff.'

Recall that in simplex plurals, *tó*/*dó* is restricted to human arguments. Interestingly, this restriction does not hold in these constructions: see example (56b).

Jenny and Hnin Tun's 2016 description of the meaning of this construction is reminiscent of the description of similative plurals in Smith 2020. The truth conditions of (56a) and (56b) are identical: they are true if Hlahla tore at least one book, as well as something else similar to a book in the context, such as a magazine. Both are infelicitous if Hlahla only tore only one book, or if only books were torn, or if only book-like things were torn. In other words, the similative plural construction in (56) denotes a plural non-homogeneous set of individuals: a set composed of the individual(s) satisfying the nominal description and in addition, other distinct objects that are similar to it in some contextually-determined way.

This multiplicity inference is not retained in downward-entailing environments. Under negation, (57) is only felicitous if Hlahla tore zero books *and* zero book-like things. The interpretation is not merely the logical negation of (56), which would be that Hlahla didn't read more than one book and book-like things.[5]

5. For Persian and Japanese, Smith (2020) makes a distinction between more restrictive and less restrictive speakers. More restrictive speakers are those who do not permit similative plurals to denote objects that are simply similar to the bare nominal. Less restrictive speakers are those for whom the referent of similative plurals can be composed solely of individuals similar to the named argument. In relation to the Burmese example (57) here, more restrictive speakers only allow an interpretation for (57) where Hlahla tore zero books and zero book-like things. Less restrictive speakers will allow an interpretation where Hlahla tears zero books *or* zero book-like things. Both of my speakers judgements are consistently like the less restrictive Persian and Japanese speakers. It could be that Burmese only has the less restrictive interpretation, or perhaps I just haven't found the more restrictive speakers. I leave this investigation for future work.

(57) Hlahla=gá sa.ouq-twe/tó ba-dwe/dó mă-p'yeh-géh-bù.
Hlahla=NOM book-PL/ASSOC what-PL/ASSOC NEG-tear-PAST-NEG
≈ 'Hlahla didn't buy books and similar stuff.'

The plural inference also goes away in the antecedent of conditionals, as shown in (58). Here, Hlahla will have to compensate even if she tears only one book, or one book-like thing.

(58) Hlahla=gá sa.ouq-twe/tó ba-dwe/dó p'yeh-yin, thu=gá
Hlahla=NOM book-PL-ASSOC what-PL/ASSOC tear-if 3=NOM
pyanyaw-yá-meh.
compensate-must-FUT
'If Hlahla tears books and stuff, she will have to compensate.'

Finally, the multiplicity inference of the similative plural also goes away in polar questions. The polar question in (59) can be answered affirmatively as long as Hlahla tore only one book (59A1), or if she tore only one set of newspapers (59A2).

(59) Q: Hlahla=gá sa.ouq-twe/tó ba-dwe/dó p'yeh-géh-là?
Hlahla=NOM book-PL/ASSOC what-PL-ASSOC tear-PAST-Q
'Did Hlahla tear books and stuff?'

A1: Houq-teh. Hlahla=gá sa.ouq {tă/hnă}-ouq p'yeh-géh-deh.
right-NFUT Hlahla=NOM book-PL one/two-CL tear-PAST-NFUT
'Yes. Hlahla tore one book/two books.'

A2: Houq-teh. Hlahla=gá thădìn.za tă-soun p'yeh-géh-deh.
right-NFUT Hlahla=NOM newspaper one-CL tear-PAST-NFUT
'Yes. Hlahla tore one (set of) newspapers.'

CHAPTER 4
TOWARDS A SEMANTICS FOR BURMESE PLURAL MORPHEMES

4.1 Summary of empirical findings

In the preceding chapters, I described three plural morphemes in Burmese, and the ways in which they are used in a variety of plural expressions. Table 4 gives an overview of the data presented.

		UE environments			**DE environments**
	Expression	homo-geneous?	extended plural?	internal plural?	multiplicity inference?
Simplex	N-*twe*/*myà*	✓	×	N/A	×
	N-*tó*	× (strong)	✓	N/A	✓
Complex	[N & N]-*twe*/*myà*	×	×	✓	×
	N-*twe* N-*twe* N-*myà* N-*myà*	×	×	×	×
	[N & N]-*tó*	× (weak)	✓	✓	✓
	N-*tó* N-*tó*	× (weak)	✓	✓	✓
	N-PL *ba*-PL	×	✓	N/A	✓

Table 4: Summary of the interpretations of plural constructions studied

Table 4 reveals two differences between the general plural and the associative plural across the different plural expressions. First, the notion of *non-homogeneity* distinguishes simplex plural N-*twe*/*dwe* from all the other plural expressions. However, *extendedness* supplies us with a way of differentiating plural expressions that use the general plural morphemes *twe*/*dwe* and *myà*

from those that use the associative plural morphemes *tó/dó*: the general plural is not extending whereas the associative plural is extending. The table also reveals another difference between *tó/dó* plural expressions and *twe/dwe* and *myà* plural expressions: *twe/dwe* and *myà* plural expressions do not have a multiplicity inference in downward-entailing environments but *tó/dó* plural expressions do.[6]

Finally, this thesis has highlighted the availability of the internal plural reading for some complex plural expressions and not others. In the following section, I suggest a post-suppositional analysis of the associative plurals with *tó/dó* might explain why some complex plural expressions allow the internal reading.

4.2 Associative plurals as post-suppositions

I propose that the availability of the internal reading can be explained if the meaning of the Burmese associative plural is analysed as introducing a post-suppositional test. In dynamic semantics, post-suppositions are a form of test that is delayed and checked after the at-issue content of a sentence is expressed. Post-suppositions were first formalised in Brasoveanu 2013 to account for cumulative readings with modified numerals, although such post-assertion tests were also previously suggested in Farkas 2002 and Lauer 2009. By way of example, I will introduce post-suppositions following the discussion in Brasoveanu and Szabolcsi 2013's explanation for the so-called symmetrical A-too B-too additive focus constructions. Following that, I will sketch how associative plurals can similarly be productively analysed using post-suppositions.

Brasoveanu and Szabolcsi (2013) propose that post-suppositions can be used to explain what they refer to as the symmetrical A-too B-too construction found in a variety of languages like Hungarian, Japanese, and Russian. The crucial

6. with the exception of N-PL *wh*-PL similative plurals, where both forms behave the same.

contrast is demonstrated in (60). Normally, the use of the additive focus particle *mo* such as in (60a) gives rise to a requirement that someone other than A ran away. The sentence in (60b), however, does not have a requirement that someone else other than A and B ran away.

(60) **Symmetrical A-too B-too constructions in Japanese:**

a. A-mo hashitta.
A-also ran
'A, too, ran away.'

b. **A-mo B-mo** hashitta.
A-also B-also ran
'A as well as B ran away.'

(Brasoveanu and Szabolcsi 2013:55)

The basic insight of Brasoveanu and Szabolcsi (2013) is that A and B in (60b) satisfy the requirements imposed by each other's *mo*'s. Brasoveanu and Szabolcsi (2013) propose that this can be done by classifying the requirement of additive particle *mo* as a post-supposition rather than a pre-supposition, as is standardly assumed. To see how this works, I will illustrate the proposal using paraphrases in the style of Kuhn (to appear). (61) provides the paraphrases for the Japanese examples in (60). The post-suppositional requirement of *mo* is indicated in the underlined follow-up sentence. The additive requirement of *mo* is that someone other than its host ran away.

(61) a. A ran away. Someone other than A ran away. =(60a)

b. A and B ran away. Someone other than A ran away. Someone other than B ran away. =(60b)

Post-suppositional conditions are evaluated after the at-issue meaning of the sentence has been integrated into the context. If the conditions are not met at this point, infelicity results. In (61b), A satisifies the additive requirement of B-*mo*, and B satisfies the additive requirement of A-*mo*. At the point where the contribution of *mo* is checked, the at-issue meaning of the sentence has changed the context such that the additive condition can be satisfied. Therefore, (61b) as a whole appears to not require that anyone else ran. In contrast, in (61a), the at-issue meaning of the sentence does not itself satisfy its post-suppositions. The result is that the additive requirement behaves like a presupposition that has to be satisfied by the discourse context.

Even though the post-suppositions of additive particles discussed by Brasoveanu and Szabolcsi (2013) introduce non-assertive felicity conditions, Kuhn (to appear) highlights that there are other phenomena that have be analysed as post-suppositions that appear to contribute to the assertive, at-issue meaning rather than a presuppositional one. For example, Brasoveanu (2013) and Charlow (2016) argue that modified numerals may be evaluated post-suppositionally, and a failure to meet the post-suppositional requirements results in falsity, rather than presupposition failure. Thus, I take the view of Charlow (2016) and Kuhn (to appear) that rather than being a *kind* of meaning with uniform behaviour, post-suppositions are better characterised as a formal tool to delay interpretation.

My own proposal is that the multiplicity inference of Burmese *tó*/*dó* is a post-supposition that contributes to the at-issue meaning of the sentence. Formally, I adopt Smith 2020's notion of an "associate set," where ASET(z) is the set containing *z* as well as sums of *z* with those standing in a contextually salient social relationship with *z*, e.g. *z*'s friends or family. (62) exemplifies this for the individual *Hlahla*.

(62) **Associate set of Hlahla:**

ASET(*Hlahla*) = { Hlahla, Hlahla⊕Aung, Hlahla⊕MauMau… }

Recall that when *tó/dó* is used in the simplex plural, as in (63), there is a requirement that at least one associate of Aung comes. However, the complex plural in (64) can be interpreted as not requiring any individuals other than Aung and Hlahla to have come.

(63) **N-*tó/dó* simplex plural:**

Aun-dó la-géh-deh.

Aung-ASSOC come-PAST-NFUT

'Aung and his associate(s) came.'

(64) **N-*tó/dó* complex plural:**

Aun-dó Hlahla-dó la-géh-deh.

Aung-ASSOC Hlahla-ASSOC come-PAST-NFUT

'Aung and Hlahla (and their associate(s)) came.'

The meaning of (63) is formalised in (65a-b) and I provide a Kuhn-style paraphrase in (65c). The assertion, as in (65a), is that Hlahla came. The postsupposition of *dó* requires that a plural individual in Hlahla's association set came. This could be made up of *Hlahla*'s friends, family, or co-workers, for instance.

(65) *Aung-dó came.*

a. **primary assertion:** come(*Aung*)

b. **post-supposition:** $\exists x[x \in \textsc{aset}(\textit{Aung}) \wedge \neg \textsc{atom}(x) \wedge \text{come}(x)]$

c. **paraphrase:** Aung came. At least one of Aung's associates came.

The primary assertion in (65a) does not itself entail satisfaction of the post-suppposition in (65b). Thus, the primary assertion and post-supposition together convey the speaker's claim that Hlahla and at least one associate came. Because the post-suppositional contribution of *tó/dó* is assertive in nature, the sentence would be false, rather than undefined, if the condition that at least one of Aung's associates came is not true by the context.

The meaning of the complex plural (64) is represented formally in (66a-b) and paraphrased in (66c). Here, the assertion is that Hlahla came and Aung came. In the post-supposition, the requirements are that there is a non-atomic associative group of Hlahla that came, as well as a non-atomic associative group of Aung that came.

(66) *Hlahla-dó Aung-dó came.*

a. **primary assertion:** $\text{come}(\textit{Hlahla} \oplus \textit{Aung})$

b. **post-supposition:** $\exists x[x \in \textsc{aset}(\textit{HlaHla}) \wedge \neg \textsc{atom}(x) \wedge \text{come}(x)] \wedge \exists y[y \in \textsc{aset}(\textit{Aung}) \wedge \neg \textsc{atom}(y) \wedge \text{come}(y)]$

c. **paraphrase:** Hlahla and Aung came. At least one of Hlahla's associates came. At least one of Aung's associates came.

As long as Hlahla and Aung are in a social relationship, Aung can be the associate of Hlahla satisfying the post-suppositional requirement of *Hlahla-dó* and

Hlahla can be the associate of Aung satisfying the post-suppositional requirement of *Aung-dó*. This is possible because the associative requirements are evaluated after the primary at-issue content.

We might wonder if introducing a post-suppositional test is a crosslinguistically stable property of associative plurals. I claim that it is not. In particular, Japanese associative plural *tachi* (as discussed in Nakanishi and Tomioka 2004, Tatsumi 2017, and Smith 2020) contributes to the primary assertive content rather than a post-supposition. As shown in the novel data point in (67), the Japanese associative plural *tachi* does not permit the internal plural reading in a similar conjoined plural construction (albeit with an overt conjunction).[7]

(67) Taro-tachi to Hanako-tachi -ga kita.
Taro-ASSOC and Hanako-ASSOC -NOM came
'Taro, Hanako, and their associates came.'
False if only Taro and Hanako came.

Thus, the Japanese complex plural associative plural cannot receive the same type of post-suppositional analysis suggested here for the Burmese associative plural *tó*/*dó*.

Finally, recall that complex plural constructions with *twe*/*dwe* and *myà* do not allow an internal plural reading.

7. This judgement was confirmed by all six native speakers of Japanese that I asked. I thank Michael Yoshitaka Erlewine, Minako Erlewine, Mie Hiramoto, Yosuke Sato, Kiyoko Mori, and Sakiko Hino for sharing their judgements with me.

(68) **No internal plural reading with N-*twe/dwe* N-*twe/dwe*:**

Su=gá pàndhì-dwe leinmawdhì-dwe weh-géh-deh.

Su=NOM apple-PL orange-PL buy-PAST-NFUT

'Su bought apples and oranges.'

False if Su bought one apple and one orange.

I propose that the multiplicity inference of *twe/dwe/myà* does not reflect a domain-extending post-suppositional test like that of *tó/dó*. Instead, like English bare plurals, Burmese general plurals with *twe/dwe* and *myà* are number-neutral and their multiplicity inference is derived by scalar implicature. This explains why additive plurals are number-neutral in downward-entailing contexts while associative plurals are not.

4.3 Concluding remarks

In this thesis, I investigated the semantics of plural morphemes in Burmese. I showed that there are two types of plurals in the language, one being the general plural which is *twe/dwe* in the colloquial register and *myà* in the formal register. The other type of plural is the associative plural *tó/dó*. At first glance, *tó/dó* seems similar to other associative plurals cross-linguistically. However, on a closer look at complex plural expressions, *tó/dó* has a non-extending, internal plural use, where the multiplicity inference is satisfied internally by the referents named in the plural expression. In this concluding chapter, I offered a sketch of an analysis for *tó/dó* that can account for both the regular associative use, as well as the internal plural use of *tó/dó*. Specifically, I argued that the contribution of *tó/dó* is an at-issue post-suppositional meaning. I proposed that the timing of the evaluation of the multiplicity inference (delayed as a post-supposition or not) is a point of cross-linguistic variation between associative plurals.

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