Associative Plurals

Associative Plurals

A Dissertation Presented

by

Shay Hucklebridge

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

September 2023

Linguistics

Associative Plurals

A Dissertation Presented

by

Shay Hucklebridge

Approved as to style and content by:

_____

Seth Cable, Chair

_____

Ana Arregui, Member

_____

Rajesh Bhatt, Member

_____

Gennaro Chierchia, Member

_____

Maya Eddon, Member

_____

Joe Pater, Department Chair
Department of Linguistics

To my parents,

who neglected to be specific enough when they suggested I become a doctor.

I am no poet. I do not love words for the sake of words. I love words for what they can accomplish. Similarly, I am no arithmetician. Numbers that speak only of numbers are of little interest to me.

Patrick Rothfuss

ACKNOWLEDGEMENTS

Writing a dissertation is a humbling thing. You believe all along that you are heading towards the end of a road only to arrive and find that all along it was really just a turn. I have found a lot to be grateful for during my time at UMass Amherst, and it is bittersweet to walk away from it. Getting to study here has been a once in a lifetime experience, and I feel so fortunate for the opportunity. With that in mind, I will now list all of the people I need to thank.

First and foremost, I would like to thank the people who collaborated with me on this research by contributing their judgements: my Turkish consultants Duygu Göksu, Faruk Akkuş, Özge Bakay, Deniz Ozyildiz, my Japanese consultant Yosho Miyata, and my Armenian consultant Mariam Asatryan. I wound up with a full cast of linguists for this project and it was a privilege to learn from them.

Before the COVID-19 pandemic, it had always been my intention that my dissertation would focus on Northeastern Dene languages. When fieldwork in the Northwest Territories became impossible, and there was no way of knowing when the situation would change, I was forced with the choice of refocusing my efforts or risk delaying my graduation indefinitely. I chose to focus on other languages for the time being, which was rewarding in its own way, but I would still like to express my profound gratitude to the Dene collaborators who have worked with me throughout the years. This includes Rosa Mantla, Tammy Steinwand-Deschambeault, and Lucy Lafferty at the Tłı̨chǫ Community Services Agency and the Tłı̨chǫ Government, my Tłı̨chǫ consultants Cecilia Wood and Marie-Louise Bouvier-White, my

Sahtúgotı̨ne consultants Marie Speakman, Walter Bezha, two anonymous consultants, and Bernice Neylle for sharing her language and her wonderful hospitality. I would also like to thank in particular Morris Neyelle, whose friendship and mentorship was an unexpected gift, and whose memory I will always cherish. In addition, I am very grateful to Nicholas Welch and Keren Rice for being my supervisors during my time at U of T, encouraging me as a linguist, and helping me find my way to the north.

Seth Cable has been my supervisor for the last six years as well as the chair of my dissertation committee and I couldn't have asked for a better guide through the world of semantics. He really does embody all the properties that a person could wish for in an advisor: thoroughness, clarity, charity, trustworthiness, and of course, enormous intellect. Ana Arregui was an early and invaluable addition to my dissertation committee and has been exceptionally generous with her time – our conversations have elevated my ability to think. Thank you also to Rajesh Bhatt for being on my committee, supervising my first GP, and being a great person to bounce ideas off of. I am also very fortunate also that Gennaro Chierchia agreed to be an outside member of my dissertation committee. To talk to Gennaro is to be advanced as a scholar, and I will never stop being impressed by his ability to pluck ideas out of thin air. Thank you also to Maya Eddon for being the external member on my committee – we met only once, but it was the once that counted! On top of my committee members, I would also like to thank Barbara Partee, first for being Barbara Partee, and also for caring for my collection of plants every summer and Christmas. In addition, I am grateful to Gaja Jarosz and Kyle Johnson for overcoming their very reasonable scepticism to supervise my second GP. I learned a lot from them and had a lot of fun doing it.

Doing a doctorate is not always a smooth road and it would have been impossible without the support (emotional, logistical, and financial) of my parents Sue

and Jim. Thanks also to my Aunt Janet, whose generous donation of a car made my life so much easier, and who always supported me. Likewise, my siblings Chris, Nelson, Chloe, and my sister-in-law Kate have always been there for me when I needed it. I love you all very much, and I've missed you every day I was away.

I promise that I'm almost done. I do want to thank all my friends at UMass, who shared in this huge undertaking that we all (for some reason) volunteered for. This includes Max Nelson and Katie Blake, Seoyoung Kim, Zahra Mirrazi, Jonathan Pesetsky, Duygu Göksu, Bethany Dickerson (and wife Breinne Willingham), Maggie Baird, Mariam Asatryan, Özge Bakay, Yosho Miyata, Jelly Hill, Jia Ren, Peyton Deal, Maayan Keshev, (and husband Ofir Carmel), Alex Nyman, and in particular Andrew Lamont, with whom I have watched all of The Office from start to finish at least three times. Finally, I want to thank my beautiful wife and fellow grad student Anissa Neal, who picks me up when I'm down and makes it all worthwhile. I am so excited to start a new life with you.

ABSTRACT

Associative Plurals

SEPTEMBER 2023

SHAY HUCKLEBRIDGE

B.A., UNIVERSITY OF TORONTO

M.A., UNIVERSITY OF TORONTO

Ph.D., UNIVERSITY OF MASSACHUSETTS AMHERST

Directed by: Professor Seth Cable

The goal of this dissertation is to present an analysis of associative plurals in Japanese, Turkish, and Armenian that captures their associative interpretation along with a series of cross-linguistically consistent behaviours that do not seem to stem directly from these special meanings. The term ***associative plural*** is used here to describe plurals where a named group member represents a non-homogenous plurality – for associative plurals, group affiliation is established through spatio-temporal or conceptual contiguity rather than a shared description (Moravcsik 2003. An example from Japanese is given below:

(1) **Taro-tati**-wa moo kaetta
Taro-ASSOC-TOP already went home
'The group of people represented by Taro went home' (Nakanishi & Tomioka 2004:124)

Approaches to English-like ***additive plurality*** (Link 1983; Landman 1989; Schein

1993; Lasersohn 1995; Schwarzschild 1996; Landman 2000) are unable to capture cases like the one above because they predict a plurality based on similarity, where every element of a plural noun is either an element of the corresponding singular or a concatenation of those elements.

Beyond the associative property evident in the example above, associative plurals are also known to be necessarily specific (i.e. resist narrow-scope indefinite readings), unable to appear in existential *there* / possessive *have* constructions, incompatible with kind/generic readings, and incompatible with numerals. Additionally, associative plurals bear a striking similarity to first and second person plural pronouns, both morphologically, and with respect to their meaning.

What I will propose here is that, unlike additives, associative plurals are formed from a contextually specified individual concept that behaves like a group noun. This accounts for data which suggests associative plurals are inherently intensional, with a life that exists across indices. I will suggest that this individual concept is introduced as the plural marker. The noun being pluralized is actually part of a complex determiner that introduces a possessive like *R* relation that establishes the relationship between the group and the named individual.

This determiner comes with a situation pronoun that may be free are bound, and which determines the value of the individual concept and insures the associative DP will be referential. Restrictions on associative plural are shown to be the result of a type clash (existentials/posessives and numerals) or restrictions on binding of the situation pronouns (generics). Differences between Japanese on the one hand and Turkish and Armenian on the other hand with respect to quantificational force is attributed to a difference in the kind of focal referent determiner included in their associative plurals. In Japanese, I propose that the determiner allows other things related to the name noun outside of the group to exist in the context. Similar flexibility is not permitted in Turkish and Armenian.

Apparent additive uses of associative plurals are account for in way that captures cross-linguistic variation. Japanese is proposed to have true 'pseudo-additive' readings (Nakanishi & Tomioka 2004) where the group may be related to a kind rather than an individual. Next, Turkish is shown to have a homophonous additive plural morpheme distinct from the associative plural. Armenian lacks both these options, with associative plurals where the named noun must always be a salient individual and additive readings are handled by a distinct plural morpheme.

This approach not only explains the range of readings available to associative plurals and restrictions on their distribution, but also their resemblance to first and second person plural pronouns, by proposing that they share a common structure. The ubiquity of pronouns vs. associative plurals is attributed to variation in how accessible (Ariel 2001) individual languages require the named noun to be. First and second person features are highly accessible, and this accounts for the ubiquity of pronouns. Less accessible nouns are permitted are barred on a language by language basis. In sum, the proposal put forward here accounts for the range of readings available to associative plurals, restrictions on their distribution, their resemblance to first and second person plural pronouns, and how both associatives and discourse-participant plurals may be distinct from additives.

ABBREVIATIONS

1	first person
2	second person
3	third person
ABL	ablative
ACC	accusative
ADJ	adjectivizer
AOR	aorist
ASSOC	associative plural
AUX	auxiliary
CL	classifier
COND	conditional marker
COP	copula
DAT	dative
DEF	definite determiner
FUT	future
GEN	genitive
IPFV	imperfective
LOC	locative
MOD	modal
NEG	noegation
NOM	nominative case
PART	participle
PASS	passive
PERF	perfective
POSS	possessive
PL	additive plural
PRES	present
PROG	progressive
PST	past
Q	question marking
REFL	reflexive
REL	relative clause marker
SG	singular
TOP	topic marker

TABLE OF CONTENTS

CHAPTER 1

Introduction

This dissertation will focus on the semantics of the associative plural construction, and its variation across languages. The term ***associative plural*** is used here to describe plurals where a named group member represents a non-homogenous plurality. Consider the following examples:

(2) a. JAPANESE

Taro-tati-wa moo kaetta
Taro-TATI-TOP already went home

'The group of people represented by Taro went home' (Nakanishi & Tomioka 2004:124)

b. HUNGARIAN

Péter-**ék**
Peter-ek
'Peter and his family or friends or associates' (Moravcsik 2003: 469)

In these cases, a proper noun combines with a plural marker and the resulting DP refers to a group of individuals associated with the named individual. Group affiliation is established through spatio-temporal or conceptual contiguity rather than a shared description (Moravcsik 2003). In the example in (2a), *Taro-tachi* refers to a group of people represented by *Taro*, rather than a group of people who are all named *Taro*. This associative plural (henceforth glossed ASSOC) contrasts with the

additive plural is partonomic rather than taxonominc; members of associatives are parts of a group rather than tokens of a type. English speakers can easily intuit that a parallel reading is not available for a noun marked by plural *-s*, even when that noun is a name:

(3) English

Peter-**s**
Peter-PL

√ 'Multiple people named Peter'

#'Peter and his family or friends or associates'

Despite the relative commonness of associative plurals (they appears in at least 236 languages, according to Dryer (2013)) they have received comparatively little attention in the semantics literature.[1] While there is a great number of formal accounts of plural reference and predication can be found in the work of (Link (1983); Landman (1989); Schein (1993); Lasersohn (1995); Schwarzschild (1996); Landman (2000), to name a few) these works focus particularly on the meaning of English-like plurality. Although analyses vary on a number of axes, we can take a standard approach (Schwarzschild 1996) to English-like plurality to have the following ingredients:

(4) *Ingredients for plurality*[2]

a. A domain of atomic entities D

- $\mathrm{AT}(x)$ iff $\forall y.y \leq x \rightarrow y = x$
- $\mathrm{AT}(x)$ iff $c \in D$

[1]Notable exceptions focusing on particular languages include Dayal (2014); Nakanishi & Tomioka (2004); New (2021); Smith (2020); Jiang (2017) among others. See section 4.4 for overview and discussion.

b. A sum operator +

- x+x = x (idempotent)
- x+y = y+x (commutative)
- x+(y+z) = (x+y)+z

c. A powerset operator *

d. *D** = the domain of plural entities

- D ⊆ D*
- if x, y ∈ *D, then x+y ∈ *D

So taking the standard assumption that English nouns denote sets, pluralization proceeds as below:

(5) a. The domain of individuals *D*: Chris, Nelson, Chloe, Shay, Anissa

b. ⟦girl⟧ = { Chloe, Shay, Anissa }

c. ⟦girl**s**⟧ = *⟦girl⟧ = { Chloe, Shay, Anissa, Chloe+Shay, Chloe+Anissa, Anissa+Shay, Chloe+Anissa+Shay }

What this produces is a plurality based on similarity, where every element of the plural *girls* is either an element of *girl* or a concatenation of elements of *girl*. Therefore there are no individuals in the extension *girls* who are not girls, and this intuitively seems to be a good and accurate definition for nouns bearing the English plural marker *-s* because it correctly predict that these plurals are *taxanomic*, with individuals in the plurality that are tokens of a type.

Once we leave behind the more familiar languages, however, the water becomes murkier as is demonstrated by the examples in (2). To further exemplify this, let us turn to the Japanese plural marker *-tachi* (pronounced *-tati* or *tachi* depending on dialect), which will be of central interest in this dissertation. In many cases, *-tachi*

[2]Based on Cable (2010).

marked nouns do appear to have meanings which approximate the additive English plural in (5):

(6) JAPANESE

Otonoko-**tati**-ga asnode-iru
boy-TATI-NOM play-PROG

'(The) boys are playing' (Nakanishi & Tomioka 2004:113)

However, this is not the full extent of interpretations available to *-tachi* marked nouns the way it is for English plural DPs. Japanese plurals may additionally be interpreted associatively, as we saw in (2a). It is clear that the semantics of plurality put forward in (5) is not sufficient for capturing associative uses of *-tachi* like (2a). When *Taro* is interpreted as a unique individual, a plural formed by * will be not be possible, since + is idempotent. If we imagine that there are multiple individuals named *Taro*, then we can derive a plurality from *⟦Taro⟧, but it will not have the correct meaning for (2a):

(7) a. $⟦\text{Taro}⟧ = \{ \text{Taro}_1, \text{Taro}_2, \text{Taro}_3 \}$

b. $⟦\text{Taro-}\mathbf{tachi}⟧ = *⟦\text{Taro}⟧ = \{ \text{Taro}_1, \text{Taro}_2, \text{Taro}_3, \text{Taro}_1+\text{Taro}_2, \text{Taro}_1+\text{Taro}_3, \text{Taro}_2+\text{Taro}_3, \text{Taro}_1+\text{Taro}_2+\text{Taro}_3\}$

The meaning derived in (7) is more appropriate for the homogenous English plural in (3) than for the non-homogenous Japanese plural in (2a), since it describes a set of individuals who all share a name rather than a group of individuals represented by *Taro* (and who might have other names). What this makes clear is that there is something at work beyond a traditional pluralizer when it comes to associative plurals.

The first and perhaps most obvious question pertaining to associative plurals is how they come to have their characteristic associative reading. What about the semantics of these plurals gives them the option of having interpretations like the

ones in (2)? This is doubly mysterious considering that in many (and potentially all) languages the plural morphology that produces the associate reading can also be used for more standard, run-of-the-mill plural reference analogous to what we see with the English additive, as we saw in (6). These examples raise the question of whether it is necessary to posit multiple lexical entries for associative plurals like *-tati*, or whether a uniform analysis might be able to capture the data.

In this thesis, I will present an analysis of associative plurals in Japanese, Turkish, and Armenian that captures their associative interpretation along with a series of cross-linguistically consistent behaviours that do not seem to stem directly from these special meanings. What I will propose here is that associative plural markers are not functional elements that affect the number of a DP, but group-like individual concepts whose meaning is contextually specified. Under this proposal, the noun that these concepts combine with is analyzed as part of a determiner that introduces a possessive like *R* relation that holds between the named member and the group. These determiners additionally introduce a situation pronoun (following Schwarz (2012) on strong determiners) that picks out an instance of the individual concept.

Linguistic data from Japanese, Turkish, and Armenian used in this dissertation comes from original fieldwork here unless otherwise specified. Data was collected between 2020-2023 through a series of interviews with native speakers. I will refer to individual collaborators throughout by their initials. Turkish collaborators include Deniz Özyilidiz (DM), Duygu Goḱsu (DG), Özge Bakay (OB), and Faruk Akkuş (FA). Armenian data was provided by Mariam Asatryan (MA) and Japanese data by Yosho Miyata (YM). All errors are my own.

Section 1.1 below gives an outline of the dissertation and its contents. Following this, in the remains of this chapter, will establish basic facts about the associative plural construction. Section 1.2 will preview the wide range of cross-linguistic

variation that associative plural constructions exhibit, and provide motivation for focusing on just three languages here. Section 1.3 introcudes relevant terminology, animacy restrictions on associative plurals, some discussion on the question of collective and distributive readings, and an overview of the possible relations that associative plurals can introduce in the languages of interest here. In section 1.4 I will briefly outline the number marking system in Japanese, Turkish, and Armenian to provide context for the proposal that follows.

1.1 Overview

This dissertation starts out in Chapter 2 by introducing a number of properties that are typologically connected with the ability of a plural to have associative interpretations (section 2.1). First, in the languages under consideration here and more broadly, associative plurals are necessarily specific, and resist narrow-scope indefinite readings. [3] After establishing this I will show that associative plurals are also intensional plurals that have a life across situations (section 2.2). In this respect they resemble *committee*-type collective nouns, which are likewise restricted to describing human groups. Finally, associative plurals exhibit restrictions with respect to what kind of constructions they may appear in. Of interest here will be the observation that associative plurals may be banned from appearing in existential *there* constructions, possessive *have* constructions, in kind or generic sentences and with numerals (Nakanishi & Tomioka 2004; Kurafuji 2004; Biswas 2012; Dayal 2014; Jiang 2017) (section 2.3).

Chapter 3 presents the main analysis put forward in this dissertation. In section 3.1, an account of the syntactic and semantic structure of associative plurals is put forward that accounts for their associative readings and their necessarily specific

[3] Moravcsik (2003) similarly reports that associative plurals must be definite, although I will contest this in section 2.1

interpretation (section). As previously stated, this proposal advances the idea that the named member of the associative plural is a determinerized noun that introduces a contextually specified relation *R* that holds between it and the group. The associative marker itself is responsible for introducing this group, which I take to be an individual concept denoting a group with membership that varies across situations.

The derived determiner also introduces a resource situation, and the whole DP returns the instance of the individual concept at that situation with the presupposition that it is related to the named noun. The situation pronoun introduced by the determiner is responsible for the fact that associatives are necessarily specific, since it ensures that the DP will be referential, and may also be bound by a quantificational adverb.

Differences between Japanese on the one hand and Turkish and Armenian on the other hand with respect to quantificational force will be attributed to a difference in the kind of focal referent determiner that is included in their associative plurals. In Japanese, I will propose that this determiner allows other things related to the name noun outside of the group to exist in the context. Similar flexibility is not permitted in Turkish and Armenian, where the group must exhaust the things related to the named noun in the context.

Following this, section 3.3 will show how the apparent additive readings of associative plurals can be related to the analysis given in 3.1, and how the source for these additive readings varies by language. Japanese is proposed to have true 'pseudo-additive' readings (Nakanishi & Tomioka 2004) where the group may be related to a kind rather than an individual. Next, Turkish is shown to have a homophonous additive plural morpheme distinct from the associative plural. Armenian lacks both these options, with associative plurals where the named noun must always be a salient individual and additive readings are handled by a distinct plural

morpheme. Chapter 3 concludes with a discussion of the restrictions some languages exhibit with respect to the kind of noun that can combine with an associative plural marker, and how this can be captured by appealing to accessibility marking.

Chapter 4 will extend the analysis put forward in Chapter 3 to show how it accounts for the language-internal restrictions on the distribution of associative plurals described in Chapter 2. The fact that existential *there* constructions and possessive *have* constructions do not allow associative plurals is attributed to a type clash similar to the one exhibited by DPs with strong determiners (section 4.1). Discussion of the generic restriction and the behaviour of associative plurals in the context of other modals is given in section 4.2.1. Data will be presented showing that the situation pronoun associative plurals introduce cannot be bound by the generic operator or modal *could*, despite the fact that it may be bound by quantificational adverbs like *always*. In section 4.3 the proposal for associative plurals is extended to account to first and second person plural pronouns, which are noted by several authors to share the property of denoting groups that are united by the affiliation of members to a representative individual (Vassilieva 2005, Moravcsik 2003). Chapter 4 concludes with discussion of previous analyses for associative plurals put forward in the literature and how they compare to the account put forward here (section 4.4).

Chapter 5 concludes by outlining directions for future research, including discussion of the fact that associative plurals cannot combine with numerals (5.1.1) and the relationship that associative plurals have with bare noun languages (5.1.2).

1.2 What counts as an associative plural?

According to the cross-linguistic survey in the WALS database (Dryer 2013), associative plurality may be expressed in the following forms:

(8) **Formal types of associative plurals**

Marking	**Construction**	**Example**
dedicated affix	noun + dedicated affix	Brahui
dedicated article	noun + dedicated article	Tagalog
dedicated clitic	noun + dedicated clitic	Adyghe
basic plural marker	noun + affix, clitic, or free word which also serves as an additive	Turkish
secondary plural marker	noun + affix, clitic, or free word which also serves as an additive on a few nouns	Evenki
possessive affix + plural affix	headless plural possessive	Bulgarian
plural pronoun	noun + plural personal pronoun	Mandarin
conjunction	noun + conjunction without the second coordinand	Basque
plural verb form	singular NP + plural verb form	Plains Cree

However, this typology must be taken as a starting point rather than a definitive classification. One reason for this is because the WALS database takes a more permissive view of what counts as an associative plural than is generally understood in the linguistics literature. For example, WALS counts the following example from German as an associative plural:

(9) German:

Anna und die
Anna and DEF.PL

'Anna and her group'

The example in (9) is likely to be semantically distinct from the Japanese example in (13), given the presence of the conjunction *und*. A further stumbling block inherent in the WALS typology above is that it sorts associative plurals strictly on morphology. This overlooks languages were the associative plural is distinguished from the additive by word order, rather than a discrete morpheme. This pattern appears in both Turkish and Tok Pisin:

(10) Tok Pisin (Mühlhäusler 1981:43)

a. ɔ**l** *pater*
PL priest
'The priests'

b. *pater* ɔ**l**
priest PL
'The priest and his congregation'

In Tok Pisin, the associative plural emerges with the plural morpheme ɔ*l* follows the noun. With the pluralizer comes first, the interpretation is strictly additive. A similar phenomenon occurs in the Turkish data below:

(11) *Turkish* (Görgülü 2011: 72-73)

a. *Additive morpheme order*
Teyze-**ler**-im
aunt-ASSOC-1SG
'my aunts'

b. *Associative morpheme order*

Teyze-m-**ler**
aunt-1sg-assoc

'My aunt and her family / associates / friends'

In this case, the proximity of the pluralizer *ler* to the noun determines whether an associative interpretation is possible. When it attaches directly to the noun, the interpretation is additive, but when it is attached after possession, the plural is associative.

For the purpose of this dissertation, constructions will only fall into the category of 'associative plural' if they meet the following two criteria:

(12) (A) The plural is formed (minimally and maximally) from a focal referent noun + a pluralizer

(B) When the plural morphology is combined with an appropriate singular noun, membership in the group may be dictated by at least a kinship relation with the focal referent (although other relations may be possible).

This will exclude the German construction in (9) on the basis of (A), and it will exclude the English plural *-s* on the basis of (B). Japanese, Turkish, and Armenian all meet both criteria, and this is a part of the motivation for focusing on these languages here, with some additional support where needed from other languages that likewise meet the requirements of (12).

1.3 Elements of the associative plural

Now that we have determined what will count as an associative plural for the purpose of the present work, in this section, I will set out some basic terminology

for associative plurals and their components, and then provide a brief discussion of common claims about semantic properties of associative plurals.

To begin, the associative plurals that will be examined over the course of this thesis share a basic morphosyntactic form. They are composed from a noun and an associative affix that marks plurality:

(13) *Tanaka*-**tachi**-ga asonde-iru
Tanaka-ASSOC-NOM play-PROG
'Tanaka and his family or friends or associates are playing' (YM, 2023)

I will call the noun the affix attaches to (italicized above) the *focal referent* following Moravcsik (2003). The plural morpheme (bolded) will be referred to as the associative marker, or the group, interchangeably.

1.3.1 Animacy restriction

In addition to being composed of a focal referent and a plural marker, associative plurals are restricted to combining with human nouns and denoting human groups.[4] This is likely true in all languages (Moravcsik 2003; Vassilieva 2005), but it is certainly true in the ones of interest here. For example, that Japanese *-tachi* combines strictly with animates as is widely reported *-tachi* (Nakanishi & Tomioka 2004; Nakanishi & Ritter 2008; Tomioka 2021; Nakanishi 2020).The Armenian associative marker is likewise unable to attach to animate nouns:

(14) *Armenian*

Yes tesa bajak-*(**enq**) sexan-in
I saw cup-(ASSOC) table-DAT

Intended:'I saw the cups on the table' (MA, 2023)

[4]Nakanishi (2020) notes that *-tachi* may be used "with inanimate CNs or with non-human animate CNs in order to obtain a figurative effect or to express an attachment. For instance, *neko-tati* 'cat-*tati*' may be used by someone who adores cats."

In Turkish, when *-lar* attaches to an inanimate noun, an associative reading is not available, indicating that only the additive variant of *-lar* is permitted (see sections 1.4.2 and 3.3.2 for details on the two versions of *lar*).

(15) *Turkish*

Bardak-lar-ı masa-da gör-dü-m
cup-PL-ACC table-LOC see-PST-1SG

'I saw the cups on the table' (OB, 2023)

OB: It can't mean something like 'the cups and whoever owns the cups'

1.3.2 Collective readings

Although some sources a group-like character to associative plurals Iljic (2005) this plurals may have both collective and non-collective readings, as illustrated in the Armenian example below:

(16) Armenian (MA, 2023)

Context: Mariam is a piano player who is moving, and Mariam's three brothers have come to help Mariam move. At the end of the day, Mariam is talking on the phone with a friend and telling her about how the moving went.

a. The biggest thing the brothers moved was the three pianos Mariam owns. Each piano took all three of them working together to lift. Mariam tells her friend:

Axpr-enq-s ereq dashnamur texapox-ec-in
Brother-ASSOC-1SG three piano move-AOR-3PL

'My brothers moved three pianos'

b. In addition to the piano, the brothers helped Mariam move the three dining room chairs that she owns. In this case, each brother carried a single chair, and they do not work together. She tells her friend:

Axpr-enq-s ereq ator texapox-ec-in
Brother-ASSOC-1SG three chair move-AOR-3PL

'My brothers moved three chairs'

In the example in (16a), the three members of the associative plurality are collectively lifting the piano, while in (16b) the action is distributed between these members, as each brother moves a single chair.

For Turkish, Görgülü (2011) reports that the associative plural is limited to collective interpretations, and offers the following examples as evidence:

(17) TURKISH (Görgülü 2011:74)

a. Abi-ler-im Ankara-ya git-ti
brother-PL-1SG Ankara-DAT go-PST
- My brothers went to Ankara together. (collective)
- My brothers went to Ankara at different times. (distributive)

b. Abi-im-ler Ankara-ya git-ti
brother-1SG-ASSOC Ankara-DAT go-PST
- My brothers went to Ankara together. (collective)
- *My brothers went to Ankara at different times. (distributive)

Although Turkish consultants for this work agreed with the judgements above, I was unable to replicate a complete restriction to collective readings. For example, collaborators accepted both collective and cumulative readings in examples parallel to the Armenian ones in 16, and this is shown in the examples below.

(18) TURKISH (DG, 2023)

Context: Duygu is a piano player who is moving, and Duygu's three brothers have come to help Duygu move. At the end of the day, Duygu is talking on the phone with a friend and telling her about how the moving went.

a. The biggest thing the brothers moved was the three pianos Duygu owns. Each piano took all three of them working together to lift. Duygu tells her friend:

Abi-m-ler üç piyano taşı-dı-(lar)
Brother-my-ASSOC three piano carry-PST.

'My brothers moved three pianos'

b. In addition to the piano, the brothers helped Duygu move the three dining room tables that she owns. In this case, each brother carried a single table, and they do not work together. She tells her friend:

Abi-m-ler üç masa taşı-dı-(lar).
Brother-my-ASSOC three table carry-PST-PL.

'My brothers moved three tables'

The Turkish collaborator who gave these judgements noted that for her, The example with (20b) was more natural without plural agreement on the verb, and (20a) was more natural with agreement on the verb, although both were optional. It is possible this is related to the unavailability of the distributive reading that Görgülü (2011) reported in (17b), but I will set this aside here as an area for future research.

In Japanese similar claims have been made by Hosoi (2005) that *-tachi* marked nouns cannot have distributive readings based on the following examples:

(19) a. Kono-gakko-zentai-de 3-nin-no **kodomo-ga** kyoshitsu-kara
this-school-whole-at 3-CL-GEN child-NOM classroom-from
nigedashi-ta.
run.away-PST

'Three children in total ran away from classrooms in this school' (Hosoi 2005:31)

(ok under the interpretation in which three children ran away on different occasions)

b. Kono-gakko-zentai-de 3-nin-no **kodomo-tachi-ga**
this-school-whole-at 3-CL-GEN child-NOM
kyoshitsu-kara nigedashi-ta.
classroom-ASSOC-from run.away-PST
'Three children in total ran away from classrooms in this school' (Hosoi 2005:31)
(*ok under the interpretation in which three children ran away on different occasions)

However, the examples above may be odd because *kodomo-tachi* does not form a cohesive group of associated individuals in this context. It does not seem to be the case that *-tachi* marked nouns are limited to collective readings. For example, Japanese associative plurals are acceptable in both collective and cumulative contexts:

(20) JAPANESE (YM, 2023)
Context: Mari is a piano player who is moving, and Mari's friend Tanaka and his family have come to help her move. At the end of the day, she is talking on the phone with a friend and telling her about how the moving went.

a. The biggest thing the brothers moved was the three pianos Mari owns. Each piano took all three of them working together to lift. She tells her friend:

Tanaka-tachi-wa piano san-dai-o hakon-da.
Tanaka-ASSOC-TOP piano 3-CL-ACC move-PST.
'Tanaka's family moved three pianos'

b. In addition to the piano, Tanaka's family helped move the three dining room tables that Mari owns. In this case, each person carried a single table, and they do not work together. She tells her friend:

Tanaka-tachi-wa isu san-kyaku-o hakon-da.
Tanaka-ASSOC-TOP chair 3-CL-ACC move-PST.

'Tanaka's family moved three chairs'

1.3.3 The nature of the association

Moravcsik (2003) claims that the nature of the group relationship between the focal referent and associates is restricted on a cline, which proposes a

(21) **The choice of associates for associative plurals** Moravcsik (2003:473)

a. **Human** **Animate**

b. **Family Relations** **Friendship Shared Activities** **Incidental Association**

If in a language, a nominal can be an associate of an associative plural, so can any other nominal to the left on the two scales in that language.

Since she does not provide supporting evidence for these claims, they are difficult to evaluate. However, it seems to be the case that a broad range of affiliations between the focal referent and the affiliated group are possible in Japanese, Turkish, and Armenian. This is shown for Japanese in (22), for Turkish in (23, and for Armenian in (24):[5]

(22) **Japanese relations in associative plurals**

a. *Spatio-temporal affiliation*

Kyoo kooen-de gakusee-tati-no demo-ga atta
Today park-LOC student-ASSOC-GEN demonstration-NOM existed

'Today, there was a demonstration by (the) students (and possibly non-students) in the park.' (Nakanishi & Tomioka 2004:126)

[5]For similar data in Sahtugot'ine, see appendix A.2

b. *Professional affiliation*

Yootienji-tati-dake-ga yuukai s-are-ta
kindergarteners-ASSOC-only-NOM kidnap do-PASS-PST

'Only kindergartners (but possibly a teacher or two) were kidnapped.'

(Nakanishi & Tomioka 2004:127)

c. *Family affiliation*

Emi-tachi-wa asagohan-o tabeteiru, kedo Emi-wa mada
Emi-ASSOC-NOM breakfast-ACC eat-PROG but Emi-TOP still
neteiru.
sleep.PRES

'Emi's family are eating breakfast, but Emi is still in bed,' (YM, 2022)

d. *Team-based affiliation*

Hina-tachi-ga katte-ita kamoshirani
Hina-ASSOC-NOM win-PST could/might

'Hina's (team) could have won,' (YM, 2022)

(23) **Turkish relations in associative plurals**

a. *Leadership affiliation*

Ayla Ali-ler-i şehir merkezin-e götür-dü.
Ayla Ali-ASSOC-ACC city center-DAT take-PST.3SG

'Ayla took Ali (and his students) to the city center' (DG, 2023)

b. *Family affiliation*

Kral-lar yemek yiyor
King-ASSOC food eat-IPFV.PRES

'The king's family are eating' (DO, 2021)

c. *Team-based affiliation*

(Ben) Ali-ler kazan-mış ol-abil-ir-di diye düşün-üyor-um
I Ali-ASSOC win-PERF be-MOD-AOR-PST comp think-PRES-1SG

'I think that Ali ('s team) could have won' (DG, 2023)

(24) **Armenian relations in associative plurals**

a. *Professional affiliation*

Context: A journalist who knows a particular lawyer part of an investigation meeting at the park. The journalist says:

Pastaban-enq handicap-ec-in purak-um.
lawyer-ASSOC meet-AOR-PL park-LOC

'The lawyers met at the park' (MA, 2023)

b. *Family affiliation*

Mariam-enq handip-ec-in purak-um
Mariam-ASSOC meet-AOR-PL park-LOC

'Mariam's family met at the park' (MA, 2021)

c. *Circumstantial affiliation*

Context: Professor Mariam has to pick three students to go on a field trip with her as her assistants. Her TA Aram has to train them during his office hours.

Aram-ə verapatrastec usanox-enc, voronc Mariam-n yntrec
Aram-DEF trained student-ASSOC, that.ACC Mariam-DEF picked

'Aram trained the students that Mariam picked.' (MA, 2023)

In the next section, I will set out the details of the number marking system in each of these three languages, and point out some initial points of divergence between them.

1.4 Three associative languages

1.4.1 Japanese

Japanese is a bare noun language, where no additional morphology is needed in order for a plural reading to obtain. An example of this can be seen in (25):

(25) *Japanese* (Nakanishi & Tomioka 2004: 113)

Otokonoko-ga asonde-iru
boy-NOM play-PROG

'A boy is / boys are playing'

In addition to the clear associative meaning communicated in (13), the plural marker *tati* (pronounced also as *-tachi* depending on dialect) many also be used to convey a meaning similar to the English additive. As (25) demonstrates, this use of the plural marker may be optional in many cases, and additionally conveys a sense of definiteness when it is used:

(26) Otokonoko-**tati**-ga asonde-iru
boy-ASSOC-NOM play-PROG
'(The) boys are playing'

In the account of Japanese plurals given in Nakanishi (2020), the authors put forward evidence that both the associative and additive interpretations of *-tachi* (which they call 'pseudo-additive) are instances of the same plural, which has a semantics general enough to account for both. This accurately predicts that the associative reading will always be available, even with the focal referent is not a proper noun:

(27) Tanaka-**tachi**-ga asonde-iru
Tanaka-ASSOC-NOM play-PROG
√ 'Tanaka and associates are playing'
√ 'Tanakas are playing' (i.e. multiple people named Tanaka)

I will follow Nakanishi (2020) in assuming that the two uses of *tachi* are instances of the same morpheme throughout this thesis – further discussion of this is given in section 3.3.

In addition to Japanese pseudo-additive readings, *-tachi* marked DPs also exhibit flexibility with respect to whether the focal referent is necessarily included in the group that the plural denotes. For example:

(28) **Emi-tachi**-wa asagohan-o tabeteiru, kedo Emi-wa mada neteiru.
Emi-ASSOC-NOM breakfast-ACC eat-PROG but Emi-TOP still sleep.PRES
'Emi's family are eating breakfast, but Emi is still in bed,' (YM, 2022)

In this example the focal referent *Emi* does not participate in the eating event undertaken by the group. This exclusion of the focal referent is not exhibited by all associative plural languages, as we will see in section 1.4.2 and 1.4.3.

1.4.2 Turkish

Turkish has been described as an *optional classifier language* (Bliss 2003; Bale et al. 2010; Sağ 2018, 2019; Turgay 2020; Sağ 2022) – a language which lacks a determiner system and which may optionally employ classifiers when nouns combine with numerals. For example, the classifier *tane* is optional in the phrase *two books*:

(29) iki (tane) kitap
two CL book
'two books' (Sağ 2018:307)

A number of authors have proposed that bare nouns in Turkish should be analyzed wither as kinds (Bliss 2003), or as ambiguous between object and kind readings (Turgay 2020) in line with the classification of bare noun languages proposed in Chierchia (1998b).[6] I will be likewise assuming that Turkish nouns are type *e* without weighing in on the specifics of the debate.

[6]See, for example, Sağ (2019, 2022) for counter arguments to this.

Unlike Japanese, the Turkish plural marker *-lar* does seem obligatory in at least some cases for plural reference to obtain:

(30) Ali **kitab-ı** oku-du
Ali book-ACC read-PST
√ 'Ali read the book'
X 'Ali read the books' (Sağ 2019:3)

Exceptions to this noted in the literature include a) non-case-marked object position (sometimes taken to be a case of pseudo-incorporation), b) preceding the existential copular *var* (although this does not appear to be true for all speakers of the language — see section 3.3.2 for counterexamples), c) in predicate position, and d) with numerals:

(31) **Turkish bare plurals** Sağ (2019:3)

a. Ali **kitap** oku-du
Ali book read-PST
'Ali read one or more book'

b. Oda-da **fare** var
room-LOC mouse exist
'There is a mouse/are mice inside'

c. Ali ve Merve ç**ocuk**
Ali and Merve child
'Ali and Merve are children'

d. iki (tane) kitap*(-lar)
two CL book-(PL)
'two books'

Like Japanese, Turkish nouns marked by the plural marker *-lar* may also be interpreted with a meaning akin to the English additive:

(32) **Doktor-lar** hastane-de çalış-ır-(lar)
doctor-PL hospital-LOC work-AOR-(3PL)
'Where do doctors work?' (DG, 2023)

(33) Kral-**lar** yemek yiyor
King-PL food eatIPFV.PRES
√ 'The kings are eating'
√ 'The king and his family are eating' (DO, 2021)

However, unlike in the Japanese case, there is reason to suspect this is not a psuedo-additive reading. Görgülü (2011) analyzes the associative and additive interpretations of *lar* as instances of separate morphemes that are homophonous through an accident of history. We have see part of the evidence for this already, where morpheme order distinguishes additives from associatives – these examples are repeated below:

(34) TURKISH (Görgülü 2011: 72-73)

a. *Additive morpheme order*
Teyze-**ler**-im
aunt-ASSOC-1SG
'my aunts'

b. *Associative morpheme order*
Teyze-m-**ler**
aunt-1SG-ASSOC
'My aunt and her family / associates / friends'

Further evidence for this will be set out in section 3.3.2, but going forward I will adopt the assumption that there are two *-lar* plurals in Turkish. Another contrast with the Japanese associative is that in Turkish, the focal referent must be included in the group denoted by the plurality:

(35) TURKISH

a. Duygu **Ali-ler**-in cadı ol-dug-un-a
Duygu Ali-ASSOC-GEN witch be-NOM(DIK)-3POSS-DAT
'Duygu believes that Ali and his family are witches' (must include Ali)
DG, 2023)

b. **#Ali-ler** kahvaltı ed-iyor, ama Ali hala yatak-ta.
Ali-ASSOC breakfast do-PRES but Ali still bed-LOC
Intended: 'Ali's family is eating, but Ali is still in bed' (DG & FA, 2023)

1.4.3 Armenian

In this thesis, data on associative plurals comes from Eastern Armenian, a dialect which is not well represented in the linguistics literature.[7] I will refer to Eastern Armenian simply as *Armenian* throughout this work, and other dialects will be noted where they occur.

Like Turkish, Eastern Armenian has number neutral bare nouns in an object position that has been analyzed as a case of pseudo-incorporation and used as evidence to argue that nouns in Eastern Armenian are inherently number neutral, an assumption I will be adopting here:

(36) Armen-ĕ yerexa un-i
Armen-SP child have-3sg.PRES
'Armen has a child / children' (Crum 2020:15)

Unlike Turkish and Japanese, Armenian also has a morphologically distinct additive plural:

(37) ARMENIAN (MA, 2023)

a. Mariam-**enq** handip-ec-in purak-um
Mariam-**ASSOC** meet-AOR-PL park-LOC
'Mariam (and her friends/family) met at the park'

b. Mariam-**ner**-ə handip-ec-in purak-um
Mariam-**PL**-DEF meet-AOR-PL park-LOC
'The Mariams (a group of them) met at the park'

[7] Exceptions include (but are not limited to) Hodgson (2013); Faghiri & Samvelian (2019); Crum (2020); Samvelian et al. (2023). There is comparatively more work on bare nouns and plurality in Western Armenian, for example in Haig (1982); Sigler (1997); Bale & Khanjian (2008, 2014); Sağ (2019)

Additionally, Eastern Armenian has a post-NOMinal affix *-ə* which resembles a definite determiner, but which as also been glossed as specific (e.g. in Crum (2020)). I will gloss this as *Def* here with the understanding that this warrants further investigation that is outside the scope of the present work. Despite the morphologically distinct additive plural, the associative marker in Eastern Armenian can still receive a pseudo-additive reading with appropriate contextual support:

(38) *Armenian* (MA, 2023)

a. Mariam-**enq** handip-ec-in purak-um
Mariam-**ASSOC** meet-AOR-PL park-LOC
√ 'Mariam (and her friends/family) met at the park'
√ '(The) Mariams (a group of them) met at the park'

b. Mariam-**ner**-ə handip-ec-in purak-um
Mariam-**PL**-DEF meet-AOR-PL park-LOC
X 'Mariam (and her friends/family) met at the park'
√ 'The Mariams (a group of them) met at the park'

The contrast above shows that the Armenian associative plural can be translated with either an associative meaning, or something approximating an additive, where all members of the group fit the description of the noun. The Armenian additive *-ner* does not exhibit a parallel flexibility, and can only be interpreted as a plurality where members are all tokens of the same type.

Like Turkish and unlike Japanese, the focal referent in Armenian must necessarily be included in the group:

(39) Mariam-enq mez het yntr-ec-in
Mariam-ASSOC us with dinner-AOR-PL
'Mariam and her family/friends dined with us' (must include Mariam)
(MA 2023)

1.5 Summary

In this chapter, basic facts about associative plurals were introduced, including their animacy restrictions, the availability of both collective and cumulative readings, and the range of associations that are possible between the focal referent and the group. An overview of the number marking system in Japanese, Turkish, and Armenian was also given, and it was also shown that these languages diverge with respect to whether the focal referent must be included in the group. In the next chapter, data will be presented that illustrates how associative plurals are restricted beyond what their associative readings would predict, including resistance to existential/possessive constructions, generics, and numerals.

CHAPTER 2

The behaviour of associative plurals

Beyond the distinctive associative readings described in chapter 1, there are a number of consistent characteristics that appear with associative plurals across languages that are not on the surface straightforwardly related to their associative flavour. This chapter will provide an overview of the unique behaviours of associative plurals that will be addressed in the anticipation for the analysis in chapters 3 & 4.

2.1 The question of quantificational force

Something often remarked upon in the literature examining associative plurals is the fact that they seem to resist indefinite interpretations, and many authors take this to be indicative of the associative plural's inherent definiteness (e.g. Kurafuji 2004, Vassilieva 2005). Some of the evidence put forward to support this comes from the associative plurals inability to combine with numbers, which seems to be a universal feature of this construction, and which is likewise true of definites:

(40) a. JAPANESE (Nakanishi & Tomioka 2004: 120)

??san-nin-no gakusei-tati
three-CL-GEN student-ASSOC

b. Armenian (MA, 2023)

(*Ereq) Mariam-enq mez het yntr-ec-in
three Mariam-assoc us with dinner-aor-pl

Intended: 'Three (of) Mariam's family dined with us.'

c. Turkish (DO, 2020)

(*Üç) John-lar oyun oynuyor.
three John-assoc game play.pres

Intended: 'Three (of) John's family/friends are playing'

Additional support for associative plural's definiteness is drawn from the fact that associative-marked nouns do convey some sense of specificity – that is to say, they must be referential. We can see this demonstrated in the following examples, where a narrow-scope indefinite interpretation is unavailable for associative plurals under negation. Speakers of both Japanese and Armenian instead prefer to use a bare noun variant to capture a meaning conveyed by narrow scope English indefinites:

(41) Japanese (YM, 2022)

a. *Context :* A school sign has been vandalized over night and the principle is trying to discover if students are responsible. He doesn't know whether or not any students were in the area when it happened, so he asksthe school nurse, who was driving by the school around the same time. She tells him:

b. Shibahu-de watashi-wa gakusei-o mi-nakat-ta
Lawn-on I-top student-acc see-neg-pst
'I didn't see (any) students on the lawn'

c. ?Shibahu-de watashi-wa gakusei-**tachi**-o mi-nakat-ta
Lawn-on I-TOP student-ASSOC-ACC see-NEG-PST
'I didn't see (any) students on the lawn'

YM: The sentence is grammatical, but the meaning is changed a little. This should refer to a specific group – maybe the speaker sees a particular group often and that night she didn't.

(42) ARMENIAN (MA, 2023)

a. *Context:* A school sign has been vandalized over night and the principle is trying to discover if students are responsible. He doesn't know whether or not any students were in the area when it happened, so he asks a teacher who lives nearby. She didn't see anyone on the lawn that night and neither did anyone she knows in the neighbourhood, so she tells him:

b. Voch voq voch mi usanox c-hi tesel ancac gisher
No body no one student NEG-be see-PERF last night
'Nobody saw (any) students on the lawn last night'

c. *Voch voq usanox-enc c-hi tesel ancac gisher
No body student-ASSOC NEG-be see-PERF last night
Intended: 'Nobody saw (any) students on the lawn last night'

MA: This is a pretty bad sentence. It really means I have a particular group of students (or student and affiliates) and they weren't there, but other students might have been.

In these examples the associative plural marker is only licensed in situations where the speaker has a specific group in mind,[1] and not in the contexts above, where the target meaning applies more generally.

While specificity is a common requirement across the associative plurals in the three languages examined here, there is a further divergence between Japanese

[1]See appendix A.4 for data showing that *-tachi* becomes obligatory in some cases where specificity is required.

on the one hand and Turkish and Armenian on the other. The Japanese facts are outlined in section 2.1.1, and the Turkish and Armenian data in 2.1.2

2.1.1 Japanese

While Japanese *-tachi* marked DPs are necessarily specific, there is evidence to suggest that they are not definite. To begin, the referent of an associative plural need not be familiar to the speaker:

(43) *Context (continued from 41a):* Finally, the principle asks the vice-principle about the vandalism, as he left the office very late on that night. The vice principle tells him a different story. He says:

Watashi-wa gakusei-**tachi**-o shibahu-de mi-ta kedo, watashi-wa
I-TOP student-ASSOC-ACC lawn-on see-PST but I-TOP
kare-ra-ga dare datdare-ta ka wakara-nai
he-PL-NOM who COP-PST Q know-NEG.

'I saw students on the lawn, but I don't know who they were' (YM, 2022)

In this case the identity of *gakusei-tachi* is unknown to the vice-principle, but he did see a specific group of students. Additionally, Nakanishi & Tomioka (2004) observe that *tati-* can participate in scope relationships, in particular it is able to take narrow scope with respect to other elements, which would not be the case if it were strictly definite:

(44) **Japanese associative plurals and scope**

Kono kooen-de-wa itumo kodomo-tati-ga asonde-iru
this park-LOC-TOP always child-ASSOC-NOM play-PROG

$\surd$ always $>$ child-TATI: 'In this park, there are always children playing.'

?? child-TATI $>$ always: 'In this park, there are children who are always playing.'

Another reason to suspect that Japanese associative plurals are not definite is that they need not be interpreted maximally, a characterizing feature of the definite determiner (Sharvy 1980; Link 1983). For example in a situation like the one in (45), using the definite determiner in (45a) would be odd, since Natasha did not eat the maximal amount of apples that Nida picked. Conversely the bare plural in (45b), which does not have a maximality requirement, is perfectly fine.

(45) *Context:* Nida picks three apples and gives them to Natasha, who eats two of them.

a. # Natasha ate **the apples** that Nida picked.

b. Natasha ate apples that Nida picked.

Unlike the definite plural in (45a), Japanese associative plurals do not need to refer to the largest entity in the context that meets their descriptions. This is shown by (46b) below, where *hirrihaika-tachi* is used to describe 3/4 hitchhikers:

(46) **Japanese non-maximality**

Context: Keiichi is driving back to his home town to visit his parents, and on the way he picks up four hitchhikers. When he arrives home, he invites them to stay for dinner and three of the hitchhikers accept.

a. Keiichi-wa hittihaika:-(**tachi**)-o okut-ta
keiichu-TOP hitchhikers-(ASSOC)-ACC drive-PST
'Keiichi drove hitchhikers'

b. Keiichi-wa [kare-ga okut-ta] hirrihaika:-(**tachi**)-to bangohan-o
keiichi-TOP he-NOM drive-PST hichhiker-ASSOC-with dinner-ACC
tabe-ta.
eat-PST
'Keiichi ate dinner with hitchhikers that he drove ' (YM, 2022)

YM: Yes, we can say this, it's true even if one of them rejects his invitation.

Finally, the associative plural marker may be used to introduce discourse-new information, which has been argued to be a characteristic trait of definite DPs (Heim

1982; Roberts 2003). This explains why it is odd to use definite DPs to introduce characters at the beginning of a story (47):

(47) a. # Once upon a time, **the poor orphan girl** married a princess.

b. Once upon a time, a poor orphan girl married a princess.

Looking to Japanese, we can see that *tachi*-marked DPs have no such familiarity restriction:

(48) **Japanese discourse-new associatives**

Mukashi, mukashi aru to koro ni, dorobou-**tachi**-ga sunde iru mura-ga arimashita

'Once upon a time, there was a village where thieves lived.' (Zaizen 2021)

From the data above it seems necessary to draw the conclusion that associative plurals in at least Japanese are neither definite[2]or freely indefinite. I will return to this question in section 3.2, where a will propose that the relevant distinction is referentially and not definiteness in Japanese-like languages.

[2]Additionally, Nakanishi & Tomioka note that *tati-* combine with *wh*-demostratives, which seems to be at odds with the meaning that definites usually convey (Nakanishi & Tomioka 2004: 121):

(i) a. Donna gakusei-tati-ga kita-no?
what kind of student-ASSOC-NOM came-Q?
'What kind of student came?'

b. Majimena gakusei-tati-ga kita
serious student-ASSOC-NOM came
'Serious students came'

They also observe that associative plurals may act as the antecedent to sluiced *wh* phrase, which is a configuration where English definites are not accepted:

(ii) a. i. Andrew bought a car, but Anissa doesn't know which
ii. #Andrew bought the car, but Anissa doesn't know which

b. JAPANESE

Inoue-sensei-no ie-ni kodomo-tati-ga atumatta-to-kiita-kedo, watasi-wa
Inoue-Prof.-GEN house-at child-ASSOC-NOM gathered-Comp-heard-while I-TOP
dono kodomo-tati-ka sira-nai.
which child-TATI-Q know-NEG

2.1.2 Turkish and Armenian

Turkish and Armenian do not show the same range of specific indefinite readings that are available in Japanese. For example, unlike Japanese, Armenian associative referents must be familiar to the speaker:

(49) *Context:* Finally, he asks the vice-principle, who left the office very late on that night. The vice principle tells him a different story. He says:

#Yes usanox-enc em tesel, bayc ch-gitem ovqer en
I student-ASSOC-ACC be.1SG see, but NEG-know who be.3PL

Intended: I saw (the) students on the lawn, but I don't know who they were.

(MA, 2023)

MA: This feels like a presupposition failure here – like you might have to know them in the first conjunct.

SH: Can it be a specific group but you just don't know their names?

MA: No.

Because Turkish has a homophonous additive (discussed in 3.3.2), and the only clear-cut associative plurals come from examples where the focal referents are names with their own familiarity requirements, examples parallel to the above could not be elicited. However, both Turkish and Armenian do show evidence of maximality:

'(I) have heard that children gathered at Prof. Inoue's house, but I don't know which children.' (Nakanishi & Tomioka 2004: 123)

(50) **Turkish / Armenian maximality**

a. Turkish

Context: You see your friend's aunt and her two daughters at the city centre, but her husband and her other three children are missing. You tell your friend about this later:

???Teyze-n-ler-i gör-dü-m
Aunt-2sg-pl-acc see-pst-1sg

'I saw your aunt and her family' (DG, 2023)

DG: This feels odd. I would probably say something else instead, or else there would be a follow-up to clarify who was missing

In the examples above it is not possible to use associative DPs to refer to a subset of the group that the description applies to, and this is contra the Japanese example in 46.

b. Armenian

Context: Aram is driving home from work and notices three students looking for a ride. He gives them a ride home and they get along very well. Aram likes the students he drove so much that he hires two of them to work at his business.

#Aram-ə usanox-enc gorc-i yndunec
Aram-def student-assoc work-gen accept.aor.3sg

'Aram hired the students' (MA, 2023)

MA: To use this it should be all the students that he hired, not just part of the group.

However, despite their resemblance to definiteness, associative plurals in these languages are able to take what appears to be narrow scope under quantificational adverbs like the Japanese example in (157) and this is unexpected for true definites:

(51) **Turkish / Armenian plurals and scope**

a. Turkish (DG & FA, 2023)

Bu okul-da her zaman teyze-n-ler temizlik yap-ar-lar.
this school-LOC every time aunt-2POSS-ASSOC cleaning do-AOR-PL

$\surd$ always > teyze-n-LAR: 'In this school, there are always people associated with your aunt cleaning'

$\surd$ teyze-n–LAR > always: 'In this school, a certain group of your aunt's friends are always cleaning'

b. Armenian (MA 2023)

i. Ays dproc-um **usucich-enq** misht ashxatum en
this school-LOC teacher-ASSOC always work AUX

X always > teacher-ASSOC: 'In this school, there are always teachers working.'

$\surd$ teacher-ASSOC > always: 'In this school, there are (specific) teachers who are always working.'

ii. Ays dproc-um misht **usucich-enq** en ashxatum
this school-LOC always teacher-ASSOC AUX work

$\surd$ always > teacher-ASSOC: 'In this school, there are always teachers working.'

X teacher-ASSOC > always: 'In this school, there are (specific) teachers who are always working.'

In Turkish both scope options are possible with associative plurals (although the specific version is noted to be more natural), while in Armenian scope is determined by work order, but the associative plural may occur in either order.

Lastly, Turkish and Armenian associatives are not able to introduce new referents into the discourse:

(52) **Turkish / Armenian discourse-new associatives**

a. Turkish

Bir zamanlar hırsız-lar-ın yaşa-dığ-ı bir köy
One time-PL thieve-PL(*ASSOC)-GEN live-REL-3SG.POSS a village
var-dı
exit-PST.3SG

'Once upon a time, there was a village where thieves lived' (Dugyu Goksu, 2023)

SH: Could this refer to a group where there is only one thief and his family?

DG: No, has to be multiple thieves (associative reading of the plural is unavailable here)

b. Armenian

??Zhamanakin mi gyux kar, vortex bzhishk-enq ein
Once upon a time one village there.was where doctor-ASSOC be.3PL.PST
aprum
live

Intended: 'Once upon a time, there was a village where doctors lived' (MA, 2023)

However, it does not appear to be the case that the group itself is subject to this restriction – rather that the focal referent is cases. For example, if the focal referent is licensed, the group itself need not be familiar:

[2]This is the more natural reading, but both are possible.

(53) Turkish:

Bir zamanlar Ali adında bir öğrenci vardı. Ali-ler küçük bir
Once.upon.a.time Ali named a student existed Ali-assoc small a
kasaba-da yaş[a]-ıyor-du
town-loc live-prog-pst

'Once upon a time there was a student named Ali. Ali and his family lived in a small town.' (DG, 2023)

(54) Armenian:

Kar ch-kar mi usanox kar, Aram anun-ov. **Aram-enq** aprum ein
Exist neg-exist a student exist, Aram name-abl. Aram-assoc live be
mi poqrik gyux-um
a small village-loc

'Once upon a time there was a student named Aram. Aram (and friends) lived in a small village.' (MA, 2023)

To summarize, Turkish and Armenian associative plurals are not specific indefinites the way Japanese plurals are, but nor can they be analyzed as straightforwardly definite, on account of their scope-taking properties and the fact that the group the plural refers to need not be familiar.

2.2 Intensionality

The second property of associative plurals that I will discuss in this chapter is their intensionality. Associative plurals pass tests that suggest that their identity varies across situations more easily than we expect for additive plurals, and this is not a necessary requirement of their associative meaning. To start, let us turn to the question of what properties we expect from intensional objects. In Hazel Pearson's 2011 paper on group nouns, she draws a distinction between *committee*-type group nouns (family, team, committee, etc) and other singulars based on their

intensionality. Specifically, committee nouns are able to license individual level predicates with quantificational adverbs, while other singular-marked nouns are not. For example:

(55) **Intensionality test (Pearson 2011:164):**

a. # John always has big feet

b. The Pearson family always has big feet

Pearson's explanation of the oddness of (55a) is as follows: *Suppose that the reason why ILPs modified by always typically cannot be predicated of subjects that are rigid designators is that the resulting sentence implicates that the predicate might have been true of the subject at one time but false at another.* (Pearson 2011: 164)

I will suggest here that a parallel can be drawn between committee nouns and associative plurals with respect to their intensionality. Committee nouns contrast with singulars in terms of intensionality while associatives contrast with additives on the same axis:

(56) *Additives:*

a. # Mary and John always have big feet

b. ?? Those girls always have big feet[3]

c. ? The girls always have big feet

(57) *Associatives:*

a. JAPANESE

Hina-tachi-wa mut-tsu-no tumasaki-o motte itumo
Hina-PL-NOM 6-CL-GEN toe-ACC having always
umarete-(kuru)/umareru
born-come/born

'Hinas (family) are always born with six toes' (YM, 2022)

b. Turkish

Shay-ler-in ayaklari genelde buyuk oluyor.
Shay-assoc-gen foot-pl-poss usually big.cop be-ipfv-pres.3

'Shay's (family) usually have big feet' (DO, 2022)

In these examples, the group picked out by the associative plurals may have different members across situations, and so there is nothing odd about using them in sentences that have both individual level predicates and quantificational adverbs.

While I will not given an analysis of *committee*-type group nouns in this dissertation, their resemblance to associative plurals motivates part of the analysis given in section 3.1 (see Landman (1989); Barker (1992); Schwarzschild (1996); Pearson (2011); Henderson (2017); De Vries (2012, 2021) for approaches to groups), where I will propose that associative plurals denote *committee*-like groups based on the similarity above and on their shared animacy restriction. That *committee* nouns are strictly animate is evident in d Commonwealth Englishes where they are distinguished from other collectives by the fact that they can appear optionally with plural verbal agreement, unlike other, inanimate group nouns:

(58) The committee is/are leaving

(59) The swarm is/*are leaving

Although they do not share this variability in agreement (a problem I leave for future research), like committee nouns, associative plurals must be animate, as data in section 1.3.1 shows.

[3]The demonstrative improves this example in that it is used in place of the definite determiner, which can receive an implicit restriction that results in an interpretation along the lines of *the students here always have big feet*. Because of this, definites do not provide a good testing group for the contrast in (56–57)

2.3 Language internal restrictions

Associative plurals resist being used in certain constructions in a way that does not follow straightforwardly from their associative nature. These include existential and possessive constructions (2.3.1), kinds and generics (2.3.2), and numerals (2.3.3). This section will provide an overview of the data that shows this for the languages under consideration here.

2.3.1 Existential and possessive constructions

It has been noted by several authors that associative plurals are incompatible with existential / possessive constructions (Nakanishi & Tomioka 2004; Biswas 2012). These are constructions which involve verbs that gloss as *exist* and or *have*, and may be translated with predicative possession or an existential construction in English. In this section and going forward, I take these to be instances of the same thing regardless of how individual authors gloss them and regardless of which meaning they express (the existential or the posessive). An example of this construction is given in the Japanese sentence in (60) below, where the verb is glossed as *exist* and translated as *have*:[4]

(60) Inoue-san-ni-wa kodomo-ga aru/iru
Inoue-Mrs.-DAT-TOP child-NOM exist
'Mrs. Inoue has a child/children' (*it asserts that Mrs. Inoue is a mother*). (Nakanishi & Tomioka 2004:116)

[4] Nakanishi & Tomioka report that Japanese prohibits associatives only in possessives, using the following example as evidence that existential associatives are permitted:

(i) Kooen-ni kodomo-tati-ga ita
Park-LOC child-ASSOC-NOM existed
'There were children in the park'

For the time being, I will assume that the verb *ita* is different in a relevant sense from *aru* / *iru* and set it aside.

Unlike the English translation, this sentence has a syntactic structure along the lines of 'Children exist for Mrs. Inoue,' where the possessed element, *kodomo*, is the subject of the sentence, and the possessor is demoted into a dative. This example above is perfectly acceptable in Japanese because *kodomo* is a bare noun. However, once the associative plural marker *-tati* is introduced, the sentence becomes ungrammatical:

(61) *?Inoue-san-ni-wa kodomo-**tati**-ga aru/iru
Inoue-Mrs.-DAT-TOP child-ASSOC-NOM exist
(Nakanishi & Tomioka 2004:115)

The same phenomenon can be observed in Turkish and Armenian[5] where only the additive is felicitous with the verb *var*.

(62) a. TURKISH

i. Doktor-lar var
Doctor-ASSOC exist
Intended: 'Doctors exist' (Duygy Goksu, 2023))

ii. #Çağrı-lar var
Çağrı-ASSOC exist
Intended: 'Çağrı's (family) exists' (Özge Bakay, 2022)

iii. Hastane-de doktor-lar var
hospitcal-LOC doctor-ASSOC exist
'There are doctors in the hospital (in general)' (Özge Bakay, 2022)

iv. #Hastane-de Çağrı-lar var
Hospital-LOC Çağrı-ASSOC exist
Intended: 'Çağrı's (family) are at the hospital (in general)' (Özge Bakay, 2022)

[5]This has also been observed for Bangla in XX. This data is given in appendix XX

b. Armenian

*Entex bzhishk-enq kan
There doctor-assoc 3pl.exist

Intended: 'There are doctors there' (MA, 2023)

In (62a), examples where *-lar* combines with a common noun are acceptable, but the clearly associative cases, where a proper noun is the focal referent are not. This is because Turkish has a homophonous additive and associative plural (Görgülü 2001, section 3.3.2). Additionally, while the general meaning is unavailable for the Turkish example in (148b-iv) there is a specific reading allowed along the lines of 'Çağrı's family are at the hospital *now*.' What seems to be unavailable is a more general existential meaning along the lines of (148b-iii).

2.3.2 Kinds and generics

Along with existential constructions, associative plurals also resist being used in generic and kind sentences. A quintessential example of this can be found in Japanese, where the possibility of a generic reading disappears when associative *-tati* is introduced:

(63) Generics and Japanese Plurals (Nakanishi & Tomioka 2004: 114)

a. Itariazin-wa yooki-da
Italian-top cheerful-cop
✓Generic: 'Italians are cheerful'

b. Itariazin-**tati**-wa yooki-da
Italian-assoc-top cheerful-cop
???Generic: 'Italians are cheerful' ✓'Some group of Italians are cheerful'

Again, as in the case of numerals, there is nothing on the face of the associative nature of this plural that should prevent it from being generic – it is conceptually possible, at the very least, to imagine making a generic-level generalization about

a non-homogenous group. The same is true of kind-level predications, which are likewise incompatible with *-tati*[6]:

(64) Zyosei-tantei(?*-**tati**)-wa mezurasii
female-detective-ASSOC-TOP rare
'Female private detectives are rare.' (Nakanishi & Tomioka 2004: 115)

In Turkish, we can observe that the associative reading is unavailable in kind/generic sentences, but that the homophonous additive is perfectly acceptable:

(65) TURKISH (FA & DG, 2023)

a. Kind

Ali-**ler** yaygın-(lar)
Ali-ASSOC widespread-PL

'Ali's family is widespread'

✓'People named Ali are widespread'

b. Generic

i. #Saç-lar-ı sarı ol-an Ali-**ler** uzun(lar)
Hair-PL-POSS3 blonde be-REL Ali-ASSOC tall
Intended: 'Ali's family who have blonde hair are tall'

ii. Saç-lar-ı sarı ol-an Almanlar uzun(lar)
Hair-PL-POSS3 blonde be-REL german-PL tall
'Germans who have blonde hair are tall'

The same is true for Armenian:

[6] A similar pattern is reported for Mandarin Chinese by Jiang (2012), with the exception that only kinds ban the associative marker *-men*:

(i) Mandarin associate plurals in kinds (Jiang 2012)

hao nanren(*/??-**men**) yijing kuai juezhong le
good man-ASSOC already soon extinct asp

'Good men are becoming extinct very soon'

This generalization may not apply in Bangla – see appendix A.5 for relevant data from Biswas (2014).

(66) Armenian (MA, 2023)

a. Kind

i. #Lav usucich-enq hazvadep ban en
Good teacher-ASSOC rare thing be.3SG
Intended: 'Good teachers are rare'

ii. Lav usucich-(ner)-ə hazvadep ban e(n)
Good teacher-(PL)-DEF rare thing be.3PL
Intended: '(A) good teacher(s) is/are rare'

b. Generic

i. #Usanox-enq xelaci en
Student-ASSOC-DEF smart be.3PL
Intended: 'Students are intelligent (in general)'

ii. Usanox-ner-ə xelaci en
Student-PL-DEF smart be.3PL
'Students are intelligent (in general)'

Nakanishi & Tomioka note that the incompatibility of associative *tati* with kinds and generics can be alleviated through licensing by modification. That is to say, associatives become licit in kind and generic statements when they appeal with a relative clause modifier:

(67) Licensing of generic *tati* (Nakanishi & Tomioka 2004: 136)

a. Without a modifier:

Itariazin-tati-wa yooki-da
Italian-ASSOC-TOP cheerful-COP

??? Generic: 'Italians are cheerful.'

b. With a modifier:

Nihon-ni yattekuru Itariazin-tati-wa yooki-da
Japan-to come over Italian-ASSOC-TOP cheerful-COP

✓Generic: 'Italians who come over to Japan are cheerful.'

c. With a sense of contrast:

Kodomo-tati-wa itumo otona-tati-no mane-o suru
child-ASSOC-TOP always adult-ASSOC-GEN imitate

✓Generic: 'Children always imitate adults.'

This apparent case of *subtrigging* (Dayal 1998, 2004) does not hold in all languages, however.[7] This is demonstrated by the Turkish case in example (65b-i) where the associative plural is banned despite the inclusion of restrictive relative clause. This example is repeated below:

(68) TURKISH (FA & DG, 2003)

#Saç-lar-ı sarı ol-an Ali-**ler** uzun(lar)
Hair-PL-POSS3 blonde be-REL Ali-ASSOC tall

Intended: 'Ali's family who have blonde hair are tall'

2.3.3 Numerals

The inability of associative plurals to combine with numbers is one of the most robust generalizations about them. Additionally, there is no inherent reason why a non-homogenous group should not be countable. Associative plurals may felicitously be used in situations where the exact size of the group is known to the speaker, and therefore this cannot be easily attributed to any vagueness that the lack of homogeneity may introduce (contra the proposal of Nakanishi & Tomioka 2004). Likewise there is no reason why a group with a representative member can not be counted. Nevertheless, associative plurals in all the languages examined here cannot enumerated. We saw evidence of this in example (40), which is repeated in (69) below:[8]

[7] And in fact there is some reason to question the Japanese examples above. Satoshi Tomioka (personal communication) has raised doubts about these data, since the Italians have to come to Japan (and be seen) in *groups*, rather than individually.

[8] See appendix A.1 for similar data from other languages.

(69) a. JAPANESE (Nakanishi & Tomioka 2004: 120)

??san-nin-no gakusei-tati
three-CL-GEN student-ASSOC

b. ARMENIAN (MA, 2023)

(*Ereq) Mariam-enq mez het yntr-ec-in
three Mariam-ASSOC us with dinner-AOR-PL

Intended: 'Three (of) Mariam's family dined with us.'

c. TURKISH (DO, 2020)

(*Üç) John-lar oyun oynuyor.
three John-ASSOC game play.PRES

Intended: 'Three (of) John's family/friends are playing'

A bare noun must be used instead in the presence of a numeral.[9]

[9]The major exception to this is reported in Nakanishi & Tomioka (2004), where large, unspecific numbers are reported to be more acceptable than other numerals:

(i) *Japanese* (Nakanishi & Tomioka 2004: 120)

a. ??san-nin-no gakusei-tati
three-CL-GEN student-ASSOC

b. 129-nin-no gakusei(**??-tati**)-ga miitingu-ni sankasita
129-CL-GEN student(-ASSOC-NOM meeting-LOC participated
'129 students (and possibly others) participated in the meeting.'

c. 200-nin-izyoo-no gakusei(**-tati**)-ga miitingu-ni sankasita
200-CL-or more-GEN student(-ASSOC)-NOM meeting-LOC participated
'200 or more students (and possibly others) participated in the meeting.'

It seems that this is not possible in Armenian or Turkish, and therefore may be a phenomenon specific to Japanese:

(ii) a. ARMENIAN

*Erku harjur kam avelin bzhisk-enq stug-ec-in Aram-in
two hundred or more doctor-ASSOC examin-AOR-PL Aram-ACC

Intended: 'Two hundred doctors or more examined Aram ' (MA, 2023)

b. TURKISH

*Üç John-lar-dan fazla-si oyun oynuyor.
Three John-ASSOC-ABL more-POSS game play

Intended: 'More than three of John's children are playing ' (DO, 2020)

The inability of associative plurals to combine with numbers may also extends to other elements within the DP. This is shown below for Armenian:

(70) Armenian (MA 2023)

*Vorosh/*Bolor bzhishk-**enq** Aramin stugecin
Some/all doctor-ASSOC Aram-ACC examine-AOR-PL

Intended: 'Some/all the doctors examined Aram'

The question of why numerals and similar elements are unable to combine with associative plurals will be taken up in section 5.1.1, where a link will be made between their resistance to enumeration and their obligatory animacy (in specific, their obligatory humanness).

2.4 Summary

What we have seen in this section is evidence a range of phenomena observable for associative plurals across Japanese, Turkish, and Armenian. This includes their specificity (and the contrast between Japanese on the one hand and Turkish/Armenian on the other), their intensionality, and a number of restrictions on their distribution within languages (including lack of acceptability in existential/possessive constructions, kinds and generics, and with numerals). In the next chapter, I will set out the basic analysis for associative plurals that I will present here, with a focus on capturing their associative readings, their quantificational force, and their apparent additive readings.

CHAPTER 3

A unified semantics for associative plurals

The preceding chapter set out the empirical data that will be relevant for the analysis of associative plurals that I will present here and in chapter 4. What we have seen so far is that associative plurals exhibit certain behaviours across languages that do not seem to relate straightforwardly to the associative readings that distinguish them from additive plurals. This includes their quantificational force, which must always be referential (either resembling specific indefinites, as in Japanese, or resembling definites as in Turkish and Armenian), their absence from existential and generic constructions, and their intensionality. In this chapter, I will set out the basic analysis that will form the core proposal for associative plurals in this dissertation. Here the focus will be on capturing the associative property of these plurals, their specificity and it's cross-linguistic variation, additive readings, and the source of restrictions that some languages place on what kind of noun can act as a focal referent. Chapter 4 will pick up this account and show how it is able to answer the questions posed by restrictions on the distribution of associative plurals within languages as well as their group-like intensionality. As in the preceding chapters, the approach I will develop will focus largely on Japanese, Turkish and Armenian. That being said, this account is developed with an eye towards its utility in explaining associative plurals in a wider selection of languages, a great deal of which are consistent with the languages examined here in terms of the behaviour

of their plurals – additional supporting data from these languages is given in the appendix.

The layout of this chapter is as follows: section 3.1 will set out the basics of the proposal and how it captures associative readings. Section 3.2 will enrich the proposal in order to show how it is able to correctly predicts associative plural specificity and how Japanese and Turkish / Armenian differ on this axis. This will be built on in section 3.3, where I will address the apparent additive readings of associative plural markers, and why out of the languages surveyed here, they are available in Japanese but not Armenian (in the case of Turkish, which has a homophonous additive, it remains ambiguous). Lastly, in section 3.4 we will turn to the question of what can be an acceptable focal referent, and why some languages might restrict this set more than others. The remaining questions about associative plurals, such as their language-internal restrictions, intensionality, and potential connection to pronouns will be taken up in Chapter 4.

3.0.1 Theoretical preliminaries

In this thesis I assume a semantics with a standard set of interpretation rules along the lines of Heim & Kratzer (1998) (given here with minor adaptations from Schwarz (2009)):

(71) **Function Application**

If α is a branching node and β, γ the set of its daughters, then, for any context c and any assignment g, α is in the domain of $[\![]\!]^{c,g}$ if both β and γ are, and $[\![\beta]\!]^{c,g}$ is a function whose domain contains $[\![\gamma]\!]^{c,g}$. In that case, $[\![\alpha]\!]^{c,g} = [\![\beta]\!]^{c,g}([\![\gamma]\!]^{c,g})$

(72) **Predicate Modification**

If α is a branching node and β, γ the set of its daughters, then, for any context c and any assignment g, α is in the domain of $[\![]\!]^{c,g}$ if both β and γ are, and $[\![\beta]\!]^{c,g}$ and $[\![\gamma]\!]^{c,g}$ are of type $< e, < s, t >>$. In that case, $[\![\alpha]\!]^{c,g} = \lambda x.\lambda s.[\![\beta]\!]^{c,g}$ & $[\![\gamma]\!]^{c,g}$.

(73) **Pronouns and traces**

If α is a pronoun or a trace, g is a variable assignment, and $i \in \mathrm{dom}(g)$, then $[\![\alpha_i]\!]^{c,g} = \mathrm{g(i)}$.

(74) **Predicate Abstraction**

For all indices i and assignments g, $[\![\lambda_i \alpha]\!] = \lambda x.[\![\alpha]\!]^{g x/i}$

Additionally, I will assume a situation semantics along the lines of Barwise & Perry (1983); Kratzer (1989) that includes unpronounced, syntactically represented situation pronouns. Propositions here are modeled as a set of possible situations and situations are ordered by $\leq$ in a mereological structure where maximal situations are worlds. Situation pronouns may obtain their value through binding by the topic situation (i.e. the situation the sentence is evaluated at), through binding by a quantifier, or by remaining free and being assigned a value by an assignment function according to the pronouns and traces rules in (74).

3.1 Deriving association

Let us begin by setting aside for a moment any questions about cross-linguistic variation, additive readings, or language-internal restriction and focus on the characterizing property of associatives: their associative meaning. To reiterate, what is special about associative plurals is that the are non-homogenous, and members of the groups they denote may not all be tokens of a type. Illustrative examples are repeated in (75a) below:

(75) a. JAPANESE

Tanaka-**tachi**
Tanaka-ASSOC

'Tanaka and his family or friends or associates' (Moravcsik 2003:469)

b. TURKISH

Ahmet-**ler**
Ahmet-ASSOC

'Ahmet's family or company or group' (Görgülü 2011:73)

c. ARMENIAN

Mariam-**enq** handip-ec-in purak-um
Mariam-ASSOC meet-AOR-PL park-LOC

'Mariam's family met at the park' (MA 2023)

This plural denotes a group of people that are affiliated in some way with *Tanaka*, rather than a group of people that all share that name. Descriptive work on associative plurals suggest that the relation between *Tanaka* and the group is one of kinship (Corbett & Mithun 1996; Moravcsik 2003; Daniel & Moravcsik 2005) although given the dearth of semantic elicitation data, it is unclear if there is any language where *only* a kinship relation is allowed (Daniel 2020). In Japanese, at the very least, the relationship between the focal referent and the group is relatively free, and a number of different kinds of affiliations are possible:

(76) *Japanese relations in associative plurals*

a. *Spatio-temporal affiliation*

Kyoo kooen-de gakusee-tati-no demo-ga atta
Today park-LOC student-ASSOC-GEN demonstration-NOM existed

'Today, there was a demonstration by (the) students (and possibly non-students) in the park.' (Nakanishi & Tomioka 2004:126)

b. *Professional affiliation*

Yootienji-tati-dake-ga yuukai s-are-ta
kindergarteners-ASSOC-only-NOM kidnap do-PASS-PST

'Only kindergartners (but possibly a teacher or two) were kidnapped.'

(Nakanishi & Tomioka 2004:127)

c. *Family affiliation*

Emi-tachi-wa asagohan-o tabeteiru, kedo Emi-wa mada
Emi-ASSOC-NOM breakfast-ACC eat.PROG but Emi-TOP still
neteiru.
sleep.PRES

'Emi's family are eating breakfast, but Emi is still in bed,' (YM, 2022)

d. *Team-based affiliation*

Hina-tachi-ga katte-ita kamoshirani
Hina-ASSOC-NOM win-PST could/might

'Hina's (team) could have won,' (YM, 2022)

Turkish likewise exhibits some flexibility with respect to association although, anecdotally speaking, collaborators were more likely to interpret associative relationships as kinship when the context did not suggest otherwise. Examples of possible Turkish relations are given below:

(77) *Turkish relations in associative plurals*

a. *Leadership affiliation*

Ayla Ali-ler-i şehir merkezin-e götür-dü.
Ayla Ali-ASSOC-ACC city center-DAT take.PST.3SG

'Ayla took Ali (and his students) to the city center' (DG, 2023)

b. *Family affiliation*

Kral-lar yemek yiyor
King-ASSOC food eat-IPFV.PRES

'The king's family are eating' (DO, 2021)

c. *Team-based affiliation*

(Ben) Ali-ler kazan-mış ol-abil-ir-di diye düşün-üyor-um
I Ali-ASSOC win-PERF be-MOD-AOR-PST comp think-PRES-1SG

'I think that Ali ('s team) could have won' (DG, 2023)

This data suggests that whatever definite is given to associative plural DPs, it will need to include some sort of contextually specified relation. Fortunately, we do not need to look very far to find one – similar contextually-specified relationships have long been observed in prenominal possessive constructions, in English and across languages. For example, while the 'default' relation of prenominal possession is ownership, a range of other relations are also possible:

(78) *English prenominal possession relations*

a. *Ownership*

My dog has a long tail

(i.e. the dog that I own has a long tail)

b. *Inclusion*

My team scored the winning goal

(i.e. the team that I am on scored the goal)

c. *Oversight*

My jury found my guilty.

(i.e. the jury responsible for determining my innocence found me guilty)

d. *Locative*

My home town elected a new mayor.

(i.e. the town where I am from elected a mayor)

The literature on possession formalizes this kind of contextually-specified association with the variable relation R (Vikner & Jensen 1994; Partee et al. 1983; Partee 1997; Barker 1995). In action, this relation takes two arguments and associates them, as in the following example of post-NOMinal possession based on Vikner & Jensen (1994):

(79) $[\![\textit{team of Ana's}]\!]^{g,c} = \lambda x[\text{team}(x) \;\&\; R_i(\text{Ana})(x)]$

Here the relation R has an index i and is interpreted relative to the assignment function g and the context. As in the case of pronouns, $g(i)$ will pick out a contextually appropriate referent, although in this case that will be a relation rather than an individual. This relation could be any number of things, such as inclusion, ownership, representation, etc.

Vassilieva (2005) also considers the potential utility of R in explaining the relation inherent to associative plurals, but rejects it on the basis that it does nothing to explain the fact that kinship appears to be a 'default' for associative relations. However, this is likewise an outstanding problem for the default ownership interpretation of possession, which the R variable does not explain. I will not attempt to solve the default-relation puzzle here, as it is beyond the scope of the current work, but note that it is an outstanding question. Nakanishi & Tomioka (2004) adopt something similar to R in their analysis of *-tachi*, introducing a relation they call *represents*. This relation does not differ significantly from R in its function aside from narrowing the possible relations by stipulating that the focal referent must in some way represent the group. This intuition does appear to be true, as only the most "representative" member of the group can be a natural focal referent, but it

is difficult to define what exactly this means, particularly in Japanese which allows a wide range of focal referents. I will touch on the question of permissible focal referents again in section 3.4. Going forward, I will use *R* to encode the association of associative plurals. If we assume that this relation is introduced by the associative plural morphology, we can propose that at the very least *-tachi* must look something like (80) below:

(80) $[\![\textbf{tachi}]\!] = \lambda x.\lambda y.\ R(y, x)$

In the example given in (80), the plural operator combines with a focal referent noun and introduces a relation between that noun and the second variable. With this done the resulting associative property may be quantified over by a silent $\exists$ or ι depending on whether the DP is indefinite or definite. For example:

(81) $[\![\text{Tanaka-}\textbf{tachi}]\!] = \iota y.\ R(y, \text{Tanaka})$

We can think of this proposal above as a sort of null-hypothesis, given it's precedent in Nakanishi & Tomioka (2004) and the fact that it is similar in form to what is commonly assumed about the additive plural in the sense that in both cases the functional morphology does the bulk of the semantic lifting. One reason to suspect that this null hypothesis might not be the correct fit for Japanese and other associative plural languages is the data observed in section 2.1: namely that Japanese associative plurals do not appear to allow narrow-scope indefinite interpretations, which is unexpected if quantification by $\exists$ is freely available. Recall for instance, that narrow-scope indefinite readings under negation are not possible for associative plurals. The data is repeated from below for clarity:

(82) Japanese (YM, 2022)

a. *Context :* A school sign has been vandalized over night and the principle is trying to discover if students are responsible. He doesn't know whether or not any students were in the area when it happened, so he asksthe school nurse, who was driving by the school around the same time. She tells him:

b. Shibahu-de watashi-wa gakusei-o mi-nakat-ta
Lawn-on I-top student-acc see-neg-pst
'I didn't see (any) students on the lawn'

c. ?Shibahu-de watashi-wa gakusei-**tachi**-o mi-nakat-ta
Lawn-on I-top student-assoc-acc see-neg-pst
'I didn't see (any) students on the lawn'

YM: The sentence is grammatical, but the meaning is changed a little. This should refer to a specific group – maybe the speaker sees a particular group often and that night she didn't.

Once *-tachi* is added into the example above, a specific interpretation is required. And of course, in addition, it cannot be the case that *-tachi* marked nouns are always definites. If this were the case then we would not expect it to exhibit scope-taking behaviour in the presence of other quantification elements, like the adverb *always*:

(83) Kono kooen-de-wa itumo kodomo-tati-ga asonde-iru
this park-loc-top always child-assoc-nom play-prog
√ always > child-tati: 'In this park, there are always children playing.'
?? child-tati > always: 'In this park, there are children who are always playing.' (Nakanishi & Tomioka 2004:121)

What is need here is a denotation for associative plurals that captures the fact that they are obligatorily specific rather than definite or indefinite.

In the case of Japanese, where we have seen that associative plurals behave like specific indefinites, one obvious possible alternative to the null hypothesis is

to adopt a choice-functional account, which has been adopted by many authors to explain indefinite's exceptional scope properties (Reinhart 1997; Winter 1997; Kratzer 1998; Matthewson 1998). Of particular relevance here are the accounts in Kratzer (1998); Matthewson (1998), who propose that indefinites may be quantificational or choice-functional, and that choice-function indefinites only produce wide-scope readings (i.e. specific indefinite readings).[1] In order to adapt this for associative plurals, it would be necessary to treat seriously that associative markers like *-tachi* are analogous to indefinite determiners, despite the face that there is no morphosyntactic evidence for this. Setting this aside, a choice-function based on the approach outlined in Matthewson (1998) is given below:

(84) a. Taro-tati-wa moo kaetta
Taro-ASSOC-TOP already went home
'The group of people represented by Taro went home' (Nakanishi & Tomioka 2004:124)

b. $\exists f[\text{CH}(f) \,\&\, [f(\text{Tanaka-tachi}) \,\&\, \text{went home}(\text{Tanaka-tachi})]]$

A wide-scope/specific interpretation is guaranteed here because of necessarily high existential closure over the choice function Matthewson (1998). The choice function will pick out an individual in the set *Tanaka-tachi*, which I assume has a denotation involving the relation as in (81). This would account for the specific nature of associative DPs in Japanese. However, like the null hypothesis, the choice functional approach likewise misses generalizations about associative plurals. First, it has nothing to contribute to the analysis of associative plurals in Turkish/Armenian type languages, where these plurals seem to behave more like definites than weak indefinites. A natural answer to this is simply to stipulate that in some languages associative plurals are choice-functional indefinites while in others they are defi-

[1] Other accounts cited (Reinhart 1997; Winter 1997) here forego ambiguity in favour of a unified account of choice-functional indefinites, with scope variation being a product of where existential closure over the function is located.

nite, but this would not help us explain why narrow-scope indefinite reading do not appear to be an option, i.e. why associative plurals must always be specific. Additionally, an analysis like (84b) does not account for the intensional nature of associative plurals: that is, for the fact that associative groups have identities that vary across situations. Data supporting this claim was outlined in section 2.2, but to reiterate, associative plurals do not behave like strict additives in constructions with quantificational adverbs and individual level predicates. This is observable for both Japanese and Turkish:

(85) *Additives:*

a. # Mary and John always have big feet

b. ?? Those girls always have big feet[2]

(86) *Associatives:*

a. JAPANESE

Hina-tachi-wa mut-tsu-no tumasaki-o motte itumo
Hina-ASSOC-NOM 6-CL-GEN toe-ACC having always
umarete-(kuru)/umareru
born-come/born

'Hinas (family) are always born with six toes' (YM, 2022)

b. TURKISH

Shay-ler-in ayak-lar-ı genelde büyük oluyor.
Shay-ASSOC-GEN foot-PL-POSS usually big.COP be-IPFV-PRES.3

'Shay's (family) usually have big feet' (DO, 2022)

I will propose an alternative that will be able to account both for the quantificational force of associative plurals, their intensionality, and systematic variation across languages. In addition, this will help to explain many of the language-internal restrictions on associative plurals, such as their resistance to existential constructions and generics (see chapter 4).

I will use Japanese examples to illustrate, but the analysis should be taken to apply to Turkish and Armenian as well until they diverge in section 3.2. To start, I propose here that the work of association is done not by the associative plural marker, but by the focal referent, which has the semantics of a non-intersective article. This proceeds through combination of the focal referent noun with an unpronounced functional element which I am calling a 'determinizer' here (87c) :[3]

(87) a. JAPANESE

Tanaka-tachi
Tanaka-ASSOC

'Tanaka and his family or friends or associates' (M 2003: 469)

b. $[\![\text{Tanaka}]\!] = \textit{Tanaka}$

c. $[\![\textit{determinizer}]\!]^{g,c} = \lambda x_e.\lambda s.\lambda P_{<s,e>}.\ R_i(P)(x)\colon P(s)$

d. $[\![\text{Tanaka-}\textit{det}]\!]^{g,c} = \lambda s.\lambda P_{<s,e>}.\ R_i(P)(\text{Tanaka}) : P(s)$

The particle in (87c) combines with the noun which it incorporates into the presupposition, and what it returns is a focal-referent modifier. Here the focal referent is a function that combines with a situation variable and a pronoun denoting an individual concept, which returns a group (I will return to this shortly). It introduces a presupposed relation between the focal noun (*Tanaka*, in this case) and the individual concept. The variable nature of *R* accounts for the range of relations that are able to hold between the focal referent and the individual concept. In addition to establishing the relation between the named member and the concept, what the focal referent returns is the value of the individual concept at the input situation.

Note that the relation *R* holds between the individual concept and the focal referent and not the focal referent and the group that the individual concept returns, this is because the relation to the focal referent is not restricted to a specific

[3]The denotation in (87d) is also similar to what Fradin (2007) proposes for denominal adjectives cross-linguistically and what Wilhelm (2015) on non-intersective adjectives in Dene Suline (i.e. the only adjectives in this and related languages).

situation. For instance Tanaka's family is Tanaka's family across situations rather than just, for example, in the evaluation situation. For example, if the definition given above were defined as $R(P(s))(Tanaka)$, then this would mean an instance of the individual concept was related to Tanaka, but other instances might not be. I will return to this in section 3.2.2, where I will consider an amendment to this.

There is some precedent in the literature for analyzing the focal referent noun as a type of adjective or determiner that might be expected to have semantics like this, and that work comes from Vassilieva (2005). Vassilieva proposes a syntactic analysis that has the focal referent noun ending the derivation in a determiner position, and she grounds this analysis in morphological evidence from languages like Bulgarian, where the focal referent bears adjectival/possessive morphology:

(88) Bulgarian (Vassilieva 2005:21):

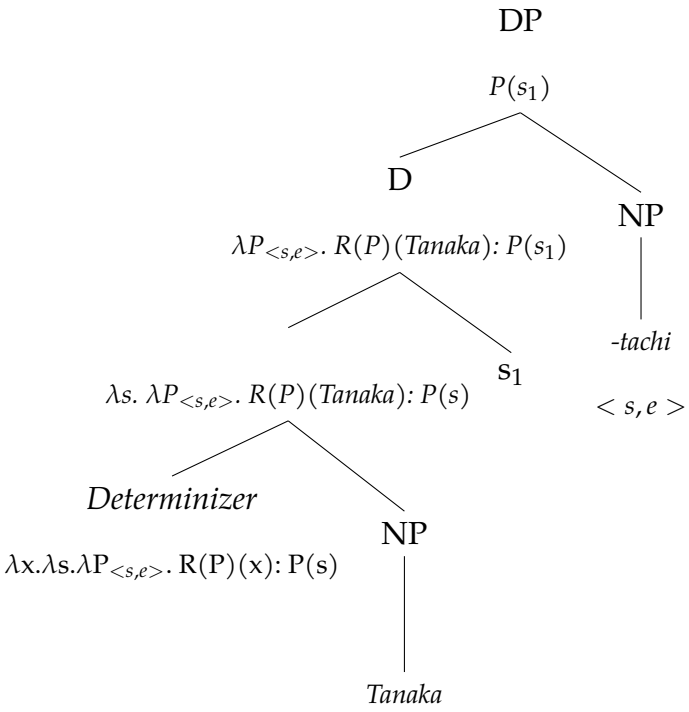
a. Pes-**ov**-i
Peter-POSS/ADJ-PL
'Peter and family'

b. berez-**ov**-i stol-i
birch-ADJ-PL table-PL
'birch-wood tables'

Parallel support is not observable in Japanese of course, where the focal referent and the *-tachi* morpheme are the only pronounced elements in an associative plural DP. However, it is possible that this element might be pronounced in some languages and unpronounced in others.

Following work by Schwarz (2012) I hold that the situation pronoun that saturates the intensional argument of (87d) is introduced into the syntax as a sister of D, specifically as the sister of a 'strong' determiner (Milsark 1974) (see 4.1 for further discussion of the strong/weak distinction). The complement of the associative DP is the group-introducing individual concept. I am assigning this role to *-tachi* here, and this yields the structure in (89):

(89) *The structure of associative plurals*



This structure effectively captures the name-sake readings of associative plurals, where a group is affiliated with named, salient individual. The affiliation is established through the *R* relation, and the group is represented by the plural pronoun. The tree in (89) also accounts for the fact that the focal referent may not verify the predicate in all cases (i.e. may not be a material member of the group), as nothing in the semantics given requires this. An example of this phenomenon can be seen in example (77b). In this case, *Emi-tachi* are eating breakfast, but Emi herself is not, as we know from the second co-ordinand that she is still in bed. The focal referent Emi is representing the group here, without being a member of it.

Let's walk through this using (77b) as an example. At the point where the focal referent determiner and associative pronoun combine, they will have the following semantics:

(90) a. $[\![\text{D}]\!] = \lambda \text{P}_{<s,e>}.\ \text{R}_c(\text{P})(\text{Emi})\text{: P}(\text{s}_1)$

b. $[\![\textit{-tachi}]\!]^g_{<s,e>} = [\text{s}_1 \rightarrow \text{Chieko+Mikako+Misaki}, \text{s}_2 \rightarrow \text{Chieko+Misaki}, \text{s}_3 \rightarrow \text{Chieko+Mikako+Misaki+Emi}, ...]$

In (90a), the relation *R* associates Emi with the individual concept through a relation that is determined by context. In (90b), the individual concept takes a situation argument and returns an instance of a family group. This group is picked out by the assignment function *g*. Lets say that in this case the assignment function assigns the Inoue family (i.e. Emi's family) to *tachi-*. The fact that the relation holds between Emi and the individual concept (rather than its instance) ensures that *tachi* still points to Emi's family even in situations that don't contain Emi. For example, Emi's family is still her family even before she was born, like in a situation like *s2*, where only her parents (Chieko and Misaki) exist. And indeed, in Japanese nothing prevents the entity that the DP ends up denoting from being an instance of the individual concept that does not include Emi. The example in (77b) proves that this is a desirable outcome, since the focal referent in this case cannot be a member of the group that participates in the predicate.

The reason I have chosen to model *tachi-* as an individual concept is because of its intensionality. That associative groups have a life across situations is evident from their behaviour with individual-level predicates in the presences of quantificational adverbs. The data supporting this was set out in section 2.2, and in (86) above. What is important here is that, like English *committee* nouns, associative plurals exist across situations. So what the individual concept in (89) does is introduce a *committee*-like group, that is to say, an animate collective with membership that may vary across time. This raises the question of whether there is a redundancy in (89) with respect to what the individual concept gives us and what is added by the presupposed relationship with the focal referent. Once may ask whether it would not be better to offset the bulk of this work to the individual concept by defining at

as a group related to the focal referent.

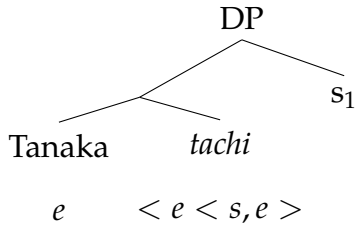
However, as we saw in section 2.1, associative plurals need not refer to the maximal group related to the focal referent, nor are they true indefinites. Separating out the noun that represents the group into a focal referent determiner allows the associative plural to be specific/referential (by virtue of the obligatory situation pronoun that the focal referent determiner introduces), but also not maximal, since the output of the individual concept at the situation may be a subset of the group that the focal referent noun represents. This accounts for the quantificational variability that is observable in languages like Japanese, which is expanded on more fully in section 3.2.

3.1.1 An alternative analysis: concept generators

I want to take a moment here to consider an alternative analysis that reduces some of the syntactic complexity of the structure proposed in (89) while still capturing thee intensional facts of associative plurals and their characteristic associative readings. Instead of the combined effort of an individual concept and a contextually specified relation, this alternative makes use of concept generators.[4] Under this approach, associative plurals are formed when the focal referent noun combines with a concept generator which maps it to an individual concept that represents a group the focal referent is related to in some contextually specified way. This concept generator is introduced by the associative plural morphology. A structure for this is given below:

[4]I would like to thank Gennaro Chierchia for suggesting this alternative to me.

(91)



The result here is an instance of an individual concept generated off *Tanaka* at s_1. One question raised by (91) is how to define the mapping of the focal referent to the group, and to restrict it in a way that does not over-GENerate the kinds of things that associative plurals relate to the focal referent. In the semantics literature, concept generators are typically used in the context of attitude verbs as a means of capturing *de dicto*/*de re* contrasts (Percus & Sauerland 2003; Anand 2006; Charlow & Sharvit 2014; Lederman 2021). In these cases, concept generators are used to map individuals in the real world to their correspondences across worlds – to other "guises" in a sense. This is clearly not what is desired for associative plurals, since an associative like *Tanaka-tachi* does not point out a correspondent of Tanaka in another world – rather a group of individuals affiliated with *Tanaka* in the real world. However, there is nothing inherent to concept generators that limits them to being used in the way proposed by the literature on attitude verbs. In order to adopt a proposal like (91) it will simply be necessary to define the concept generator in such a way that distinguishes it from its *de re* uses and constrains it in a way appropriate for associative plurals. I will not undertake this task here, but we can note that (91) shares many of the properties that were desirable in (89) with a simplified syntactic structure.

3.1.2 An aside about the nature of plurality

Something notable about what I have proposed so far in the structure given in (89) is that nothing about any of the semantics here enforces that the referent of

the associative plural is a plurality. The instance of the individual concept at the situation argument may be a singular without violating any presupposition. This is worth addressing because it does not appear to be the case that associative plurals have an easily accessible singular reading at the very least. For example, it does not appear to be the case that an associative DP like *Tanaka-tachi* can refer easily refer to a person that Tanaka represents. For instance if Tanaka is a lawyer, then *Tanaka-tachi* uttered out of the blue cannot refer to just Tanaka's client. It is possible for associatives to have a dual reading where the plurality referenced is Tanaka and one other person. This absence of an available singular reading may suggest that it is necessary to incorporate some kind of plurality presupposition that enforces the referent to be plural. And in fact, Smith (2020) puts forward the hypothesis that unlike additive plurals, associative plurals are strict pluralities. He bases his off of evidence from Japanese that suggests number neutrality does not emerge for associative plurals in downward entailing environments, as it does in the case of additive plurals. To demonstrate this, Smith offers the following example:

(92) *Antecedent of a conditional:*

Taro-tachi-ga ki-tara boku-wa yorokob-u
Taro-ASSOC-NOM come-COND I-TOP become.happy-PRES

'If Taro *and* his associates come, I'll be happy.' (Smith, 2020: 119)

In the conditional in (92), Smith asserts that the speaker will only be happy just in case all of the group described by Taro and his associates come, and in fact this is partially replicated in my own fieldwork:

(93) *Context:* Chieko has a house with a garden that she is very proud of. Her neighbour Keiichi and his family are always walking across her garden, and this makes her very angry. Chieko tells her husband:

(moshi) Keiichi-**tachi**-ga mata niwa-o arui-**tara**, watashi-wa
(if) Keiichi-ASSOC-NOM again garden-ACC walk-RA I-TOP
keisatsu-o yobu
police-ACC call

'If Keiichi's (family) walk across the garden again, I will call the police.' (YM 2022)

a. *Q:* What happens if just Keiichi's son crosses?
b. *YM:* The intuition is that it must include Keiichi here
c. *Q:* What if just Keiichi crosses?
d. *YM:* It's still false

In (93), all of Keiichi's family must walk across the garden for the necessary conditions to be met such that Chieko calls the police. This is what you would predict to happen if *-tachi* necessarily referred to a plural. However, this exhaustivity actually appears to be a characteristic of the *-ra* conditional, rather than the associative plural. There is a second conditional in Japanese, the *-ba* conditional, for which this exhaustification of the plural does not hold. This is demonstrated by the example in (94), which was elicited in the same context as (93):

(94) (moshi) Keiichi-**tachi**-ga mata niwa-o aruke-**ba**, watashi-wa
(if) Keiichi-ASSOC-NOM again garden-ACC walk-BA I-TOP
keisatsu-o yobu.
police-ACC call
'If Keiichi's (family) walk across the garden again, I will call the police.'

a. *Q:* According to this sentence, will Chieko call the police if just Keiichi's son walks on the lawn?
b. *A:* Yes, this predicts she will still call the police in this situation

Here we can see that the antecedent of the conditional is satisfied if a single member of the plurality denoted by *-tachi* walks across Chieko's lawn. This is likewise the intuition that English speakers have for the additive plural translation of (93-94); in at least downward entailing environments, additive plurals appear to be number-neutral rather than strict pluralities, since they may be verified by a single entity. Similar data was observed for Turkish:

(95) *Context:* Melike has a house with a garden that she is very proud of. Her neighbour Ali and his family are always walking across her garden, and this makes her very angry. Melike tells her husband:

Eğer Ali-lar tekrar bahçe-nin ön-ün-den geç-er-se,
If Ali-ASSOC again garden-GEN front-POSS-ABL pass-AOR-COND,
polis-i ara-yacağ-ım
police-ACC call-FUT-1SG

'If the Ali's family walk across the garden again, I'm going to call the police'

(OB 2023)

Q: Does this suggest that if only Ali's son walks across the garden, the next day, will she call the police?

OB: If anyone from Ali's group does, she will call the police

One prominent account of this apparent number neutral-behaviour of additives in downward-entailing contexts comes from Sauerland (2003) and subsequent work. The major claim of this line of research is that plurals are inherently number neutral (a set theoretic object unspecified for cardinality that contains both atomic and non-atomic elements), and receiving their plural interpretations in upward entailling environments through pragmatics. Essentially, a singular interpretation of the plural is blocked where a less ambiguous singular noun would be appropriate, although the semantic content of the plural does not itself prevent this. The singular alternative in this case contains in its denotation a presupposition of atomicity that

makes them more marked variant, contra what we observe morphologically. When the marked singular and the unmarked plural compete, *Maximize Presupposition* (Heim 1991) will ensure that the more informative singular is used. This scale is reversed in downward entailling environments, allowing the number neutral nature of the plural to emerge.

What is crucial for this account is the availability of strict singulars in languages like English. This prevents us from straight-forwardly porting over this account for associative plurals in languages like Japanese, because these languages do not *have* strict singulars. Recall that bare nouns in Japanese are number neutral, making them ambiguous between singular and plural interpretations:

(96) *Otonoko*-ga asnode-iru
boy-NOM play-PROG
'A boy is / boys are playing' (Nakanishi & Tomioka 2004: 113)

We cannot appeal to a marked singular syntactic feature introducing a number presupposition that enforces atomic reference in the singular case, on account of the ambiguity in (96). Therefore, *Maximize Presupposition* will not save us in a competition between a bare noun and a noun marked with *tachi*. This is actually a problem for plural marking more broadly when it comes to the pragmatic account of the singular/plural contrast in bare noun languages. For example both Bangla (Dayal 2014) and Armenian (personal communication, Mariam Asatryan) have morphologically distinct additive and associative plurals, and also allow number-neutral bare nouns in some instances (e.g. Bangla indefinites and Armenian pseudo-incorporation):

(97) *Bangla* (Dayal 2014)

a. *Additive plural*

ami tin Te boi kinlam. **boi-gulo** dami
I three CL book bought. book-CL(PL) expensive

'I bought three books. The books were expensive.' (pg. 60)

b. *Number neutral bare noun*

ami roj rate **boi** poRi
I every night book read

'I read books every night.' (pg. 50)

(98) Armenian (MA 2023)

a. *Additive plural*

Ususcich-**ner**-ə handip-ec-in purak-um
Teacher-PL-DEF meet-AOR-PL park-LOC

'The teachers met at the park'

b. *Number neutral pseudo-incorporation*

Aramin **bjishk** stugec
Aram doctor examin-AOR

'doctors examined Aram' (*Lit.* 'Aram got doctor-examined')

Because of this, I do not consider the clash between the pragmatic approach to plurality and the absence of true singulars in bare noun languages to be within the prerogative of this dissertation; rather it is a broader question about the how plurality is encoded across languages. However, because of the data showing that associative plurals are not strict plurals, I will not include a presupposition of plurality in the semantics I propose here. I will remain agnostic here about whether plurality arises from pragmatics (Sauerland 2003), or whether it is strictly encoded, and examples like the one in (94) are accounted by other mechanisms (for example Szabolcsi & Haddican (2004)).

3.2 Quantificational force

In section 2.1 of chapter 2, data was presented which showed that, despite many cross-linguistic consistencies, associative plurals differ across languages with respect to whether they are interpreted as something resembling specific indefinites,

or as something closer to a definite. In this section, the analysis of associative plurals given in (89) will be extended to account for this variation, the locus of which I suggest to be parameterization in the nature of the *R* relation. I will propose that in languages like Japanese, the internal argument of *R* may be a subset of things that are related to the focal referent in a context, while in languages like Turkish and Armenian, the internal argument must equal the set of things that bear *R* to the focal referent. From this distinction, I will show that it is possible to derive not only variation in quantification force, but also the face that in Turkish and Armenian, the focal referent must be a part of the associative plural group, while in Japanese, it need only represent this group.

3.2.1 Japanese

When the situation variable in a structure like (89) is free, the interpretation will be referential. $P(s_1)$ will return an entity which is the value of the individual concept at the situation. This explains the fact that Japanese associative plurals in must have specific reference. For example, this helps account for the negation facts together with the assumption that negation does not quantify over situations.

(99) a. Shibahu-de watashi-wa [gakusei-**tachi**-o] mi-nakat-ta
Lawn-on I-TOP student-ASSOC-ACC see-NEG-PST
'I didn't see *(the) students on the lawn' (YM, 2022)

b. $\neg$ [saw-on-the-lawn(P($g(1)$)(1sg)]^{c,g}

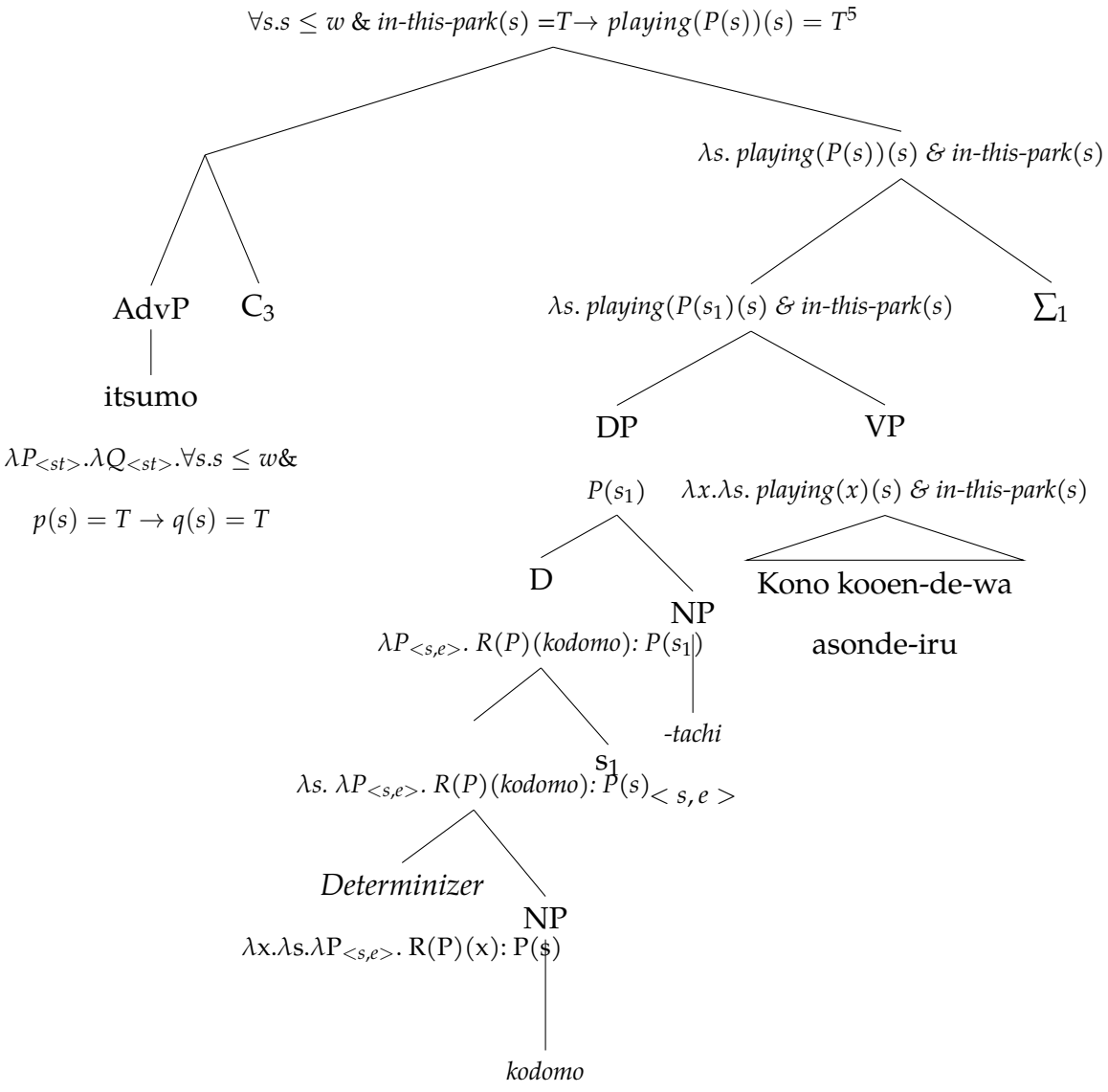
The example in (99a) cannot be interpreted as referring to students in general, rather it is a specific group of students that the speaker did not see.

What happens if the situation pronoun is bound? Evidence suggests that this is possible within the scope of a quantificational adverb like *always*. Recall that in these cases a reading equivalent to a narrow scope indefinite becomes possible:

(100) Kono kooen-de-wa itumo kodomo-tati-ga asonde-iru
this park-LOC-TOP always child-ASSOC-NOM play-PROG
√ always > child-TATI: 'In this park, there are always children playing.'
?? child-TATI > always: 'In this park, there are children who are always playing.' (Nakanishi & Tomioka 2004:121)

In this case, the quantificational adverb is binding the situation argument of the associative DP, so that it covaries along across all the situations the adverb quantifies over. This is demonstrated below:

(101)



Using a definition for *always* based on Cable (2018b), the adverb combines with an implicit contextual variable as its restriction and the utterance material in it's scope. The contextual veriable *C* can be understood as having the following definition in this case:

(102) $C_3 = \lambda$s. in-this-park(s)

What is important to note for the purposes of the analysis here is that the resource situation s_1 introduced by the DP is bound by the intensional binder $\sum$ (Schwarz 2012; Büring 2004). This operator is defined as in :

(103) $[\![\sum_n \text{XP}]\!]^g = \lambda s.\ [\![\text{XP}]\!]^{g[s_n \to s]}$(s) (Schwarz 2012:446)

The result is that when the associative resource situation is bound, for all situations there is a (specific) instance of the individual concept for child-represented things playing in the park (the question of how the associative plural comes to have the pseudo-additive 'child-represented things' meaning is taken up in section 3.3.1). So the example in (100) is not a true instance of narrow scope indefiniteness. The specific case in (100b.) appears to be odd in Japanese – perhaps this is because the quantifier *itsumo* always has $\sum$ in its scope, and therefore binding is obligatory. This is not true for the Turkish and Armenian examples, as we saw in (51), which allow both interpretations, and so it seems these languages allow the situation variable to optionally remain free under the scope of the quantificational adverbs.

The same binding does not appear to be possible in English definites, and this is another thing that distinguishes them from associative plurals in Japanese:

[5]What this derivation actually results in is $\forall s.s \leq w$ & in-this-park(s) =T$\to$ playing(P(s))(s) & in-this-park(s) = T, but since this is equivalent to the truth conditions of (101), I have omitted the redundancy here.

(104) a. When I come home, a dog is always barking

i. $\surd$ always $>$ dog : 'When I come home, there is always some dog barking.'

ii. $\surd$ a dog $>$ always: 'When I come home, there is a certain dog who is always barking'

b. When I come home, the dog is always barking

i. X always $>$ dog : 'When I come home, there is always some dog barking.'

ii. $\surd$ a dog $>$ always: 'When I come home, there is a certain dog who is always barking'

In the definite example in (104b), the only interpretation is a specific one, as we expect for definites which do not participate in scope relationships. Therefore there is no available interpretation parallel to (104a) or (100). One possibility for why this might be is that the familiarity presupposition of the definite determiner clashes with universal quantification over situations, since their combination forces the inference that the addressee will be familiar with all situations, and that runs contrary to world knowledge. Because of this the situation variable introduced by the strong definite determiner remains free in the scope of *always*, so *the dog* is always evaluated with the respect to the same resource situation. Since Japanese associative plurals need not be familiar (as in (105) below), this does oddness does not arise in examples like (100).

(105) Japanese

Mukashi, mukashi aru to koro ni, dorobou-**tachi**-ga sunde iru mura-ga arimashita

'Once upon a time, there was a village where thieves lived.'

A similar explanation (i.e. appealing to the familiarity presupposing) may be possible for the fact that Japanese associative plurals may act as the antecedent to sluiced *wh* phrase while English definites may not. This data is repeated below, although I will not attempt to give an analysis of sluicing here:[6]

(106) a. i. Andrew bought a car, but Anissa doesn't know which

ii. #Andrew bought the car, but Anissa doesn't know which

b. JAPANESE

Inoue-sensei-no ie-ni kodomo-tati-ga
Inoue-Prof.-GEN house-at child-ASSOC-NOM
atumatta-to-kiita-kedo, watasi-wa dono kodomo-tati-ka
gathered-COMP-heard-while I-TOP which child-ASSOC-Q
sira-nai.
know-NEG

'(I) have heard that children gathered at Prof. Inoue's house, but I don't know which children.' (Nakanishi & Tomioka 2004: 123)

At this point what remains an open question is examples like (107) which show that in Japanese it does not appear to be the case that *tachi*-marked DPs are necessarily maximal:

(107) a. JAPANESE (YM 2022)

Context (i): Keiichi is driving back to his home town to visit his parents, and on the way he picks up four hitchhikers. When he arrives home, he invites them to stay for dinner and three of the hitchhikers accept.

i. Keiichi-wa hittihaika:-(**tachi**)-o okut-ta
keiichu-TOP hitchhikers-(ASSOC)-ACC drive-PST
'Keiichi drove hitchhikers'

[6]Note that this is not possible in Armenian – see appendix sluice

ii. Keiichi-wa [kare-ga okut-ta] hirrihaika:-(**tachi**)-to bangohan-o
keiichi-TOP he-NOM drive-PST hichhiker-ASSOC-with dinner-ACC
tabe-ta.
eat-PST

'Keiichi ate dinner with hitchhikers that he drove '

- Yes, we can say this, it's true even if one of them rejects his invitation.

In cases like these, it becomes important that in the derivation in (89), the individual concept does not itself encode the relation to the focal referent – a potential redundancy that was remarked on in section 3.1. Because the group introduced by the associative is an individual concept, which is a function, it will return only one group at a value s. If the individual concept encoded the associative relation, it could not be used to refer to a subset of that instance of P as in (107a-ii). However, since the group-denoting element and the relation are separate, nothing enforces that whatever plurality has a relation to the focal referent in the context be equivalent to the instance of the contextually specified individual concept (i.e. $P(s)$). This allows for the possibility in Japanese that the associative might refer to a subset of individuals related to the focal referent, and this is what we see in example (107a-ii).

3.2.2 Turkish and Armenian

Unlike Japanese associative plurals, those seem in Turkish and Armenian do appear to be definite, and lack the specific indefinite meanings described in the previous section. For example, recall that neither Turkish not Armenian allow associative plurals to introduce new referents to the discourse:

(108) a. Armenian

??Zhamanakin mi gyux kar, vortex bzhishk-enq ein
Once upon a time one village there.was where doctor-assoc be.3pl.pst
aprum
live

Intended: 'Once upon a time, there was a village where doctors lived'

(MA, 2023)

b. Turkish

Bir zamanlar hırsız-lar-ın yaşa-dığ-ı bir köy
One time-pl thieve-pl(*assoc)-gen live-rel-poss.3sg a village
var-dı
exit-pst.3sg

'Once upon a time, there was a village where thieves lived' (Dugyu Goksu, 2023)

SH: Could this refer to a group where there is only one thief and his family?

DG: No, has to be multiple thieves (associative reading of the plural is unavailable here)

Additionally, associative plurals in these languages cannot refer to a subset of a things associated with the focal referent, unlike Japanese:

(109) a. Turkish

Context: You see your friend's aunt and her two daughters at the city centre, but her husband and her other three children are missing. You tell your friend about this later:

???Teyze-n-ler-i gör-dü-m
Aunt-2sg.poss-pl-acc see-pst-1sg

'I saw your aunt and her family' (DG, 2023)

DG: This feels odd. I would probably say something else instead, or else there would be a follow-up to clarify who was missing

b. Armenian

Context: Aram is driving home from work and notices three students looking for a ride. He gives them a ride home and they get along very well. Aram likes the students he drove so much that he hires two of them to work at his business.

#Aram-ə usanox-enc gorc-i yndunec
Aram-DEF student-ASSOC work-GEN accept.AOR.3SG

'Aram hired the students' (MA, 2023)

MA: To use this it should be all the students that he hired, not just part of the group.

How can we explain these differences? One obvious solution would be to amend the proposal for associative plurals given in (89) to include a definite determiner. However, it does not appear to be the case that the group itself must be definite in all cases. Recall that as long as the focal referent is appropriately licensed in Armenian, the group itself need not be familiar:

(110) Armenian:

Kar ch-kar mi usanox kar, Aram anun-ov. **Aram-enq** aprum ein
Exist NEG-exist a student exist, Aram name-ABL. Aram-ASSOC live be
mi poqrik gyux-um
a small village-LOC

'Once upon a time there was a student named Aram. Aram (and friends) lived in a small village.' (MA, 2023)

The example above contrasts with the unacceptable example in (108a) in that the *focal referent* has an antecedent in the discourse. On the other hand, the group itself

(i.e. in plurality related to the focal referent) has no previous mention in the context that would license a definite description.

There are also the scope facts to consider, which seem to suggest that a derivation parallel to the Japanese example in (101) is a possibility:

(111) **Plurals and scope**

a. Turkish (DG & FA, 2023)

Bu okul-da her zaman teyze-n-ler temizlik yap-ar-lar.
this school-LOC every time aunt-2.POSS-ASSOC cleaning do-AOR-PL

$\surd$ always $>$ teyze-n-LAR: 'In this school, there are always people associated with your aunt working'

$\surd$ child-TATI $>$ always: 'In this school, a certain group of your aunt's friends are always working'

Additionally, in at least Armenian, the distribution of associative plurals does not track the distribution of definite marked DPs. For example, definite marked DPs are licensed in Armenian generics, while associative plurals are not:

(112) a. Usanox-ner-**ə** xelaci en
Student-PL-**DEF** smart be.3PL
'Students are intelligent'

b. #Usanox-**enq** xelaci en
Student-**ASSOC** smart be.3PL
Intended: 'Students are intelligent'

MA: This is a grammatical sentence but it doesn't have the same meaning. The speaker needs to have a specific group in mind.

Parallel data is unavailable in Turkish, which does not have an overtly marked definite determiner.

Instead of incorporating a ι directly into Turkish and Armenian associatives DPs, I propose that the maximality of associative plurals in Turkish/Armenian comes

not from the definiteness of the DP overall, but from an additional restriction on the relation that Japanese-like languages lack. An example of this is given for Armenian below. I will call this variant of the determiner the maximal variant:

(113) *Maximal focal referent D:* $[\![Mariam_{det}]\!]^{c,g} = \lambda s.\lambda P_{<s,e>}.\, P = \lambda s.\, \iota y.\, R_i(y)(\text{Mariam})(s)$: $P(s)$

In (122b), the determiner presupposes that the individual concept P returns the maximal individual bearing the relation R_i to the focal referent at a given situation. This prevents the associative plural from being interpreted non-maximally because there can't be anything else in the resource situation that bears the relation R to Mariam but is not a part of the individual concept.

I will also put forward a preliminary sketch of how this contrast in the determiner could help to account for the fact that in Turkish and Armenian, the focal referent must be a part of the associative plural group:

(114) a. Armenian

Mariam-enq mez het yntr-ec-in
Mariam-assoc us with dinner-aor-pl

'Mariam and her family/friends dined with us' (must include Mariam)

(MA 2023)

b. Turkish[7]

Duygu Ali-ler-in cadı ol-dug-un-a
Duygu Ali-assoc-gen witch be-nmlzr(DIK)-poss.3dat

'Duygu believes that Ali and his family are witches' (must include Ali)

(DG 2023)

[7]While this is true for the majority of Turkish speakers interviewed here, a small subset could exclude the focal referent from the associative plural:

(i) Turkish:

In order to explain how this is so, we will need a few more ingredients. First, lets suppose that in for R to be assigned a value in some context, the elements that R relates must also be elements in that context. That is to say, we cannot relate things that are undefined in the context. Additionally, it is important to stipulate here that R is a reflexive relation, so if R is a relation on a set X, $R(x)(x)$ holds for all x $\in$ X. Because of this, the focal referent will always be related to itself.

When the focal referent determiner is not the maximal variant, as in Japanese, these additions do not have much effect. In the Turkish / Armenian cases, however, they will insure the the focal referent will be an instance of the individual concept. This follows from the fact that the individual concept is the only thing that bears R to the focal referent and the focal referent is always related to itself.

This alone is not enough to explain why the focal referent must be included in the group; it only ensures that the focal referent will be a member of the individual concept, not each instance of the individual concept, so at some s values for P we should still be able to have a group that doesn't include the focal referent. One way to fix this is to alter the definition of the Turkish / Armenian focal referent determiners so that the focal referent is related to an *instance* of the individual concept, rather than the concept itself. For example:

(115) $[\![Mariam_{det}]\!]^{c,g} = \lambda \mathrm{s}.\lambda \mathrm{P}_{<s,e>}.\ \mathrm{P(s)} = \iota \mathrm{y}.\ \mathrm{R}_i(\mathrm{y})(\mathrm{Mariam})(\mathrm{s})\colon \mathrm{P(s)}$

Now the focal referent will necessarily be a part of $P(s)$, because $P(s)$ exhausts the things are related to the focal referent at a situation, and the focal referent must be included in this set. Since a more in-depth look at the relationship between focal referent inclusion and maximality is needed here, I will not assume (115) going

---

John-**lar** yemek yiyor ama John hala yatakta
John-ASSOC food eat.IPFV.PRES but John still in.bed

'John's family is eating, but John is still in bed' (DO 2021)

How this influences the use of associative plurals elsewhere in the language for specific speakers is an area for future research.

forward, but include it here for consideration.

To summarize, the associative plural is formed by determinization of the focal referent, which then combines with an individual concept. The characteristic associative readings are a product of a contextually specified relation R similar to the one found in possession and introduced by the determiner. Differences between the available interpretations of Japanese plurals on the one hand and Turkish and Armenian on the other can be reduced to whether or not the focal referent determiner requires instances of the individual concept to be equal to the maximal element related to the focal referent at a given situation, and this additionally may provide an avenue for explaining why in these languages the focal referent must be included in the plurality. With this now established, in section 3.3 I will turn to the apparent additive readings of associative plurals in each of the three languages examined here and discuss the variation among them.

3.3 Additive readings of associative plurals

In most languages, associative plural focal referents are not restricted to proper names.[8] Thus far the proposal set out here has focused on explaining cases of associative plurals where the associative meaning is most salient; that is, cases where the focal referent is a proper noun. However, many examples used in this text, particularly from Japanese, seem to have truth conditions similar to what we expect from additive plurals:

(116) a. JAPANESE (YM, 2022)
b. Tanaka-**tachi**-ga asonde-iru
Tanaka-ASSOC-NOM play-PROG
√ 'Tanaka and associates are playing'
√ 'Tanakas are playing' (i.e. multiple people named Tanaka)

[8]There are some claims in the literature that particular languages have this restriction, for example Central Alaskan Yup'ik (Corbett & Mithun 1996).

c. Turkish (DO, 2021)

Kral-**lar** yemek yiyor
King-assoc food eatipfv.pres

√ 'The kings are eating'

√ 'The king and his family are eating'

d. Armenian (MA, 2023)

Ususcich-**enq** handip-ec-in purak-um
teacher-assoc meet-aor-pl park-loc

√ '(The) teachers met at the park'

√ '(The) teachers (and their spouses) met at the park'

As the above examples show, in many cases associative plural morphology can be used in situations where an English-like additive would be equally acceptable. Two questions arise from the data in (116). First, are all cases of this apparent overlap in meaning created equal – that is to say, are they instances of the same mechanism at work? Second, are the apparent additive readings of associative plural morphemes an instance of homophony, or can they be assimilated into the analysis of the clear-cut cases given in (89)? In response to these questions, I will show that there are three distinct sources for the ambiguity shown in (116). In the Japanese case, I propose that the focal referent can be a kind instead of an individual, allowing a pseudo-additive reading to emerge where members are affiliated with the kind because they instantiate it – this is based off a similar proposal in Nakanishi & Tomioka (2004). In the Turkish case, there is a true homophony present, and both an associative and additive meaning are available for *-lar* (although there is some reason to suspect that, like Armenian, it lacks a true pseudo-additive). Lastly, in the Armenian case, there must always be a single salient focal referent present, and whether or not other group members satisfy the same property as the focal referent is incidental. To explain this split, I will propose that what distinguishes Japanese

from Armenian/Turkish is the ability to accept a kind as the focal referent rather than an individual.

3.3.1 Japanese pseudo-additives

Japanese *-tachi* has both a clear associative reading and what Nakanishi & Tomioka call a 'pseudo-additive' reading:

(117) JAPANESE

a. Taro-**tati**-wa moo kaetta
Taro-ASSOC-TOP already went home
'The group of people represented by Taro went home already.' (Nakanishi & Tomioka 2004: 121)

b. Otonoko-**tati**-ga asnode-iru
boy-ASSOC-NOM play-PROG
'(The) boys are playing' (Nakanishi & Tomioka 2004: 113)

There are a number of reasons to believe that these examples are both instances of the same associative plural, as I have been assuming throughout this dissertation. First, the associative reading is always available regardless of whether or not the focal referent is a common noun:

(118) *Context:* There is a party with the following guests. Thirteen students, and two of them brought their non-student spouses. Seven professors, and three of them brought their non-professor spouses. Three librarians, and one of them brought his non-librarian wife.

Kyoozyu-tati-wa yoku syabetta-kedo, gakusee-tati-wa otonasi-katta
professor-ASSOC-TOP a lot talked-but student-ASSOC-TOP quiet-was

'The professors (and their spouses) talked a lot, but the students (and their spouses) were quiet.' (Nakanishi & Tomioka 2004: 125)

What this example shows is that there may be members of the *-tati* group which do not satisfy the focal referent property. Homogeneity, when it occurs, is circumstantial and not obligatory.

Additionally, associatives in their pseudo-additive guise (i.e. in cases like (117b) with no clear associative reading) exhibit the exact restrictions that have been observed track associative readings across languages (Iljic 1994; Li 1999; Nakanishi & Tomioka 2004; Kurafuji 2004; Biswas 2012; Dayal 2014; Ghomeshi & Holness 2018). For example, they are:

(119) a. *Incompatible with numbers*

129-nin-no gakusei(**??-tati**)-ga miitingu-ni sankasita
129-CL-GEN student-ASSOC-NOM meeting-LOC participated

'129 students (and possibly others) participated in the meeting.'(Nakanishi & Tomioka 2004: 119)

b. *Incompatible with generics*

Zyosei-tantei(?*-**tati**)-wa mezurasii
female-detective-ASSOC-TOP rare

'Female private detectives are rare.' (Nakanishi & Tomioka 2004: 114)

c. *Incompatible with possessive construction*

*?Inoue-san-ni-wa kodomo-tati-ga aru/iru
Inoue-Mrs.DAT-TOP child-ASSOC-NOM exist

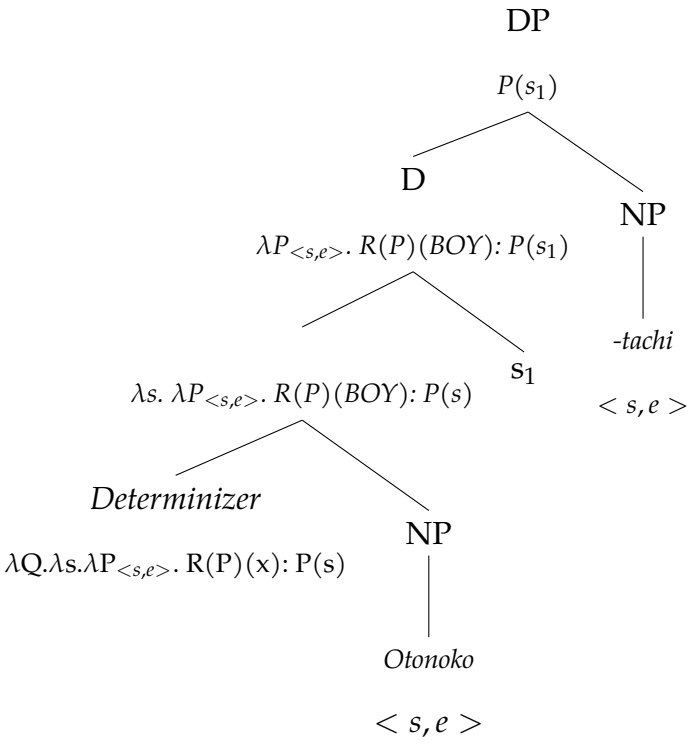
Intended: 'Mrs. Inoue has children' (Nakanishi & Tomioka 2004: 116)

The fact that this restrictions are attested when the focal referent is not a proper name suggests that *tachi* is general enough to accommodate both the associative and pseudo-additive reading, rather than ambiguous between and associative and a true additive.

I propose here that these readings can be accounted for with little alteration to the derivation in (89) by saying that the focal referent noun is an entity in the clearly

associative cases and in the pseudo-additive cases it is a kind. An example of the latter is given below, using (117b) to demonstrate:

(120)



Here the individual concept *-tati* has a relation to the kind BOY. The relation in these cases may be one of identity, yielding an interpretation that is nearly equivalent to an additive plural and this is sufficient to explain the pseudo-additives in languages like Japanese, which exhibit all the same restrictions as clear associative. The relation is not *limited* to one of instantiation, however, and may instead be representation of a different kind. In the example below, the associative plural DPs are picking out groups affiliated by relationship to a profession, rather than to a single salient individual or as instances of a kind:

(121) a. *Context:* There is a party with the following guests. Thirteen students, and two of them brought their non-student spouses. Seven professors, and three of them brought their non-professor spouses. Three librarians, and one of them brought his non-librarian wife.

Kyoozyu-tati-wa yoku syabetta-kedo, gakusee-tati-wa
professor-ASSOC-TOP a lot talked-but student-ASSOC-TOP
otonasi-katta
quiet-was

'The professors (and their spouses) talked a lot, but the students (and their spouses) were quiet.' (Nakanishi & Tomioka 2004: 125)

b. *Context:* There is a protest against a recent tuition hike by a university attended by students and non-students. The non-students who attended the demonstration were sympathizers of the students.

Kyoo kooen-de gakusee-tati-no demo-ga atta
Today park-LOC student-ASSOC-GEN demonstration-NOM existed

'Today, there was a demonstration by (the) students (and possibly non-students).'[9] (Nakanishi & Tomioka 2004: 126)

Nakanishi & Tomioka (2004) make a very similar proposal to account for this data, with the exception that they take common noun focal referents to have a property-type denotation whereas I change this to a kind denotation in line with Chierchia (1998), who argues that in Japanese-like languages bare nouns are kinds.

The structure in (120) differs from (89) in that the type of the determinizer is different – in (89) the determinizer combines with an individual, while in (120) it combines with a kind.[10] Compare the following:

(122) a. *Original:* $[\![\textit{determinizer}]\!]^c = \lambda x.\lambda s.\lambda P_{<s,e>}.\ R_c(P)(x)\colon P(s)$

b. *Kind-variant:* $[\![\textit{determinizer}]\!]^c = \lambda Q_{<s,e>}.\lambda s.\lambda P_{<s,e>}.\ R_c(P)(Q)\colon P(s)$

It may be possible to collapse these here if we take even proper nouns to be individual concepts, but there is reason to want some separation here, as it contributes to

[9]The authors note that this example becomes awkward if less than half of the protesters are students.

[10]I assume here that the domain of kinds is a subset of the domain of individual concepts, following Chierchia (1998a,b).

accounting for the unavailability of (122b) in languages like Armenian (and potentially Turkish). I will return to this question in section 3.3.3. Before then, however, I turn to the case of Turkish, where associative and additive interpretations *are* a clear product of homophony.

3.3.2 Turkish homophony

Görgülü (2011) analyzes Turkish *-lar* as two separate but homophonous plurals in the language; one additive, and one associative. I follow this here, based on the fact that while DPs marked by *-lar* may have an associative meaning, when this reading is absent they may appear in possession, generic, and existential constructions, and may also be inanimate (212a):

(123) Turkish

a. *Possession*

Ali-nin çocuk-lar-i var
Ali-GEN child-PL-3POSS exist

'Ali has children' (DG & FA, 2023)

b. *Existential*

Doktor-lar var
Doctor-PL-exist

'There are doctors' (DG, 2023)

c. *Generic*

Iyi doktor-lar nadir-(ler)-(dir)
Good doctor-PL rare-3PL-AUX

'Good doctors are rare' (DG, 2023)

d. *Animacy restriction*

Bardak-lar-ı masa-da gör-dü-m
cup-PL(*ASSOC)-ACC table-LOC see.PST-1SG

'I saw the cups on the table' (OB, 2023)

While this may suggest that Turkish associatives are simply not bound by the restrictions on distribution observed elsewhere, a closer look suggests this is not so. For example, when *-lar* appears with a proper noun, and the context only permits an associative reading, these restrictions reappear:

(124) Turkish

a. *Possession*

Özge-nin Ali-ler-ı var
Ozge-gen Ali-assoc-3poss exists

'Ozge has Ali and his friends ' (no general reading, these are specific people) (OB, 2023)

b. *Generic*

*Iyi Ali-ler nadir-(ler)-(dir)
Good Ali-assoc rare-3pl-aux

Intended: 'Good (members of) Ali's family are rare' (DG, 2023)

c. *Existential*

Hastane-de Çağrı-lar var.
hospital-loc Çağrı-assoc exist

Intended: 'Çağrı and his family are at the hospital (right now)' (no general reading available) (OB, 2023)

d. *Animacy restriction*

Bardak-lar-ı masa-da gör-dü-m
cup-pl(*assoc)-acc table-loc see-pst-1sg

'I saw the cups on the table' (OB, 2023)

OB: It can't mean something like 'the cups and whoever owns the cups'

The contrast between (212a) and (124) suggests that there are two independent plurals here, subject to different restrictions, and that they happen to be homophonous

through an accident of history. Additionally, for at least some speakers, plural verb agreement tracks the associative plural, and is more marked with the additive:

(125) *Turkish plural agreement* (DG, 2023)

a. **Additive**

Doktor-lar hastane-ye var-dı-(**?lar**)
Doctor-PL hospital-DAT arrive-PST-3PL

'The doctors arrived at the hospital'

b. **Associative**

Ali-ler hastane-ye var-dı-(**lar**).
Ali-PL hospital-DAT arrive-PST-3PL

'Ali and his friends / family arrived at the hospital'

This contrast may actually be on account of specificity rather than associativity,[11] adding further evidence to the idea that Turkish associatives are strictly specific in a way that the homophonous additive is not. Additionally, while the associative plural is homophonous with the additive plural, the associative reading may also be transparently morpho-syntactically distinct in certain environments. For example:

(126) TURKISH (Görgülü 2011: 72-73)

a. *Additive morpheme order*

Teyze-**ler**-im
aunt-ASSOC-1SG

'my aunts'

b. *Associative morpheme order*

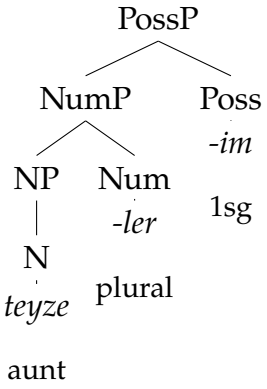
Teyze-m-**ler**
aunt-1SG-ASSOC

'My aunt and her family / associates / friends'

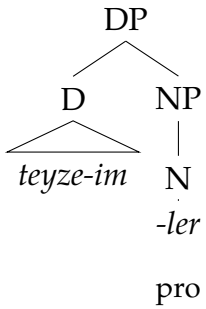
[11] Personal communication with Yagmur Sag

The contrast in (212) shows that the order of the possessive morpheme and the plural morpheme is indicative of whether or not the plural is interpreted as associative or additive. This variation in order can be explained by the analysis of the associative in (89), given the following structures for Turkish plurals:

(127) a. *Additive* -lar



b. *Associative* -lar



In the additive structure, the NP head is the noun *teyze*. On the other hand, *teyze* is a component of the focal referent determiner in the associative DP, along with the possessive phrase, and the NP head is a group-introducing pronoun signaled by *-lar*.

One exception to additive *-lar*'s relative freedom is that additive plural nouns may still not combine with a numeral, as demonstrated by (128b):

(128) Turkish (DO 2021)

a. Üç John oyun oynuyor.
three John game play
#'John and his friends are playing'
✓'Three (people named) John(s) are playing'

b. *Üç John-lar oyun oynuyor.
three John-pl game play
#'John's three children are playing'
#'Three (people named) John(s) are playing'

Since this is a property shared by many non-ASSOCIATIVE plural languages (e.g. Welsh, limited cases in Russian; Hurford 2003), I do not take it to be indicative of a shared semantics between the two *-lar*s, but rather an unrelated property of the language. It may also be the case that Turkish has pseudo-additive plurals the way that Japanese does, but the existence of the homophonous additive obscures this.

One outstanding question here is whether the associative Turkish *-lar* also has a Japanese-like pseudo-additive reading in addition to the homophonous additive. In most cases, it is not possible to disentangle the two, even if the pseudo-additive does exist, because there is no morphosyntactic contrast between the two. However, it does appear to be the case that when a possessive morpheme and plural morpheme are in their associative order (*noun-POSS-PLural*), not every noun is a suitable focal referent:

(129) ??Benim doktor-um-ıar hastayI muayene etti
I-GEN doctor-1SG-ASSOC patient-ACC examine do-PST
Intended: 'My doctors examined the patient' (DG & FA, 2023)

At the very least what this suggests is that Turkish bare nouns (kinds) are not freely licensed as focal referents in the way that we see with Japanese. This is similarly attested in Armenian, which provides a more morphologically clear contrast between additives and associatives. The Armenian facts are discussed in detail in section 3.3.3 and 3.4 below.

3.3.3 Armenian strict associatives

So far we have seen two cases where associative morphology is interpreted with additive-like readings: in the Japanese case these readings are illusory pseudo-additives, while Turkish has two plurals with overlapping forms. Armenian is distinct from both of these cases. First, it seems that in Armenian, there really does need to be a single, salient individual that represents the group:

(130) *Context:* You are going to a party for a hospital fundraiser. There are lots of doctors there – although you don't know them, you can recognize them by their white coats. You notice that the doctors have eaten all of the khashlama and not left any for anyone else, so you say:

a. Bzhishk-**ner**-n en kerel voxg khashlama-n
Doctor-PL-DEF be.3PL eat all khashlama-ACC.DEF
'It is the doctors who ate all of the khashlama'

b. #Bzhishk-**enq** en kerel voxg khashlama-n
Doctor-**assoc** be.3PL eat all khashlama-ACC.DEF
MA: Is one of the doctors my doctor?
SH: No, you don't know any of them.
MA: Then no, we can't say this (unless there is a single doctor known to the speaker representing the group)

In the context in (130), where there is a specific, salient group of doctors, but none are particularly representative or particularly known to the speaker, it is only possible to use the additive plural, as in (130a), and not the associative (130b). The intuition of the speaker is that the focal referent must have some relationship to them in order to use the associative, as in (131):

(131) Pastaban-**enq** handip-ec-in purak-um
lawyer-**ASSOC** meet-AOR-PL park-LOC
'Lawyers met at the park' (MA, 2023)

MA: There should be a connection with the speaker here. For example you might be a journalist doing an investigation who knows a particular lawyer in the group.

What this suggests is that, unlike Japanese, Armenian does not allow non-individuals, like kinds, to combine with the focal referent determinzer. This is one reason, as noted in (3.3.1), to maintain that Japanese has a lexical flexibility that Armenian

lacks, rather than trying to unify the pseudo-additive readings and the representative member readings into a single denotation. We can imagine a somewhat functionalist explanation for this discrepancy. Since Armenian has a morphologically distinct additive, it is able to unambiguously express the additive meanings without resorting to a pseudo-additive. Perhaps additive-like readings are pragmatically blocked by the existence of a true additive in the languages. Armenian focal referents are therefore limited to the definition in (132)

(132) $[\![\textit{determinizer}]\!]^{c,g} = \lambda x.\lambda s.\lambda P_{<s,e>}.\ P = \lambda s.\ \iota y.\ R_i(y)(x)(s)\colon P(s)$

I am assuming here that the focal referent is noun of type e (reasons why this is limited to salient individuals are discussed in section 3.4). This is a bare noun rather than a definite. Although Armenian does mark definiteness, the morphosyntactic definite marker is not licensed in the focal referent position:

(133) Ususcich-(***ə**)-enq handip-ec-in purak-um
Teacher-(*DEF)-ASSOC meet-AOR-PL park-LOC
'The teacher (and family) met at the park.' (MA, 2023)

Although Armenian does have what looks like a definite article, bare nouns in this language have also been analyzed as underlyingly number-neutral (Crum 2020; Bale & Khanjian 2008) based on incorporation facts and the presence of a classifier system in the language, and so I take it to be the case that focal referents may enter the derivation as entity-type nouns without requiring a type shifter.

Something additional to note is that the inability of the Armenian focal referent to be a kind does not enforce heterogeneity in the group. All members of the group may satisfy the same property that the focal referent does, as in (134), but this is only incidental, and does not negate the necessity of having a single representative individual.

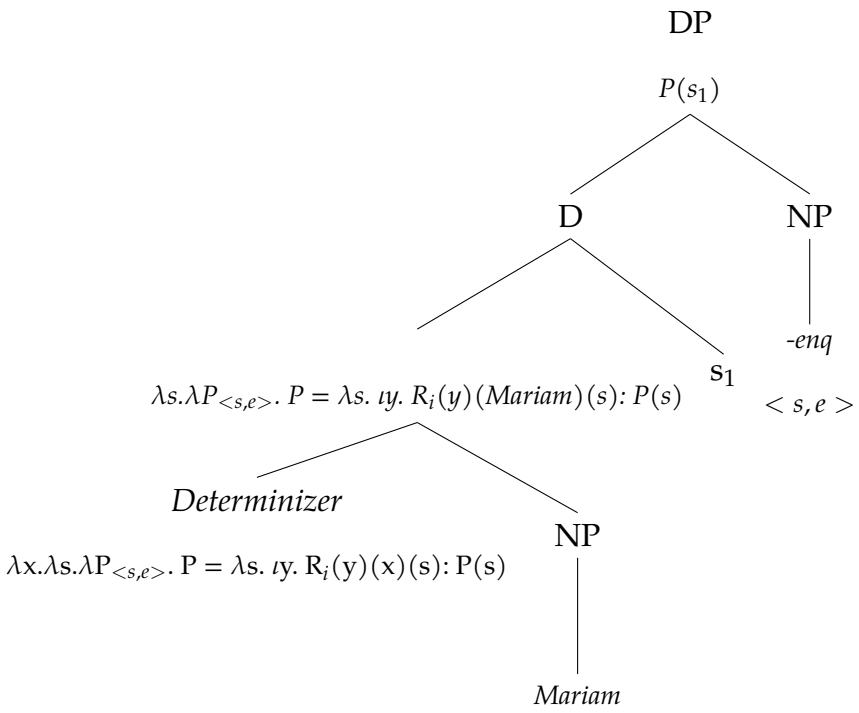
(134) Armenian (MA, 2023)

Bzhishk-**enq** handicap-ec-in purak-um
doctor-**assoc** meet-aor-pl park-loc

'The doctors met at the park'

A full derivation for an Armenian-type associative plural is given below:

(135) *The structure of Armenian associatives*



What this yields is the instance of an individual concept at the resource situation such that the concept has a contextually specified relation to Mariam. Because Armenian has the maximal variant of the focal referent determiner, there will not be anything else in the resource situation that is part of a Mariam-group but not a part of the instance of the individual concept.Since this is not a result of the determiner itself being definite ι, it is expected that we do not see a morphosyntactic definite determiner with associatives, and in fact that associatives will be incompatible with definite *-ə*.

This leaves open the question of the familiarity requirement of Armenian focal referents, since the focal referent determiner should not require the focal referent to be known to the speaker. Recall that Armenian associative plurals (and in fact Turkish associative plurals as well) are not felicitous as a means of introducing referents to the discourse:

(136) a. ARMENIAN

??Zhamanakin mi gyux kar, vortex bzhishk-enq ein aprum
Once upon a time one village there was where

doctor-PL be.3PL.PST live

Intended: 'Once upon a time, there was a village where doctors lived'

(MA, 2023)

TURKISH

Bir zamanlar hırsız-lar-ın yaşa-dığ-ı bir köy var-dı
One time-PL thieve-PL-GEN live-REL-POSS.3SG a village exit-PST.3SG

'Once upon a time, there was a village where thieves lived' (DG, 2023)

SH: Could this refer to a group where there is only one thief and his family?

DG: No, has to be multiple thieves (associative reading of the plural is unavailable here)

However, something notable here is that the effect appears to disappear once the focal referent itself is appropriately licensed:

(137) Kar ch-kar mi usanox kar, Aram anun-ov. Aram-enq aprum ein
Exist NEG-exist a student exist, Aram name-ABL. Aram-ASSOC live be
mi poqrik gyux-um
a small village-LOC

'Once upon a time there was a student named Aram. Aram (and friends) lived in a small village.' (MA, 2023)

In this case it is only a requirement that *Aram* be appropriately introduced. The group picked out by *Aram-enq* need not be familiar to the speaker, as in the example above where it is introduced for the first time at the beginning of a story. This data suggests that there is no familiarity requirement on the associative plural as a whole, just on the focal referent noun. The source of this requirement is the purview of section 3.4 below.

3.4 Not all focal referents are created equal

Individuality of the noun representing the group is not the only restriction on focal referents in Armenian. Focal referents in this language are restricted to names, kinship terms, and a subset of common nouns denoting some, but not all, professions. For example *lawyer* is an acceptable focal referent (138a), but *judge* is not (138b):

(138) Armenian (MA, 2023)

a. **Pastaban-enq** handicap-ec-in purak-um
lawyer-ASSOC meet-AOR-PL park-LOC
'The lawyers met at the park'

b. **#Datavor-enq** handicap-ec-in purak-um
judge-ASSOC meet-AOR-PL park-LOC
Intended: 'The judges met at the park'

Similar limitations on possible focal referents have been observed in the literature. Moravcsik (2003) proposes that focal referents must be definite, human individuals, and makes the following generalization:

(139) **The choice of focal referent for associative plurals:**

Proper Name Definite Kin Noun Definite Title Noun Other Definite Human Noun

If in a language, a nominal can be a focal referent of an associative plural, so can any other nominal to its left on the scale in that language.

Since the majority of associative plural languages don't have overt markings of definiteness, the veracity of this can be difficult to test beyond the observation that associative readings of the plural are most salient when the focal referent is a name. And in fact, as in the case of the quantificational force of the whole, the relevance of definiteness may be illusory for selecting focal referents. This is certainly true for Armenian, at least morphologically speaking. Focal referents in Armenian do not bear the definite marker *-y*, and therefore are not, at the very least, morphologically definite. Compare the following:

(140) a. Ususcich-ner-***(ə)** handip-ec-in purak-um
Teacher-PL-**DEF** meet-AOR-PL park-LOC
'**The** teachers met at the park'

b. Ususcich-(***ə**)-enq handip-ec-in purak-um
Teacher-(***DEF**)-ASSOC meet-AOR-PL park-LOC
'The teacher (and family) met at the park.' (MA, 2023)

So if it is not definiteness which restricts the class of focal referents, then what is the relevant contrast? In order to test this, a range of professions were tested using the frame sentence in (140). The results of this battery are given below, with nouns sorted into categories based on meaning:

Table 3.1: Armenian focal referents by meaning

Noun class	**Tested examples**	**Grammatical FR**
Names	Mariam, Aram	yes
Kinship terms	grandmother, grandfather, brother sister, mother, father	yes
Relational professions	doctor, lawyer, teacher, student, nurse	yes
Professions	artist, plumber, musician, judge, driver, delivery person	no
General human terms	boy, girl, person, woman, baby	no
Stage-level nouns	pedestrian, victim, fugitive, *prisoner winner, opponent	no yes

According to the consultant, the professions that felt odd as focal referents were

often odd because of a lack of intuitive connection to the speaker. For example, not many people have their own artist, or writer. I have labeled the acceptable class of nouns in the table above as *relational professions*. This is an impressionistic category, but it encapsulates a group of nouns that may have a relationship to individuals that transcends stage-level circumstances, but are not quite inalienable. For example, your doctor is still your doctor in circumstances where the doctor is not present, but unlike the bonds established by kinship, you may sever this relationship at any time by firing your doctor. Additionally, this is not the only context were *relational nouns* might be a relevant context. They also exhibit contrastive behaviour with other professions in the following contexts:

(141) They are easier to accept out of the blue with deictic possessor:

a. I saw my doctor today

b. ?? I saw my artist today

(142) They make better weak indefinites:

a. Every student told the teacher

b. ?? Every student told the writer

What I will suggest here based on the evidence above is that focal-referents are restricted by *accessibility* (Ariel 1988, 2006:and others) rather than definiteness, and that the relational nature of nouns like *doctor* increases their accessibility.

The basic intuition behind accessibility is that, as Ariel says, "natural discourse does not start from scratch" (Ariel 2006: 1). Speakers have contextual assumptions that must be integrated with new any information. These assumptions are things that interlocutors can take for granted to the extent that they need not be asserted in the conversation, and this includes entities that may be referred to. Accessibility Theory (Ariel 1985, 1988, 1991, 2001, 2006) distinguishes identifiable (i.e. given)

entities from non-identifiable one and aims to account for how referring expressions are selected and interpreted in line with their givenness. Work on accessibility theory has been particularly interested in definiteness as a marker of accessibility, with the idea that not all mental representations are equally accessible (i.e. equally activated in the discourse). The form used by a speaker is a signal to the addressee about how accessible the intended referent is, and this helps the addressee pick the correct referent out. The claim of this theory is that different kinds of referring expressions are specialized to point out different degrees of accessibility, so that an addressee may search for a referent based not only on content, but on how activated the referent is in the discourse, as indicated by the speaker. Accessibility markers can therefore be graded on a kline of accessibility which is partially grammaticalized (Ariel 2001). Ariel proposes the following scale, which starts with markers of low accessibility and ends with high accessibility markers:

(143) *Accessibility Marking Scale* (Ariel 2006: 2)

> *Full name + modifier > full name > long definite description > short definite description > last name > first name > distal demonstrative + modifier > proximate demonstrative + modifier > distal demonstrative + NP > proximate demonstrative + NP > distal demonstrative (-NP) > proximate demonstrative (-NP) > stressed pronouns + gesture > stressed pronoun > unstressed pronoun > cliticized pronoun > verbal person agreement markers > zero.*

We can see right away that the accessibility scale in (143) bears at least some resemblance to Moravcsik's focal referent scale in (139) in that they both make reference to definiteness and both rank names above other kinds of definite descriptors. This is one hint that it may be accessibility at work in restricting focal referents. However, unlike Moravcsik, Ariel does not take animacy into account (it is not at issue in that body of work), but subsequent work suggests that animate nouns have a

greater degree of accessibility than inanimate nouns (Fukumura & Van Gompel 2011; Vogels et al. 2014) and are more likely to be signaled by reduced forms like pronouns.

The claim I will make here about the relationship between accessibility and associative focal referents is as follows: only accessibility markers that signal a high enough degree of accessibility may combine with a determinizer to produce focal referent determiners. The accessibility markers that qualify as signalling a "high enough" accessibility varies across languages, and where the cut off is made is the source of cross-linguistic variation in allowable focal referents. For example, Japanese has virtually no restrictions on what accessibility markers may become focal referents, with the exception of animacy. This is why kinds are allowable focal referent NPs even though they are very non-specific and therefore unlikely to be highly activated inherently in a discourse.

Before moving on to what this claim might mean for more restrictive languages like Armenian (and possibly Turkish), it is necessary to say something about the syntactic complexity of focal referents and how this relates to (143) where structures of varying complexity appear as accessibility markers. It seems to be the case that, for languages like Armenian (although not for some other associative plural languages, like Afrikaans; den Besten (1996)), syntactically complex DPs are not permitted as focal referents. This is exemplified by the impossibility of having a full definite description in the focal referent (140b) and the impossibility of a conjoined focal referent:

(144) *Mariam yev Aram-enq dzuk keran
Mariam and Aram-ASSOC fish ate.AOR.3PL
Intended: 'Mariam and Aram and their friends ate fish'

This data seems to suggest that in Armenian, what enters into a focal referent determiner must be an NP and not a DP. I will hold here that this is a syntactic restriction

unrelated to accessibility which, on account of the paucity of data, I cannot explore the full cross-linguistic ramifications of here. Focusing on Armenian, and with the syntactic restrictions in mind, it is possible to remove everything with DP-level syntactic complexity from Ariel's list, and that leaves us with just *full name* > *first names* > *pronouns*. This is interesting in light of the fact that all associative plural languages allow at least names to act as focal referents (it is not clear whether there is a further split between fist and full names). Additionally, given the proposal that plural pronouns are a variant of associative plural (section 4.3) where the focal referent is a singular pronoun/feature bundle, could help us explain a notable split in the typology, notably the fact that a vast majority of languages have plural pronouns, while only a subset have associative plurals. The reasoning behind this is as follows:

- NPs that can enter into a focal-referent determiner must signal a high level of accessibility (possibly because their referents are presupposed).
- Different languages make different 'cuts' with respect to what is an acceptable degree of accessibility for focal-referenthood
- 1/2 person features, as pronominal elements, mark the highest degree of accessibility. Because of this, most languages have plural 1/2 person pronouns (with some exceptions, like Piraha (Everett 1986))
- Other languages, like Yupik, have an additional degree of leniency and allow names to fill this position in the DP, and thus the associative plural is born

At this point we can turn to languages with more nuanced restrictions, like Armenian. So far in the scheme described above, I have accounted for two things by virtue of accessibility: the ubiquity of pronouns vs. associative plurals given a shared structure, and the restriction of focal referents in some languages to proper nouns

and this does not as of yet produce the more subtle distinctions described in (3.1). To do this will require augmenting the accessibility scale to reflect the distinctions in (3.1) as below:

(145) *human descriptors* > *relational human nouns* > *human kinship nouns* > *names* > *pronouns*

However, this raises the question; is there reason to believe that the additional granularity in (145) is well supported? The psycholinguistics literature around accessibility has not dealt with these distinctions directly, but there is at least some reason to believe that a processing advantage is conveyed by inalienable nouns (e.g. kinship terms) that may suggest increased accessibility (Lichtenberk et al. 2011; Vaid et al. 2019). But where does this leave what I have termed *relational professions*? Are they distinguishable from other human descriptors in a way that it is indicative of an increase in their inherent level of activation in a discourse? If so, is this encoded grammatically in these terms as a distinct category of accessibility marker? We have seen evidence that *relational professions* are visible as a class in non-associative plural contexts, as in the case of out-of-the-blue possession (141) and (142).

One potential answer to this is that *relational professions* involve and inherent relation in the same sense that has been proposed for kinship terms, which are analyzed as two-PLace predicates (Barker, 1995; Partee 1997). The reasoning behind this is that, for example, it is not possible to be a *mother* without being the mother of someone, so the denotation of these nouns should be a relation between a pair of entities. *Relational professions* pass tests for relational noun-hood even in English. For example:

(146) **Postnominal Genitive Possessive** (Barker 2011)

a. *The mother of Jane*

b. *The doctor of Jane*

c. **The chair of Jane*

d. **The writer of Jane*

Additionally, it is not just professional nouns that may be non-kin relational terms; as we can see in (3.1), stage-level terms like *winnner* and *opponent* may also be focal referents, and like the relation nouns in (146), they may be used in postnominal possession:

(147) a. *The winner of the contest*

b. *The opponent of the new deal*

So perhaps the increased valency of relational nouns, including kin terms, certain professions, and terms like *winner* and *opponent* acts as a marker of accessibility that licenses them as focal referents in languages like Armenian. It is not clear from the data available whether there are languages which allow nouns like *mother* to become focal referents but not nouns like *doctor*, so whether further nuance is needed here will be left as an open question.

3.5 Summary

In this chapter, I have presented an account of the syntactic and semantic structure of associative plurals is put forward that accounts for their associative readings and their specificity. This proposal advances the idea that the focal refernt is a determinerized noun that introduces a contextually specified relation R that holds between it and the group. The associative marker itself is responsible for introducing this group, an individual concept denoting a group with membership that

varies across situations. In addition, the derived determiner also introduces a resource situation, and the resulting DP returns the instance of the individual concept at that situation with the presupposition that it is related to the focal referent. Differences between Japanese on the one hand and Turkish and Armenian on the other hand with respect to quantificational force is attributed to a difference in the kind determinizer that combines with the focal referent. For Japanese, a non-maximal determinizer allows other things related to the name noun outside of the group to exist in the context, and similar flexibility is not permitted in Turkish and Armenian because the maximal variant ensures that the group exhausts the set of things related to the focal referent in the context. Additive readings are shown to stem from different sources depending on the languages; in Japanese from the ability of the focal referent to determiner to be formed off of a kind rather than an individual, in Turkish on account of homophony, and in Armenian as in instance of accidental homogeneity with a focal referent individual.

In the next chapter, we will turn to the data in Chapter 2 that showed how associative plurals are restricted within languages and extend the account put forward in Chapter 3 to account for this.

CHAPTER 4

Associative plurals within languages

Now that the basic analysis of associative has been set out in chapter 3, this chapter will focus on explaining accounting for the behaviour of associative plurals within languages, along with their connection to first/second person plural pronouns, and a discussion of how the analysis presented here compares to existing approaches in the literature. I will begin by addressing the question of existential construction in section 4.1, where I will show that the inherent specificity of associative plurals bars them from these constructions — specifically, that the situation variable introduced by the focal referent not only ensures the associative DP will be referential, but also that it will result in a type clash when associative plurals are placed in frames that typically require nouns of type $< et >$. In section 4.2, I will turn to the question of kinds and generics, and why associative plurals do not appear compatible with them – this section will include additional discussion of associatives in the scope of *could*, how their readings are restricted when compared with definite descriptions like pronominal possession, and how this further connects them to plural pronouns, a parallel analysis of which will be given in section 4.3. Section 4.4 concludes with an overview of associative plurals in the literature.

4.1 Existential constructions

As noted in section 2.3.1, associatives are consistently reported to be prohibited in existential 'there' constructions and possessive 'have' constructions. Data demonstrating this is repeated below:

(148) a. JAPANESE

*?Inoue-san-ni-wa kodomo-*tachi*-ga {iru / aru }
Inoue-Mrs-DAT-TOP child-ASSOC-NOM exist$_{iru}$ / exist$_{aru}$

'Mrs. Inoue has children' (Nakanishi & Tomioka 2004:116)

b. TURKISH

i. Doktor-lar var
Doctor-ASSOC exist
Intended: 'Doctors exist' (DG, 2023)

ii. #Çağrı-lar var
Çağrı-ASSOC exist
Intended: 'Çağrı's (family) exists' (OB, 2022)

iii. Hastane-de doktor-lar var
hospitcal-LOC doctor-ASSOC exist
'There are doctors in the hospital (in general)' (OB, 2022)

iv. #Hastane-de Çağrı-lar var
Hospital-LOC Çağrı-ASSOC exist
Intended: 'Çağrı's (family) are at the hospital (in general)' (OB, 2022)

c. ARMENIAN

*Entex bzhishk-enq kan
There doctor-ASSOC -3PL.exist

Intended: 'There are doctors there' (MA, 2023)

Interestingly, these are the same places that certain quantifiers are noted to be banned by Milsark (1974), who uses this observation to divide NPs into the categories of *strong* and *weak*. The utility of this test is demonstrated below, using examples from Keshet (2008:40-41):

(149) a. There is a/some student in that room.

b. There are two/three/some/many/several students in that room.

(150) a. *There is the/this/that/every/each/Smith's student in that room.

b. *There are the/these/those/both/all/most students in that room.

(151) a. **Weak:** a, some, many, several, two, three, ...

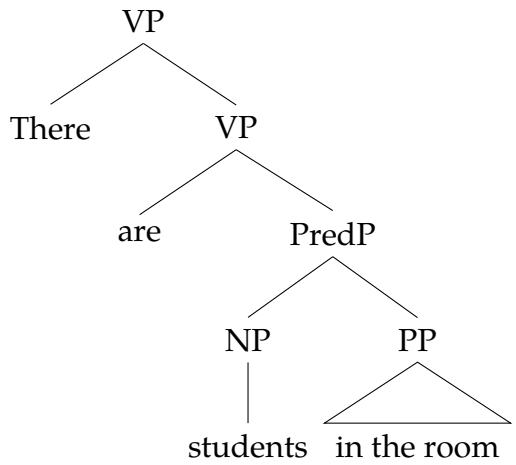
b. **Strong**: the, this, these, that, those, both, each, every, most, all, ...

Recall from section 3.1 that under the analysis here, the focal referent is a determiner that introduces a resource situation pronoun to the DP, following the analysis of strong quantifiers in Schwarz (2012). The fact that associative plurals pattern with the strong DPs in (151b), then, adds further support to this, and in fact the analysis put forward to explain the ban on strong DPs in existentials can be easily extended to account for associative plurals.

Let us begin by assuming a syntactic structure for existential constructions as in (152b) below, from Keshet (2008:46):

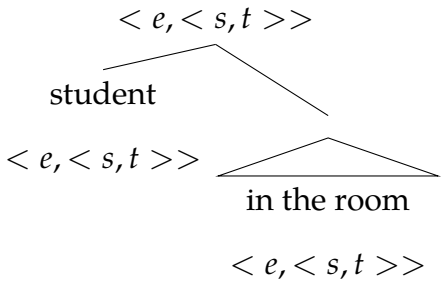
(152) a. *There are students in the room*

b.



In this example, the NP combines with the prepositional phrase through Predicate Modification, as in (153), adapted from Schwarz (2012:449):

(153)



While Keshet (2008); Schwarz (2012) do not provide a full derivation for the existential, I assume here that the resulting predicate is existentially closed following semantically vacuous insertion of the copula and NP *there*[1]. Although I will only walk through an existential example here, a parallel analysis is given for possessive have constructions in Keshet (2008) (chapter 3), and therefore discussion going forward should be taken to apply to both cases.

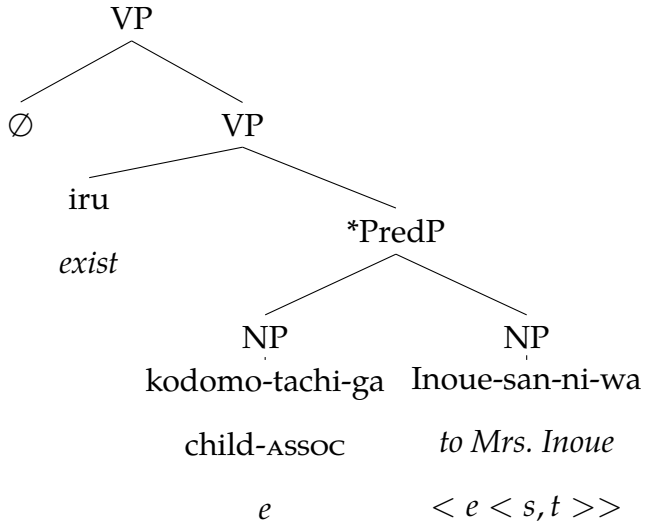
What is important here is that the two predicates in (153) will be evaluated at the same situation – in the case of existential constructions, I will assume this is

[1] *There*-insertion is proposed in various forms for example in Milsark (1974); Jenkins (2012); Stowell (1978); Safir (1982)

the topic situation. This is the correct prediction for existential constructions (see Keshet (2008) chapter 2 for details).

If the DP *students* were to be replaced with a DP that has its situation argument saturated (e.g. a strong DP, possessed noun, or associative plural), then predicate modification will not be possible. Therefore the conditions necessary for an existential meaning to obtain will not be met. An example for the associative plural sentence in (148a) is given below:

(154)



In (154), the dative NP *Inoue-san-ni-wa* is of type $< e < s, t >>$ (I assume as function of type shifting by the dative case) but it cannot be intersected with the NP *kodomo-tachi-ga* on account of a type clash.

While Keshet (2008); Schwarz (2012) only deals with cases like (152), where there is a prepositional modifier in the existential phrase, one may also wonder about bare cases like *There are some/*every girls* and parallel examples for associative plurals. It is my assumption here that expletive constructions like *There are* take an argument of type $< e < st >>$ regardless of whether it is the produce of intersection, and so these cases are likewise expected to be inappropriate contexts for associative plurals, since existential closure doesn't operator over entities like the associative plural DP in (154). This is born out by the data, at least Turkish,

where a sentence (155) is infelicitous unless the interpretation is locative:

(155) Turkish

Çağrı-lar var
Çağrı-assoc exist

#'Çağrı and his friends exist'

'Çağrı and his friends are there (at a specific place)' (OB, 2023)

4.2 Modals and associatives

In section 2.2, data was introduced that showed evidence for an intentional component to associative plurals that mirrors that of committee-type group nouns in languages like English. This can be demonstrated using the diagnostic for intensionality in Pearson (2011). This paradigm is repeated in (156 – 159) below, and shows that associative plurals are licensed in the presence of quantificational adverbs and individual level predicates, where singulars and non-intensional additives are odd.

(156) **Singulars/ Additives:**

a. # John always has big feet

b. # Mary and John always have big feet

c. ?? Those girls always have big feet

The awkwardness of the examples in (156) stems from the fact that quantificational adverbs like *always* quantify over world-time pairs which creates an implicature that the predicate in its nuclear scope might have been true at one time and not the other. So a sentence like (156a) will have truth conditions like (157):

(157) Always$_{x,s}$ [John(x,s)] [has-big-feet(x,s)]

What this means is that in all *John* situations, John has big feet. Since having big feet is not a property that is expected to change across situations, stating that it doesn't is odd because it implies that it might have changed. Singulars and non-intensional additives have a constant identity, and so an individual-level property will apply to them always or never. This is not true for intensional objects, where individual properties like *have big feet* might hold at one situation and not another. For example:

(158) **Intensional objects:**

a. The president of the United States always has big feet

b. The New York Yankees always have big feet

c. The Smith family always has big feet

We can observe that associative plurals behave the same way that the nominals in (158) do in this respect, in the languages where this data could be elicited (the test in (159) was not informative in Armenian because of confounding factors in the aspect system.[2])

(159) **Associatives:**

a. *Japanese:*

Hina-tachi-wa mut-tsu-no tumasaki-o motte itumo
Hina-ASSOC-NOM 6-CL-GEN toe-ACC having always
umarete-(kuru)/umareru
born-come/born

'Hinas (family) are always born with six toes' (YM 2022)

b. *Turkish:*

Shay-ler-in ayaklari genelde buyuk oluyor.
Shay-ASSOC-GEN foot-PL-POSS usually big.COP be-IPFV-PRES.3

'Shay's (family) usually have big feet' (DO 2022)

[2]When the verb was eventive, all nouns were judged acceptable in these frames, and when the verb was aorist, group nouns like *family* were unacceptable

We can see that the awkwardness of (156) does not arise for associative plurals in (159), and this is a reason to believe that these plurals have a life across situations – that is to say, that their identities vary by index. The ability for associative plural groups to vary across situations is captured by the analysis given in (89) because it contains a situation variable that can be bound by a quantificational adverb, and an intensional group where members vary across situations. The truth conditions of (159b) are below:

(160) Usually$_{x,s}$ [Shay-ler(x,s)] [has-big-feet(x,s)] (adapted from Pearson 2011: 164)

Given this evidence that the resource situation introduced by associative plurals can be bound in a way that sheds light on its intensionality, the data that this section will address is surprising, since it will show that the associative situation can not be bound by all operators. This section will focus on exploring what the analysis of chapter 3 has to tell us about why associative plurals cannot be interpreted as kinds and generics. Additionally, data exploring the behaviour of associative plurals under modal *could* will be set out in section 4.2.2 that adds an additional dimension to the generic restriction by showing that the situation pronoun introduced by the associative is likewise unable to be bound in these contexts.

4.2.1 Kinds, generics, and licensing by modification

As data given in section 2.3.2 showed, associative plurals are noted to resist kind and generic interpretations in a range of languages. This data is reiterated here:

(161) Japanese (Nakanishi & Tomioka 2004: 114-115)

a. Kind

Zyosei-tantei(?*-**tati**)-wa mezurasii
female-detective-assoc-top rare

'Female private detectives are rare

b. Generic

i. Itariazin-wa yooki-da
Italian-top cheerful-cop
✓Generic: 'Italians are cheerful'

ii. Itariazin-**tati**-wa yooki-da
Italian-assoc-top cheerful-cop
???Generic: 'Italians are cheerful' ✓'Some group of Italians are cheerful'

(162) Turkish (FA & DG, 2023)

a. Kind

Ali-**ler** yaygın-(lar)
Ali-assoc widespread-pl

'Ali's family is widespread'

✓'People named Ali are widespread'

b. Generic

i. #Saç-lar-ı sarı ol-an Ali-**ler** uzun(lar)
Hair-pl-poss3 blonde be-rel Ali-assoc tall
Intended: 'Ali's family who have blonde hair are tall'

ii. Saç-lar-ı sarı ol-an Almanlar uzun(lar)
Hair-pl-poss blonde be-rel german-pl tall
'Germans who have blonde hair are tall'

(163) Armenian (MA, 2023)

a. Kind

i. #Lav usucich-enq hazvadep ban en
Good teacher-assoc rare thing -3sg.be
Intended: 'Good teachers are rare'

ii. Lav usucich-(ner)-y hazvadep ban e(n)
Good teacher-(pl)-def rare thing be.3(pl)
Intended: '(A) good teacher(s) is/are rare'

b. Generic

i. #Usanox-enq xelaci en
Student-assoc-def smart be.3pl
Intended: 'Students are intelligent (in general)'

ii. Usanox-ner-ə xelaci en
Student-pl-def smart be.3pl
'Students are intelligent (in general)'

Since associative plurals are necessarily specific and do not denote kinds,[3] it is unsurprising that that they are not interpreted as kinds in examples (161a), (162a), and (163a). The generic examples pose more of a mystery. Let us assume an analysis of generics that involves quantification over situations by a contextually restricted generic operator (along the lines of Krifka et al. (1995)). Given this, we may expect an LF like (164)[4] to be available for a sentence like the one in (163b-i):

(164) [[***GEN*** C] [$\sum_1$ [[student s_1] are intelligent]]]

However, as the data presented here shows, this is not a possible LF. This is similar to the behaviour of English definites,[5] are likewise referential and prohibited

[3] I take kinds here to be a primitive entity, along the lines of Carlson (1977); Chierchia (1998b)

[4] Based on examples in Cable (2018a)

[5] I am setting aside cases of English definites used as kinds, as in sentences like *the lion roars* where *the lion* refers to the animal as a class. See Chierchia (1998b); Krifka (2003) for approaches to the English definite kind.

from appearing in generic sentences (165a) unless they are accompanied by a post-NOMinal modifier (165b):

(165) a. *??The soldiers are victorious*

b. *The soldiers who follow orders are victorious*

Like definites, associative plurals are necessarily referential and additionally in some languages (e.g. Japanese) their resistance to generics can be ameliorated through licensing by modification:

(166) JAPANESE

Nihon-ni yattekuru Itariazin-tati-wa yooki-da
Japan-to come.over Italian-ASSOC-TOP cheerful-COP

✓Generic: 'Italians who come over to Japan are cheerful.' (Nakanishi & Tomioka 2004: 136)[6]

Dayal (2004) points out that the so-called 'subtrigging' of English definites in (165b) is only available for post-NOMinal modifiers, which she attributes to the fact that phrasal modifiers introduce an independent spatio-temporal variable (i.e. a situation), following Sadler & Arnold (1994). The grammaticality of (165b) rests on the possibility of a set of soldiers who follow orders at a particular time and place. Dayal takes the unavailability of the generic reading in (165a) to be a product of an issue with the familiarity requirement on definites, which clashes with a generic interpretation. When a modifier is introduced, the definite DP has the option of sharing a situation variable with the modifying clause, and this alleviates the presupposition failure caused by familiarity because it allows a discourse referent to be accommodated in the matrix clause, licensing a familiar referent in the embedded.

[6]Note however that doubts have been raised about whether these examples are true generics (Satoshi Tomioka, personal communication)

Unfortunately, this account cannot be straightforwardly ported over to the case of associative plurals, since they do not need to be familiar, as noted in section 3.2. What I will propose in this section is a partial explanation based on the account of Dayal (2008), and I will also make note of the questions that this type of analysis leaves open. To start, I will maintain the idea that the generic operator cannot bind the situation variable introduced by associative DPs (and definite DPs), but that this can be alleviated by an additional, shared situation variable introduced by a relative clause, as Dayal proposes. The examples we have seen from Japanese can therefore be modelled as in (167) below:

(167) a. Itariazin-wa yooki-da
Italian-TOP cheerful-COP
'are cheerful'

b. $\text{Gen}_{x,s}$ [Italians(x, s)] [be-cheerful(x,s)]

(168) a. Itariazin-**tati**-wa yooki-da
Italian-ASSOC-TOP cheerful-COP
(Nakanishi & Tomioka 2004:114)

b. $\text{Gen}_{x,s}$ [Italians-in-s'(x)] [be-cheerful(x,s)]

(169) a. Nihon-ni yattekuru Itariazin-tati-wa yooki-da
Japan-to come.over Italian-ASSOC-TOP cheerful-COP
'Italians who come over to Japan are cheerful' (Nakanishi & Tomioka 2004: 136)

b. $\text{Gen}_{x,s}$ [Italians-in-s'(x) & come-over-to-Japan(x, s)] [be-cheerful(x,s)]

There is nothing for the generic to bind in the domain of (168b) because the situation variable is free, and so the prohibition against vacuous quantification prohibits this. This does not occur in (169b) because the relative clause introduces a variable for the generic operator to bind. This embedded variable comes to be in the scope of the operator through Dayal's variable sharing with the head noun *ital-*

ians. This sharing of the embedded situation variable may be parameterized across languages, and therefore may be unavailable in languages like Turkish, where the addition of a relative clause do not alleviate the infelicity of generic interpretations with associative plurals:

(170) #Saç-lar-ı sarı ol-an Ali-ler uzun(lar)
Hair-PL-POSS blonde be-REL Ali-ASSOC be-tall
Intended: 'Ali ('s family members) who have blond hair are tall.'

One big question this account raises is why can't the generic operator bind the associative situation variable in these cases. It cannot be the case that this situation variable is necessarily free, as we have seen that binding by other quantificational adverbs is possible:

(171) a. Hina-tachi-wa mut-tsu-no tumasaki-o motte itumo
Hina-ASSOC-NOM 6-CL-GEN toe-ACC having always
umarete-(kuru)/umareru
born-come/born
'Hinas (family) are always born with six toes' (YM 2022)

b. Always$_{x,s}$ [Hina-tachi(x, s)] [born-with-six-toes(x, s)]

Why should a parallel example not exist for generics? One possible explanation for this could be that the *Gen* operator and $\sum$ are syntactic competitors and therefore in complementary distribution. If this were true, it would be possible to stipulate that only $\sum$ is capable of directly binding situation pronouns, and *Gen* simply quantifies over situations associated with a lambda-bound variable in its sister node.[7] However, in section 4.2.2 we will see evidence that the inability of modal operators to bind the associative resource situation is a phenomena that extends beyond generics, and in these cases the modal is unlikely to be a competitor of $\sum$.

[7]This idea comes from Florian Schwarz (personal communication).

4.2.2 Associatives under modal *could*

In this section, I will add to this mystery introduced above by showing that associative plurals can likewise not be bound by modal operators like *could*, and that this produces a contrast with possessive phrases on the one hand, and associative plurals and first/second person plural pronouns on the other. This strengthens the hypothesized link between plural pronouns and associative plurals, and also reenforces the idea that restrictions on the ability to bind the associative situation lies at the heart of the generic question.[8]

This contrast has to do with how 'separable' the modifier is from the group in terms of the situation it is evaluated in, and how this influences the number of interpretations available. Associatives behave more like pronouns in this respect, while pre-NOMinal possession diverges. We can observe this using diagnostics that originate from Nunberg (1993). Nunberg observes that if pronouns like *we* were a concealed definite descriptions that varied with the speaker, we might expect them to behave in a way analogous to a descriptions like *my team*. So (172) should have the same set of readings:

(172) *Nunberg examples*

a. My team could have been the winners

b. We could have been the winners

However, Nunberg points out that these sentences do not have the same set of readings – (172a) is true in more situations than (172b). We can see this by comparing the contexts in (173)/(174). In the context in (173), both the sentence with *my team* and with *we* are acceptable.

(173) *Context:* Lara is participating in a soccer tournament and the teams are assigned at the beginning of the day. Lara is on the red team. In the last round

[8]This is contra Nakanishi & Tomioka (2004) who attribute this to the absence of homogeneity in the group. See section 4.4.1.1 for details

the red team faces the blue team. Both teams are evenly matched and the game is a close call, but the blue team wins by one point. When talking about the red team (i.e. her team) Lara can say either of the following:

a. √ My team could have won

b. √ We could have won

However, in a context like (174), only the sentence with *my team* is acceptable:

(174) *Context:* Max is also participating in the soccer tournament. At the beginning of the day, Max is almost assigned to the blue team, but because of uneven numbers, he is assigned to the red team instead. When the red team loses, Max is thinking about how he could have been on the blue team, i.e. the winning team.

a. √ My team could have won

b. X We could have won

When talking about how he could have been on the blue team, Max can say (174a), but not (174b). What we can take away from this is that *we* must refer to Max's team in the actual world, and is unable to reference a hypothetical team that Max could have been on. In essence, the speaker must be evaluated at the same situation that the group component of *we* is evaluated at. This is not true of the possessive case, where *my* can be evaluated at the actual world while *team* is interpreted with respect to a hypothetical situation where the speaker was on a different team.

How does this relate to associative plurals? We will see that in contexts like (173)/(174), associative plurals align with pronouns, rather than with possession. First, lets establish that the facts introduced above also hold in the languages under investigation here. Starting with possession, we can see that both readings are available:

(175) **Possession:**

a. Turkish

Ben-im takım-ım kazan-mış ol-abil-ir-di
1sg-gen team.1poss win-part be-mod-aor-pst.3

'My team could have won' (DO 2021)

Reading 1: √ The team that the speaker actually belongs to could have won.

Reading 2: √ The speaker could have belonged to whatever team won.

b. Japanese

Watashi-no chi:mu-ga katte-ita kamoshireni
1sg-gen team-nom win-pst could/might

'My team could have won' (YM, 2022)

Reading 1: √ The team that the speaker actually belongs to could have won.

Reading 2: √ The speaker could have belonged to whatever team won.

Additionally, when the possession phrase is replaced with a first person pronoun, the second interpretation is no longer available:

(176) **Pronouns**

a. Turkish

Kazanmış olabilirdik
win.part be-mod-aor-pst-1pl

'We could have won' (DO 2021)

Reading 1: √ The team that the speaker actually belongs to could have won.

Reading 2: #The speaker could have belonged to whatever team won.

b. Japanese

Watashi-tachi-ga katte-ita kamoshireni
1sg-assoc-nom win-pst could/might

'We could have won' (YM, 2022)

Reading 1: √ The team that the speaker actually belongs to could have won.

Reading 2: #The speaker could have belonged to whatever team won.

Turning to associative plurals, we can see that like the cases with *we*, only the transparent interpretation is available:

(177) **Associative plurals:**

a. Turkish

Çağrı-lar kazanmış olabilirdi
Çağrı-assoc win.part be-mod-aor-pst-1pl

'Çağrı's team could have won' (DO 2021)

Reading 1: √ The team that Çağrı actually belongs to could have won

Reading 2: #Çağrı could have belonged to whatever team won

b. Japanese

Hina-tachi-ga katte-ita kamoshireni
Hina-assoc-nom win-pst could/might

'Hina's team have won' (YM, 2022)

Reading 1: √ The team that Hina actually belongs to could have won

Reading 2: #Hina could have belonged to whatever team won

Associative plurals behave like pronouns (176) and not like possession (175) in that the focal referent and its relationship to the group cannot be interpreted in a distinct situation from the group itself. Both readings in the examples are available

for possession – that is, the speaker can be evaluated relative to other possible contexts (reading 1) or the utterance can be evaluated relative to other possible contexts (reading 2), but pronouns and associative plurals only permit the first reading. This data strengthens the connection between pronouns and associative plurals that will be taken up in section (4.3).

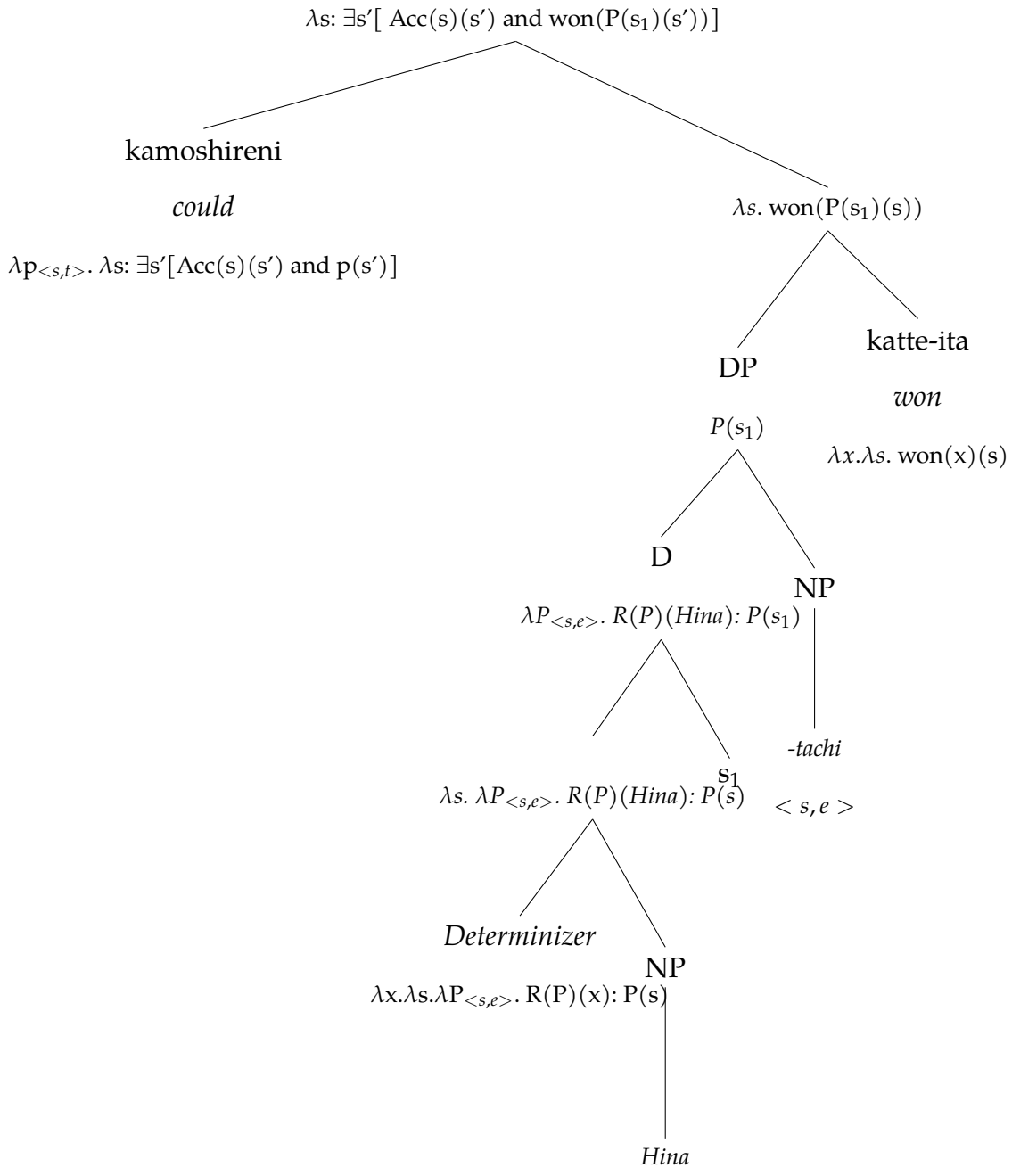
So why can't focal referents be interpreted separately from the associative group? To begin, I will adopt the following simplified semantics for *could*, setting aside any stickier questions about the nature of modality:[9]

(178) $[\![\text{could}]\!] = [\lambda p_{<s,t>}.\ \lambda s\text{: } \exists s'[\ \text{Acc}(s)(s') \text{ and } p(s') = T\ ]]$

When *could* quantifies over a sentence containing an associative plurals that does not include the binder $\sum$, the resource situation of the associative plural will necessarily remain free. This is demonstrated using an example from Japanese (simplified to omit case and tense information):

[9]For an introduction to these issues see Kratzer (1977, 2012)

(179) *The structure of first person plural*



Here the modal is only binding the situation variable introduced by its sister, and not the free situation variable in the associative plural. The free variable may then remain free or be bound by a higher operator.[10] This is desirable for both associative

[10]Such as an operator intorduced by a conditional or a higher iteration of $\sum$ introduced with the

plural. However, we could easily imagine that $\sum$ could be introduced below the modal and bind the resource situation of the associative plural, and this would predict that both interpretations should be available. One potential explanation, which was introduced at the end of section 4.2.1, is that $\sum$ is not freely insertable, but selected for syntactically. This is a contrast between the modal *could* and the quantificational adverb in (101) – the adverb selects for $\sum$, but the modal does not.

However, there is reason to believe that this solution is not the correct one. To start, since I have adopted here the proposal of Schwarz (2012) that situation variables are introduced by strong determiners, if *could* does not introduce $\sum$ then we might expect the behaviour of English definites to mirror those of associative plurals, and this is not the case. For example:

(180) The blue team could have won

Reading 1: $\surd$ The team that is actually blue could have won
Reading 2: $\surd$ The team that won could have been blue.

As the example above shows, a definite DP in the scope of *could* may be interpreted with respect to the real world or a hypothetical one, and this suggests that the situation variable it introduces may be free or bound. And as we have seen, this is also true of DPs with pronominal possessors, which are usually taken to be definite descriptions (Nunberg 1993; Barker 2000).

The question of why associative plural's resource situation can be bound by quantificational adverbs and not by modals or the generic operator will remain a mystery here. However, it is important to note that associative plurals and first/second person pronouns behave analogously in this respect, and this lends itself to a unified analysis of these two constructions – this will be taken up in section 4.3 below.

topic situation (see Schwarz (2009) chapter four for detailed discussion of topic situations.)

4.3 Associative pronouns

Something evident in the basic derivation for associative plurals given in (89) is the fact that the bulk of the heavy lifting is being done by the focal referent, and *not* by the plural morpheme (*tachi-*), which under the proposal given here is a pronominal individual concept. This may seem counter-intuitive at first, given that it is the plural morpheme that signals the presence of associative plurals. However, support for the connection between associative plural markers and plural pronouns can be drawn from the fact that in many languages, this plural morphology leads a second life outside of the influence of a focal referent noun; namely, the associative plural morpheme frequently doubles as a third person plural pronoun. For example:

(181) a. Armenian (Alashkert dialect; MA, 2023)[11]

i. Mariam **urenq** handip-ec-in purak-um
Mariam assoc meet-aor-pl park-loc
'Mariam and her friends/family met at the park'

ii. **Urenq** handip-ec-in purak-um
they meet-aor-pl park-loc
'They met at the park'

b. Slavey (Sahtu dialect)

i. Pídere deno **go**gha bérı̨dí
Peter 3sg.mother assoc.to -3sg.give.meat.perf
'Peter gave meat to his mother and them' (Alina Takazo, 2019)

ii. **Go**gha ʔeghálaehda
3pl.for 1sg.work
'I work for them' (Rice, 1989: 272)

[11] In Eastern Armenian, the dialect featured most prevalently in this work, the associative *urenq* is phonologically reduced to *-enq*

c. Old Icelandic

i. Sonr **þeira** þorgeirs var þôrþr
Son them.gen Thorgier.gen was Thórd
'A son of Thorgeir and this wife was Thórd' (Den Besten 2004:23)

ii. **Þeir** kváðust aldrei vilja sína eigu upp gefa.
they said never will refl property up give
'They said they would never hand over their property' (*Sturlu saga* via Rögnvaldsson 1996: 21)

d. Afrikaans

i. Pa-**hulle**
Dad-assoc
'Dad and his folks' (Den Besten 2004:14)

ii. **Hulle**
-3pl
they/them/theirs (Donaldson 1993:123)

e. Jamiekan Creole

i. Jan **dem** out-a duo
John assoc out door
'John and his friends/associateds are outside' (Ghomeshi and Holness 2018:1)

ii. Maas Juo lik **dem**
Mr. Joe strike 3pl
'Mr. Joe struck them' (Ghomeshi and Holness 2018:4)

In addition to languages which use a pronominal form as the group-introducing element, many others exhibit overlapping morphology between associative plurals and plural pronouns. For example:

(182) a. Turkish (DO 2021)

i. Çağrı-lar park-ta buluş-tu(-lar)
Çağrı.pl park-loc meet-pst.3-pl
'Çağrı's friends/associates met at the park'

ii. O
3SG
'he / she / it'

iii. On**lar**
3PL
'they'

b. JAPANESE

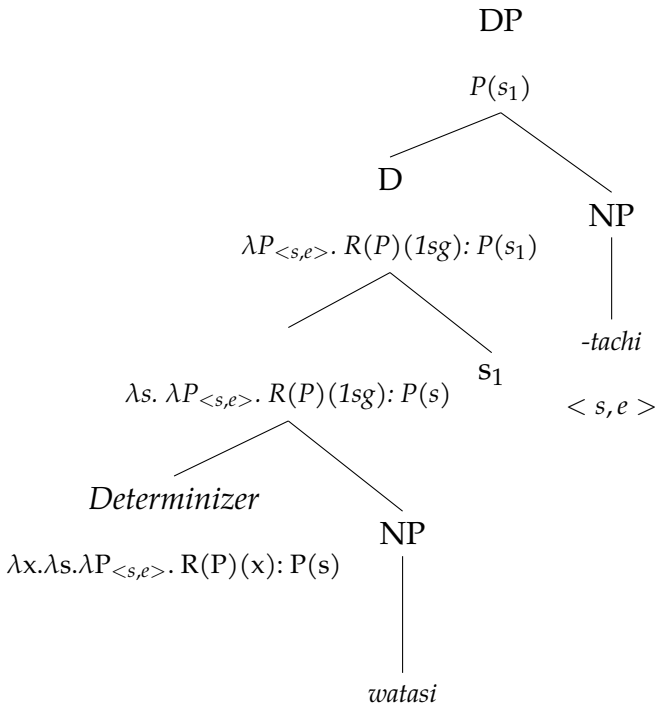
i. Taro-**tati**-wa moo kaetta
Taro-ASSOC-TOP already went home
'The group of people represented by Taro went home already' (Nakanishi & Tomioka 2004:124)

ii. watasi
1SG
'I' (Nakanishi & Ritter 2008:3)

iii. watasi-**tati**
1PL
'we' (Nakanishi & Ritter 2008:3)

In the case of Japanese, all personal pronouns are pluralized with the associative morpheme, while in Turkish 1/2 person have syncratic forms. One can imagine an analysis of the data in (182) where the core pronominal plural form is the complement of a determiner that contains within it an element bearing first or second person features, and in fact similar analyses have been proposed elsewhere (for example in Vassilieva 2005). The structure I propose for this is given in (183) below:

(183) *The structure of first person plural*



There are a few things worth noting about (183). First, this structure captures the fact that not all members of the groups picked out by *we* or *you* are speakers or addressees (respectively). This is analogous to the fact that in an associative plural like *Tanaka-tachi*, not all members of the resulting group are instances of *Tanaka*. This observation has formed the core of the comparison between associatives and pronouns (for example in Vassilieva (2005)). It is true that nothing prevents the referents of *we* and *you* to be entirely speakers or addressees, but I take this to be incidental (as in section 3.3, which deals with parallel readings of associatives). In addition to the lack of homogeneity that deictic pronouns exhibit, the structure in (183) also explains why, like focal referents, the first/second person representative of the plurality need not be included in the group:

(184) Norwegian & English (Borthen 2009)

a. "[...] Kanskje det var [de påden andre siden] some sprengte den, sa hun, -eller kanskje det var **oss**... -Kanskje det, sa han. –**Vi** var såunge da det begynte, sa hun..."[12]

b. '[...] Maybe it was [those on the other side] who blew it up, she said, or maybe it was **us**. –Maybe, he said. –**We** were so young when it started, she said.'

The topic of this novel is two feuding factions on opposite sides of a river. The use of *oss*/*us* in the first sentence refers to the group of people on the side of the river that is represented by the interlocutors. However, As the last sentence demonstrates, the speakers were unlikely to be directly responsible for blowing anything up, as they were too young at the time of the event in question. So the speakers can represent the *oss*/*us* group, licensing the first-person form, without participating in the action described by the predicate, analogous to the associative case in (22c), repeated below:

(185) Emi-tachi-wa asagohan-o tabeteiru, kedo emi-wa mada neteiru.
Emi-ASSOC-NOM breakfast-ACC eat.PROG but Emi-TOP still sleep.PRES
'Emi's family are eating breakfast, but Emi is still in bed,' (YM, 2022)

Given the fact that pronouns are typically analyzed as definites (Postal 1966; Elbourne 2005) we may need the focal referent determiner in (183) to be in its maximal form to approximate this behaviour, but I will put off a deeper discussion of this here. The long and short of this is that we can see that the data for both associative plurals and pronouns is clearly compatible an analysis like the one given in (89), where the group is introduced by a null pronominal element that is the complement of a focal referent determiner.

[12]Borthen (2009) does not provide glossing for this example.

4.3.1 Notes on third person

The derivation in (183) is informative about first and second person plurals, but what about third? It is not obvious that third person pronouns have a unique salient third person individual representing the group.[13] Additionally, third person pronouns may be bound, which is not attested for first/second person and associative plurals.[14]

(186) a. Everyone$_i$ loves their$_i$ mother

b. *Everyone$_i$ loves our$_i$ mother

The observation that there is a contrast between first and second person pronouns on the one hand and third person on the other is not knew (Déchaine & Wiltschko 2002; Rullmann 2004). I will not offer a fully fleshed out solution for this here, but will offer some preliminary discussion.

First, a third person associative pronoun analogous to the one derived in (183) may not be possible if there is no third person analogous to the first person features in that focal referent. Support for this can be found in work arguing that third person pronouns have no formal person feature that parallels first and second (Benveniste 1971; Kayne 2000, 2002; Harley & Ritter 2002)[15]. What third person pronouns actually are vary by account. Déchaine & Wiltschko (2002), for instance, argue for a structure very light (183) for first and second person, while third is syntactically smaller in a way that renders it available to binding. Alternatively,

[13]Vassiliva (2005: 47) notes that in certain contexts, something like an associative interpretation is available:

(i) *Speaker A:* And what became of John?
Speaker B: Oh, they moved to DC a few years ago. (they = John and family)

However this is by no means the typical case, an I will set this aside here.

[14]This is setting aside the question of fake indexicals (Kratzer 2009), which I take to be a separate problem.

[15]For counter-arguments claiming this is only true for inanimates see Lochbihler et al. (2021) and the citations therein

Elbourne (2005) argues that third person pronouns are definite descriptions where the definite determiner combines with a (bindable) index. Either solution is compatible with analyzing first and second person plurals as in (183). This is particularly the case if we take into account the fact that third person plural pronouns are not obligatorily animate in English, and therefore cannot be limited to the strictly-animate individual concepts that form a core element of the associative plurals in chapter 3. Therefore the pronominal NP may in fact be an elided predicate as in Elbourne (2005).

What does this mean for third person plurals that are morphologically related to associative plurals, as in examples (181) and (182). The connection between pronouns and associatives is somewhat weakened if the third person forms that bear the same morphology are semantically unrelated. However, in at least Japanese and Turkish (where plural pronouns resemble associative plurals), overt third person pronouns are not the same third person pronouns we see in English. For example, a number of authors report that third person cannot be bound in these languages, and this replicated for plurals here:

(187) a. JAPANESE

i. *Dono gakusee-mo$_i$ [**kare**$_j$-ga kashiko-i to] omot-tei-ru
which student-∀ he-NOM smart-PRES COMP think-PROG-PRES
Intended: 'Every student thinks that he is smart' (Kurafuji 1999:56)

ii. *Dono gakusee-mo$_i$ [**kare-ra/kanzyo-ra/kanozyo-tati**$_j$-ga
which student-∀ he-ASSOC-NOM
kashiko-i to] omot-tei-ru[16]
smart-PRES COMP think-PROG-PRES
Intended: 'Every student thinks that he is smart' (SO, 2023)

b. Turkish

i. *Herkes$_i$ [ögretmen-in **onu**$_i$ çagır-dıg-ın]-ı san-ıyor
everyone teacher-GEN him call-NMLZR-3SG-ACC think-PROG
Intended: 'Everyone thinks that the teacher called him' (Meral 2013:62)

ii. *Herkes **on-lar-in** anee-ler-in-i sev-er
everyone their mother-PL-3POSS-ACC like-AOR
Intended: 'Everyone thinks that the teacher called them' (DG, 2023)

If third person plural behaves as the singular variant above, and is limited to animate reference, then perhaps it would be more suitable to claim that there *is* a third-person variant of (183) in these languages that is simply not available in English. A more in depth investigation of pronouns and binding across languages is necessary in order to further analyze how third person pronouns relate to associatives and what this means for their connection with first and second person plurals.

4.4 Associatives in the literature

Now that the proposal for the semantics of associative plurals has been laid out, it is worth turning to other proposals in the literature to see how they compare – what overlap there may be, what data they capture, and where particular analyses might fall short. Most of the literature on associative plurals focuses on realizations of these plurals in particular languages rather than a comprehensive cross-linguistic view of the problem (with the notable exception of Vassilieva (2005); Biswas (2012)[17]). This section is therefore organized by the domain of the works under discussion (semantics in 4.4.1 and syntax in 4.4.2) and then by language.

[16]The plural marker *-ra* is an informal plural marker which also has associative readings (personal communication with Yosho Miyata)

[17]Descriptive work in Daniel (2000); Moravcsik (2003); Daniel & Moravcsik (2005); Daniel (2020) also takes a typological perspective

4.4.1 Semantic approaches to associative plurality

4.4.1.1 Japanese

Nakanishi & Tomioka (2004) (and subsequent work in Nakanishi & Ritter (2008); Nakanishi (2020); Tomioka (2021))introduce a set of facts about the distribution of the Japanese plural *-tati*/*-tachi* that provide a mystery beyond their ability to have an associative interpretation – these facts are discussed extensively in preceding chapters. Although Nakanishi & Tomioka only aim to account for the behaviour of the Japanese associative, it is worth viewing their analysis as relevant to the whole typology, given how we have seen many of the Japanese facts generalize across languages. Nakanishi & Tomioka propose two variants of the semantics of *-tati* – one for common nouns, and one for names:

(188) a. For names:

$$[\![\textbf{tati}]\!] \in D_{<e,<et>>} = \lambda x_e.\lambda Y_e.x \leq Y \& |Y| \geq 2 \& x \text{ represents } Y$$

b. For nouns:

$$[\![\textbf{tati}]\!] \in D_{<<et>,<et>>} = \lambda P_{<et>}.\lambda Y_e.|Y| \geq 2 \& P \text{ represents } Y$$

The *-tati* plural combines with either an entity or a property and introduces that group that is associated with the entity/property through a contextually-specified 'represents' relation. The resulting property can be closed off with iota or with an existential operator, explaining its definite and (limited) indefinite force.

This is similar in many ways to the proposal I gave in (89), but differs in that the plurality is hard-coded into the denotation here, rather than leaving the result of pluralization number neutral. This account therefore correctly predicts that *-tati* marked nouns will not pick out singular referents, although the problem of why there is no associative singular (no parallel to (188) where $|Y| = 1$) is not addressed.

The duality of *-tati* that Nakanishi & Tomioka propose accounts for the existence of both the strict-associative and the 'pseudo-additive' interpretation of the plural.

The associative interpretation arises when the group is represented by an individual, and the pseudo-additive when they are represented by a property. This is the inspiration behind a parallel duality proposed in section 3.3.1. The major difference between the two outside of the encoding of plurality is that Nakanishi & Tomioka assume Japanese nouns are type $< et >$, and so the pseudo-additive focal referent is a property. I assume here that Japanese bare nouns are kinds, following Chierchia (1998), and so in the analysis of section 3.3.1, the pseudo-additive focal referent is a kind term.

To account for restrictions on distribution on the associative, Nakanishi & Tomioka appeal to the non-uniformity of *-tati* plurals. In this approach, associative plurals resist generics because the members of the group they introduce may not all be tokens of the same type, and this is not compatible with the semantics of kind and generic sentences, which generalize over homogenous groups. The reasoning is similar for the other two puzzles. In the case of intentional verbs, associative plurals are unable to take narrow scope because intentional verbs like 'look for,' or 'want' target taxonomic properties that N--*tati* cannot provide. In the case of possessive verbs, the group acting as the object of possession cannot have parts that do not satisfy the focal referent property as, according to Nakanishi & Tomioka, this is incompatible with the kind of assertions made by verbal possession (e.g. 'Mrs. Inoue has children' asserts that Mrs. Inoue is a mother, but not if there are non-children in the possessed group).

Something unsatisfying about this account is the fact that groups referred to by *-tati* nouns may be incidentally homogenous, and given that this can be known by the speaker, nothing should prevent them from appearing in existential and possessive constructions in these cases. Likewise, it is not clear why generic-type generalizations should be incompatible with non-homogenous groups – ostensibly even non-homogenous groups my have characterizing enough properties and

consistent enough behaviour for generalizations to be made about them. This is therefore something of an open question for the account in Nakanishi & Tomioka, where a more definitive answer is provided by the analysis given here.

4.4.1.2 Mandarin

Li (1999) views the Mandarin morpheme *-men* as a syntactic plural, contra earlier work in Iljic (1994) that views it as a collective marker. Li offers several pieces of evidence to argue for this; first, that *-men* can be interpreted as an additive plural even when attached to proper nouns (denoting multiple people with that name). Second, that *-men* can appear with a distributive marker which, according to the author raises questions for the 'collective' status of *-men*. And third, *-men* is not completely incompatible with at least some numeral classifiers, despite being much more restricted than bare nouns. The syntactic account that Li (1999) proposes is built on by Kurafuji (2004), who adds a more explicit semantics, taking *-men* to be a definite marker as well as a pluralizer. While Kurafuji adopts the view of Chierchia (1998) that Mandarin nouns are generally of type e, he proposes that in the case of *-men*, the nouns that the plural combines with are type <e, t>, and that *-men* type-shifts them to type e. Kurafuji attributes the resistance of *-men*-phrases to combining with numbers and classifiers to a type clash, similar to what is proposed here in section 5.1.1. According to Kurafuji, Classifiers search for nouns of type <e, t>, while *-men*-marked DPs are type e.

The DP analysis of *-men* adopted by Li (1999) and Kurafuji (2004) is challenged by Jiang (2017), who points out that *-men*-phrases freely combine with collective classifiers, which contrasts with English definites:

(189) Mandarin

Ta zai gen yi qun haizi-**men** wan
he in with one Cl child-ASSOC play

'He is playing with a group of children'

(190) English

a. Look, there is a crowd of kids coming to ask for candies again.

b. *Look, there is a crowd of the kids coming to ask for candies again.[18]

Additionally, as with the Japanese data in Nakanishi & Tomioka, *-men* plurals are compatible with vague number/classifier combinations (e.g. 'more than three hundred,' 'a few hundred,' etc.). This data suggests that the blocking proposal put forward in Li (1999)/Kurafuji (2004) is not able to capture the facts of *-men*. In order to explain the behaviour of *-men* Jiang gives an associative plural semantics based on the one presented in Nakanishi & Tomioka. The main difference is that, for Jiang, the pluralizer combines with kinds instead of properties:

(191) $\textit{-men}_{<e^k,<e,t>>} = \lambda k \lambda Y[^{\cup}k_{human} \wedge |Y| \geq 2 \wedge G(k) = Y]$

In (191), *-men* combines with a human kind (humanness indicated by the subscript), and a property. The plurality of the property is built into the operator, which also contains a realization relation G that relates the kind to the property (the property being a realization of the kind). Note that the strict plurality of this operator runs into the same problems noted for Nakanishi & Tomioka, and discussed in section 3.1.2 for the account given here.

Jiang accounts for the apparent definiteness of *-men* by appealing to the ranking of type shifting operators (Chierchia 1998). Iota outranks an existential, and so *-men* -NPs are never indefinite. The down-operator "$^{\cap}$" is ranked alongside iota, but it is not possible to shift N-*men* to kinds because "a property of a salient group

represented by one instance of the kind does not satisfy the conceptual notion of a kind which corresponds to the plurality of *all* instances of the property" (Jiang 2017:26). This is similar to the notion of vagueness that Nakanishi & Tomioka appeal to to account for associative generic resistance, and is weak to similar criticisms about why the kind of non-homogenous groups that associative plurals denote cannot be generalized about, and therefore the account proposed in the present work provides a clearer explanation for this phenomenon.

4.4.1.3 Bangla

Although Bangla is not one of the languages examined in detail in this dissertation, it is worth discussing briefly the parallel phenomena observed in that language and the semantics that have been put forward to account for it. To begin, Dayal (2014) proposes that the Bangla associative plural marker *-ra* is an identity function over kinds:

(192) Bangla *-ra* (Dayal 2014: 17)

$$[\![\text{-ra}]\!] = [\lambda x^k : \forall z, s[z \leq x_s \rightarrow \text{animate}_s(z)].x]$$

Like Nakanishi & Tomioka's account of Japanese, Dayal takes the associative and (apparent) additive readings to stem from separate semantics. The additive instances as above, and the associatives as follows:

(193) Bangla *-ra* (Dayal 2014: 79)

$$[\![\text{-ra}]\!] = [\lambda x^o \lambda X : \forall z[z \leq X \rightarrow \text{animate}(z)].x \leq X]$$

Most of the discussion in Dayal (2014) centres around (192), where *-ra* takes a kind term as an argument, and is restricted to animates (as is typical of associative

[18] Jiang marks this as ungrammatical, but there is a licit interpretation for this sentence where specific kids are salient in the context and a subset of them ask for candy. However, this interpretation is distinct from that in (37a), which I take to be the relevant distinction here.

plurals). This definition captures a number of facts about Bangla *-ra*, for example, as noted in section 4.1.3,*-ra* occurs freely with kind predicates, and that is predicted to be acceptable if *-ra* is an identity functino over kinds. Dayal also notes that a kind analysis for *-ra* does not guarantee a plural interpretation for *-ra*-marked DPs, since kinds may be instantiated by a single entity in certain situations. The plurality associated with *-ra* terms is implicated rather than entailed, following the account of English bare plurals in Zweig (2009), although she does not give a fully spelled-out analysis of how this works. This is born out by examples like (194), which is true even on occasions where only one student complains:

(194) Bangla (Dayal 2014: 76)

roj SOkale chatro-ra hedmasTar-er kache naliS korte jay
every morning.LOC students-ASSOC principle-GEN close complaint does

'Every morning students go to the Principal to complain'

Dayal also notes one fact that is difficult to account for if *-ra* marked NPs are kinds. They do not behave like bare plurals under negation, as sentences like (195a) they do not have a narrow scope existential reading. Instead, a quantified expression like (195b) must be used:

(195) Bangla (Dayal 2014: 74)

a. *ami bacca-ra dekhi ni
I child-ASSOC see-PRES.1stP NEG
'I didn't see children'

b. ami kono bacca dekhi ni
I any child see-PRES.1stP NEG
'I didn't see any children'

Dayal suggests that the presupposition of animacy that comes with *-ra* may be contributing to the unavailability of (195a). She proposes that *-ra*-marked nouns compose with predicates through Derived Kind Predication (DKP; Chierchia 1998).

If DKP includes an additional presupposition of animacy that projects above negation, then this could lead to a presupposition of existence that contradicts a narrow-scope existential reading, although it is not clear why animacy should lead to an existence presupposition. This predicts that (195a) will have what Dayal called a 'pseudo-DEFinite' reading where there are some kids that exist in the context, but the speaker didn't see any of them, and she notes that this aligns with speaker judgements. Dayal views this solution as preliminary, and leaves full resolution of the negation facts to future work.

Unlike languages like Japanese and Mandarin, which have associative plurals that appear to be definite, Bangla associative plurals are naturally interpreted as indefinites, as in the following example:

(196) Bangla (Dayal 2014: 76)

tin-Te bacca aSbe. *bacca-ra / bacca-gulo oikhane boSbe
three CL child will come. child-ASSOC / child-gulo there will-sit

'Three children will come. The children will sit there.'

Here *-ra* is ungrammatical, and instead a strictly additive plural marker *-gulo* is preferred. However, Biswas (2013) points out that NP-*ra* can be used as a definite in cases where *-gulo* would have a pejorative meaning:

(197) Bangla (Biswas 2012:57)

tin-jon mohila aSven. mohila-ra / #mohila-gulo okhane
three CL_{human} lady will come. lady-ASSOC / lady-PL there
boSben
will-sit

'Three ladies will come. The ladies will sit there.'

The additive plural marker *-gulo* is dispreferred with human nouns of a higher register, where *-ra* must be used. To account for this, Dayal proposes that NP-*ra*

gets a definite reading in examples like (197) through extensionalization of the kind (i.e. relativizing the kind to a small situation), and that this dispreferred is sentences like (196) because *-gulo* is unambiguously definite, and therefore blocks *-ra*.

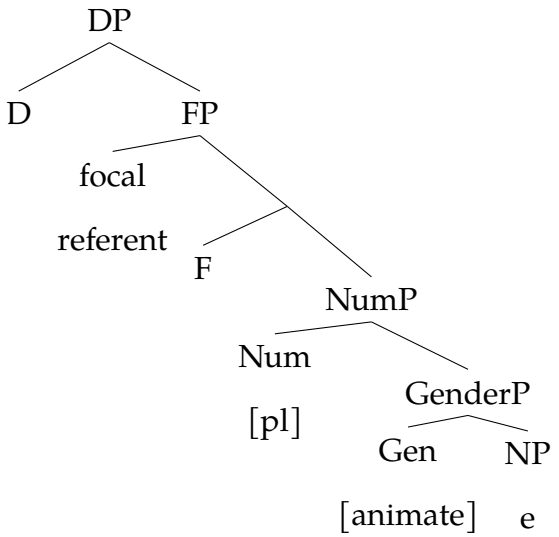
Whether or not the account of associative plurals presented in this dissertation can be perfectly ported over to capture the behaviour of Bangla *-ra* will necessarily remain an open question here, on account of the dearth of data. However, the semantics proposed for associative plurals in (89) predicts that they will be specific, but not necessarily definite. This specificity could be used to account for the cases of *ra* under negation, as referential elements are not predicted to have an indefinite-like interpretation under negation – rather they have a behaviour more in line with what we expect for definites, as in the parallel Japanese examples in (**??**). With respect to the other cases, where *ra* seems to be indefinite rather than definite, we might imagine a situation where *ra* is blocked by the truly definite *gulo* in cases where a definite would be more informative than something that is merely specific. This helps explain the observation of Biswas described above, as this blocking might disappear in cases where *gulo* introduces an additional pejorative flavour, allowing *ra* to be used felicitously in a situation where a definite would also be appropriate. The availability of generic and kind meanings for associative plural in Bangla does pose a potential problem for this analysis – however, since all the examples given in the literature are instances of the plural marker combining with a common noun, without any clearly associative context, it may be the case that, like Turkish (and as proposed by Dayal), *-ra* is two homophonous plural markers, one additive and one associative,Although both would need to be necessarily specific to account for the absense of narrow scope readings. and therefore the common restrictions on the distribution of associative plurals are not always easily observable. Further research is needed to verify this.

4.4.2 Syntactic approaches

4.4.2.1 Vassilieva (2005)

Vassilieva (2005) is, to my knowledge, the only extant theoretical work on associative plurals that attempts to capture the full typology given by Daniel (2000), Moravcsik (2003), and Daniel & Moravcsik (2013). Other accounts typically focus on a single language, or compare a small number of the more well-studied languages (these papers are discussed in the subsection below). To start, Vassilieva takes associative plurals to have a structure as in (198):

(198) Structure of the associative plural (Vassilieva 2005: 20)



This is analogous to the structure she adopts for pronouns, with the minimal difference that pronouns have a PersonP that houses person features where associative plurals have an FP that houses the focal referent. Because the focal referent./person features are merged above the number phrase, they do not need to be interpreted as plural, according to Vassilieva, and this accounts for why associative plurals can appear with singular nouns (she does not comment on the absence of associative singulars and what might block them, so this is likewise a problem for her account). The associate group itself is introduced by a non-descriptive plural NP, which is not

pronounced. The only trace of this pronoun is the plural modifier housed in NumP, which surfaces attached to the focal referent through adjectival concord.

Vassilieva takes frs to act as determiners that modify the group, noting that they share many characteristics with prenominal individual possessors, as they may both:

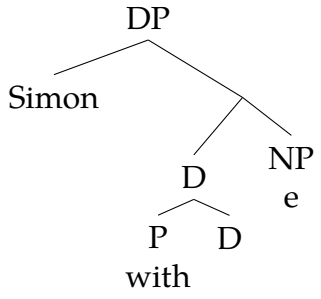
(199) (Vassilieva 2005: 27)

- be restricted in complexity
- contain morphological signs of adjectivization
- license silent definite articles
- be restricted to pre-numeral positions

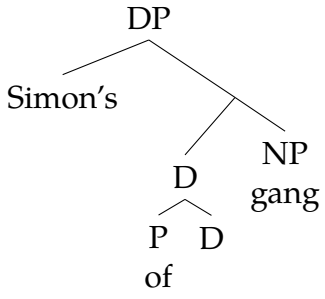
Central to Vassilieva's analysis is the idea that associative plurals and possessive constructions both make use of a relation that appears to have a default specification (i.e. kinship and ownership) that can be over-written by the context. Vassilieva draws the same parallel with demonstratives, which she takes to have a default interpretation involving proximity. In light of this putative resemblance between possession, associatives, and demonstratives, she proposes analogous tree structures for these three constructions that each involve what she calls a 'ghost preposition.' The structures she proposes for each are as follows:

(200) Associatives, possessives, and demonstratives (Vassilieva 2005: 44)

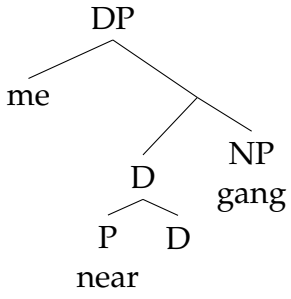
a. associative plural (Simon=with Simon)



b. possessive (Simon's=of Simon)



c. demonstrative (this=near me)



These DPs are derived through movement of the preposition and the focal referent out of a small clause inside of NP. The ghost preposition is the lexical carrier 'core value' of the relation. Pragmatic adjustment of the relation is licensed by the topicalization of the focal referent to SpecDP, which also yields the correct surface order. This topicalization is required by the fr's role as the identifier of the group.

There are a number of potential criticisms of Vassilieva's proposal, and several ways which these are answered by the approach to associative plurals proposed here. First, there is no evidence cross-linguistically that associative plurals contain prepositions, and in fact some languages with associatives, like Denesuline, do not allow pre/postpositional phrases to modify nouns (Wilhelm 2014) as the structure in (200a) would require. Additionally, while the existence of prepositions in the associative structure might be a syntactic means of encoding a relation, it does, not really solve the problem of why this relation has the properties it does, since this question could just as easily be asked about the preposition. Finally, the structures that Vassilieva proposes further complicates the question of why associative plurals are restricted in their distribution within languages, as similar behaviour is not observed for prepositional phrases or for possession and demonstratives, although since Vassilieva does not include a semantic account of associative plurals, this question may be somewhat beyond the scope of her work. The present proposal therefore has an advantage over Vassilieva's in that it does not rely on unpronounced syntactic complexity, the existence of which is not testable, and also provides a testable model of associative plurality by examining the semantic properties of these constructions.

4.4.2.2 Other syntactic accounts

It is worth noting here that there are a number of additional syntax-focused accounts of the associative plural construction in specific languages. This includes:

Ghomeshi & Holness (2018) for Jamaican Creole, Nakanishi & Ritter (2008) for Japanese, Görgülü (2011) for Turkish, Li (1999) for Mandarin, and Biswas (2013) for Bangla. I will not give a detailed overview for these papers here. The main insight from beyond what they contribute to the analysis of a particular languages is that plurals with associative readings tend to exhibit more syntactic distance between the noun and the plural marker than is observed with additive plurals. Many authors model this by placing the plural marker high in DP or in a layer above DP, with evidence drawn from semantic facts that on the surface suggest associative plurals are definite, or else from morpheme ordering with other known quantities within DP. These are observations which are incorporated throughout the work here, and which are captured in the analysis given in (89) by the high position of the focal referent determiner, rather than the plural marker.

4.5 Summary

This chapter has focused on extending the analysis put forward in Chapter 3 to show how it accounts for the language-internal restrictions on the distribution of associative plurals described in Chapter 2. The fact that existential *there* constructions and possessive *have* constructions do not allow associative plurals was shown to be the result of type clash between e-type associative plurals and constructions that require predicate modification. The generic restriction and the behaviour of associative plurals in the context of other modals is likewise discussed, and it is established that generic and modal operators cannot bind the associative situation pronoun even though quantificational adverbs can. Finally, the proposal for associative plurals was extended to account to first and second person plural pronouns, which are also associative in that they denote groups that are united by the affiliation of members to a representative individual. In Chapter 5, I will discuss some areas for future research and provide concluding remarks for this thesis.

CHAPTER 5

Conclusion

This thesis has been concerned with associative plurals, their meaning, how they are restricted, and how they vary across languages with a particular focus on Japanese, Turkish, and Armenian. In section 5.1, I will discuss some avenues for future work that are particularly interesting in light of the proposal set out here. This will include a discussion of associative plurals and numerals in section 5.1.1 and the connection between associative plurals and bare noun languages in section 5.1.2. Summary and concluding remarks are given in section5.2.

5.1 Future directions

5.1.1 Numerals

In chapter 2, section 2.3.3 introduced data that showed associative plurals do not combine with numerals. This was used to support the idea that associative plurals are not indefinites in section 3.2. Examples from Japanese, Turkish, and Armenian are repeated below (supporting examples from additional languages can be found in A.1):

(201) **Associative plurals resist numerals**

a. JAPANESE (Nakanishi & Tomioka 2004: 120)

??san-nin-no gakusei-tati
three-Cl-Gen student-ASSOC

b. TURKISH (DO 2021)

*Üç John-lar oyun oynuyor.
three John-pl game play

c. ARMENIAN (MA 2023)

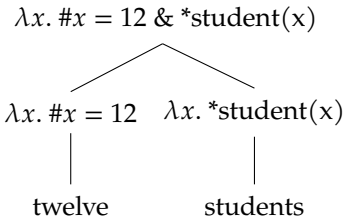
(*Ereq) bzhisk-enq stug-ec-in Aram-in
Three doctor-ASSOC examin-Aor-Pl Aram-Acc

At first glance, it is possible to give an account for this that appeals to a type clash, along the lines of the explanation for existential / possessive constructions given in section 4.1. The rationale behind this is as follows: Prominent accounts of numerals in the literature treat them as modifiers of type $< e, t >$ (Bartsch 1973; Chierchia 1985; Hoeksema 1983; Rothstein 2013). In this tradition, numerals express a cardinality property, as in (202) below:

(202) $[[\text{twelve}]] = \lambda x.\, \#x = 12$ (Bylinina & Nouwen 2020:5)

Here #x returns the number of atoms in a plurality, so that twelve expresses the set of plural entities that have twelve atoms. Numerals combine with nominal predicates of type $< e, t >$ through predicate modification (i.e. set intersection; Heim & Kratzer, 1998). For example:

(203) *Numeral modification* (Bylinina & Nouwen 2020: 6)



Given this semantics for numerals, the problem they pose to the account of associative plurals proposed so far is immediate. Associative plurals are entities of type *e* and this leads to a type clash when it comes to numerals, as predicate modification is defined such that it cannot occur between something that is a property and something that is an entity (as this is not a set, set intersection is not possible). This is a satisfactory answer for Japanese and Armenian, but the problem is more complex in Turkish, an optional classifier language, and Chinese, an obligatory classifier language. Classifiers do not improve numerals with associatives:

(204) Turkish(Sağ 2018:307)

a. iki (tane) kitap
two CL book
'two books'

b. *iki (tane) kitap-lar
two CL book-PL
'two books'

(205) Chinese (Iljic, 1994)

*san-**ge** xuesheng-**men**
three-CL student-MEN

'three student+*men*'

Why should this matter? A prominent account of the function of classifiers from Chierchia (1998): In bare noun languages, where nouns are type *e*, and classifiers are type shifters which allow them to combine with operators that requires something with a property-type denotation, like numerals do. If this were the end of the story, then we might expect type *e* associative plurals to be able to combine with numerals as long as there is a classifier to mediate, but this is not so, but as the examples above show, this is not the case.

The ungrammaticality here is unexpected if the only barrier to enumeration is the type of associative plurals. One possible solution for this is that classifiers select

specifically for kinds, which is particularly plausible if you accept that kinds should be a unique type of entity (Carlson 1977; Rett 2022). A second alternative is offered by Nakanishi & Tomioka (2004), who suggest that the vagueness of the plurality formed by associative plurals, which is not well-defined enough to be counted. However, analyses along similar lines proposed for Mandarin are countered in Iljic (2005), who observes the following:

> The widely circulated idea that *-men* would be used when the number of entities is unknown or vague is incorrect. *-Men* is not a 'vague' plural. The number may be known, patent or expressly stated in the context. It is inappropriate to talk, as some authors do (Maury 1986: 223) about 'indeterminate number'. What is at stake is not whether the number can be specified or not, but rather the incompatibility with numbering or counting itself. It is even more inappropriate to make it a necessary condition for the occurrence of *-men*, since quite often the number is perfectly determinate in the context. In other words, the conflict between *san ge* and *háizi**men*** is not due to the numerical indetermination of the latter, but to the logical contradiction between counting and grouping (Iljic 2005: 82).

It may be the case that this counting/grouping distinction noted by Ilijic is responsible for the ungrammaticality of associatives with numbers, as group nouns (e.g. *family, team, committee*) likewise resist enumeration. This is inline with the analysis presented in chapter 3, where associative plurals markers are proposed to denote contextually specified group nouns. We can also observe that this effect extends to the relativization of associative plurals. To the extent to which Armenian associatives can head relative clauses, they are only compatible with modifiers that do not need to access the parts of the group. For example:

(206) Armenian

a. *Context:* There is a pool of ten students who applied to a job to go on a field trip with Professor Mariam. The TA Aram picks the students and trains them, including the valedictorian Ani. The head of the department asks which of those students Aram trained, and you tell him:

#Aram-y verapatrastec **usanox-enc**, voronc Mariam-n amenashaty dur yekav
Aram-def trained student-assoc, that:acc Mariam most liked

Intended:'Aram trained the students that Mariam liked the most' (MA, 2023)

b. *Context:* There are three teams of people running an obstacle course. The last part of the race involves lifting heavy objects. The captain of the first team is a student, and that team lifts a piano at the end of the race. The captain of the second team is a teacher, and that team lifts a wood table. The captain of the third team is another student, and that team also lifts up a table.

?Usanox-enq, voronq chanaparthi verjum sexan bardzracrin haxtecin
Student-assoc that:nom path end table lift won

'The students who lifted the table one the race' (MA, 2023)

Relativizations of Armenian associative plurals are always a little degraded because of the accessibility requirement (restrictive relative clauses mark a less accessible referent than associatives do, leading to oddness). However, even in this case, relative clauses which intersect with the group members individually, as in (206a), are completely infelicitous, while those that modify the group as a whole, as in (206b) are improved. This is the same thing we can observe with committee-type group nouns in English:

(207) a. ???The family who wears blue shirts won the race.

b. The family who lifted the piano won the race

Under this account, a parallel is drawn between *committee*-type group nouns and associative plurals which can account for their shared resistance to enumeration as well as their animacy restriction, as discussed in chapter 1 & 3. I will not speculate further on group nouns and what makes them unavailable for enumeration, but leave that as an area for future research.

5.1.1.1 Vague numbers

The main exceptions to the data discussed in the previous section comes from (Nakanishi & Tomioka 2004), who hold that associative plurals are more acceptable with large, imprecise numbers. While I will not attempt to explain these exceptions here, the data is summarized below, along with comparison with minimally different examples from Turkish and Armenian.

(208) Japanese (Nakanishi & Tomioka 2004: 120)

a. 129-nin-no gakusei(**??-tati**)-ga miitingu-ni sankasita
129-Cl-Gen student(-apl-Nom meeting-Loc participated
'129 students (and possibly others) participated in the meeting.'

b. 200-nin-izyoo-no gakusei(**-tati**)-ga miitingu-ni sankasita
200-CL-or more-Gen student(-apl)-Nom meeting-Loc participated
'200 or more students (and possibly others) participated in the meeting.'

For at least some Turkish speakers (although not all), these judgements also appear to be grey, with non-specific numbers being better with the non-associative variant than with the associative.

(209) Turkish (Deniz 2022)

a. *Üç John-lar oyun oynuyor.
three John-pl game play
Intended: 'Three of John's children are playing'

b. Kral-lar-in iki yuz-den fazlasi yemek yiyor
King-pl-gen two hundred-abl more-poss food eat
'More than two hundred of the kings are eating'

c. ???Kral-in-lar iki yuz-den fazlasi yemek yiyor
King-gen-apl two hundred-abl more-poss food eat
'More than two hundred of the king's (family) are eating'

However, this does not seem to be the case in all languages, for example in Armenian:

(210) Armenian

a. *Erku harjur bzhisk-**enq** stug-ec-in Aram-in
two hundred doctor-**apl** examin-Aor-Pl Aram-Acc
Intended: 'Two hundred doctors examined Aram' (MA, 2023)

b. *Erku harjur kam avelin bzhisk-**enq** stug-ec-in Aram-in
two hundred or more doctor-**apl** examin-Aor-Pl Aram-Acc
Intended: 'Two hundred or more doctors examined Aram' (MA, 2023)

Unlike in Turkish and Japanese, the ungrammaticality of associatives with numbers is not ameliorated by size or vagueness. l will set aside the question of exceptions to the number restriction here.

5.1.2 Bare nouns

Chierchia (1998b) puts forward the idea that languages without a mass-count distinction have nouns with are all mass – i.e. number neutral entities rather than the property-type nouns seen in languages like English. As a part of this account,

Chierchia speculates that such languages will lack an obligatory plural marking, since the denotation of their nouns already contains pluralities. Since Chierchia (1998b), this idea has been challenged by the existence of (optional) plural marking in many bare noun languages (Chung 2000; Rullmann & You 2006; Wilhelm 2008; Richardson 2019). However, Kurafuji (2004); Nakanishi (2020) point out that the existence of such plurals may not constitute counter examples to the generalization of Chierchia (1998b) if they are associative, since Chierchia's prediction rests on the face that bare nouns are inherently additive plurals and therefore require no additional marker to be interpreted as such. This has nothing to say about associative plurals which, as we have seen over the course of this dissertation, are semantically distinct from additive plurals and therefore from number neutral bare nouns. This raises questions about the typological relationship between plural markers and the nominal mapping parameter. I will briefly consider two of these questions here:

(211) a. Are all plural markers in bare noun languages associative?

b. Do associative plurals appear in languages with determiners?

With respect to the first question, we can see from the data presented in this dissertation that bare noun languages *do* have non-associative plural markers. For example, both Turkish and Armenian have non-associative plural markers:

(212) Turkish (Görgülü 2011: 72-73)

a. *Additive morpheme order*

Teyze-**ler**-im
aunt-assoc-1sg

'my aunts'

b. *Associative morpheme order*

Teyze-m-**ler**
aunt-1sg-assoc

'My aunt and her family / associates / friends'

(213) Armenian (MA, 2023)

a. Mariam-**enq** handip-ec-in purak-um
Mariam-**apl** meet-Aor-Pl park-Loc
'Mariam (and her friends/family) met at the park'

b. Mariam-**ner**-y handip-ec-in purak-um
Mariam-**Pl**-Def meet-Aor-Pl park-Loc
'The Mariams (a group of them) met at the park'

Likewise non-associative markers are reported in Bangla (Dayal 2014), Hungarian (Moravcsik 2003), and Afrikaans (den Besten 1996).[1] However, although the plurals in (212a) and (213b) aren't associative, there is reason to believe they are not traditional additive plurals either. The Turkish non-associative, for example, is still unable to combine with numerals (as in (204)), and also convey a sense of definiteness. For example, like English definite kinds, the Turkish additives cannot be used in kind-level statements where the predicate involves a reciprocal relationship between members of the kind:

[1] Additionally, it appears that Mandarin *-men* may be non-associative in many modern dialects, as I was unable to replicate the associative examples in Li (1999); Jiang (2017); Iljic (1994) in my own fieldwork.

(214) Turkish (Sağ 2022)

a. Ayı(-lar) genelde saldırgan ol-ur
bear-pl generally aggressive be-Aor
'The bear is/Bears are generally aggressive'

b. Kedi*(-ler) birbiri-ne saldır-ır
cat-pl each.other-Dat attack-Aor
'Cats attack each other /*The cat attacks each other.'

This may be reason to suspect that even the non-associative variant of *-lar* is not truth conditionally equivalent to an English additive. We can also see evidence for this with the Armenian non-associative *-ner* which, unlike the English additive, denotes a true plurality that is not diffused in downward-entailing contexts (in at least the Western dialect):

(215) Western Armenian Bale & Khanjian (2014:4)

a. ?Amen mart vor **bəzdig-ner** uner vodk-i gajne-tsav.
all person that child-PL had foot-DAT stand.up-PST
'Everyone that had two or more children stood up.'

b. Amen mart vor **bəzdig** uner vodk-i gajne-tsav.
all person that child had foot-DAT stand.up-PST
'Everyone that had one or more children stood up.'

In the examples above, a bare noun is necessary to get an interpretation where people with a single child stand up. This is not true of traditional additives, as demonstrated below:

(216) Everyone that had children stood up

In this case, this sentences is interpreted as describing a situation where all people with children stood up, even if they only had one. The take away from this is that even the plurals that look like additives in the bare noun languages of interest here show evidence that there is something more going on with them than can be

captured by the analysis of traditional additives described in chapter 1. Therefore the prediction about plurals and bare noun languages put forward in Chierchia (1998b) may still be an open question.

Taking a closer look at the typology, we can see that associative plurals do seem to have an association with bare noun languages. Returning again to the WALS database, of the languages that lack a definite and indefinite determiner, the majority seem to also have an associative plural:[2]

(217) **Status of associatives in languages without definite or indefinite determiners** (Dryer 2013)

Plural	*Number of languages*
Unique periphrastic associative plural	4
Unique affixal associative plural	9
No associative plural	10
Associative plural the same as additive	23

Note also that WALS does not distinguish additive plurals from the kind of non-associatives seen in Turkish and Armenian, or from the pseudo-additive interpretations available in Japanese (section 3.3.1). Additionally, the determiner-less languages with no associative plural may simply lack a plural entirely, rather than have an additive plural.

Turning to the question of whether determiner languages have associative plurals, we can see the typological relationship between definite determiners and associative plural in the chart below:

[2]Although for the reasons discussed in section 1.2 we must take the WALS classification with a grain of salt

(218) **Correlation of associatives and determiners** (Dryer 2013)

Definite	*Associative*	*Number of languages*
No	Yes	44
No	No	13
Yes	Yes	31
Yes	No	14

What we can see here is that associative plurals occur in many languages that have definite determiners.

Jamiekan Creole is an example of such a language:

(219) *Jamiekan Creole*

di likl bad-brok bwai **dem**
Det little ill-mannered boy apl

'the little misbehaving boys' (Ghomeshi & Holness 2019:6)

From this we can make the (preliminary) generalization that while bare noun languages may be less likely to have additive plurals, the reverse is not true, and many languages without bare nouns have associative plurals.

The relationship between bare noun languages and associative plurals warrants more consideration than is possible in the present work, but to summarize the discussion here, the fact that associatives are semantically distinct from additive plurals/number neutral nouns means that they are not redundant in bare noun languages. Additionally, their distribution is not limited to bare noun languages, as according to the WALS database, they occur in 31 languages that also have a definite determiner.

5.2 Conclusion

In this dissertation I have put forward an account of the semantics of the associative plural construction that captures its relational meaning and accounts for variation in its instantiations across languages; in particular in Japanese, Turkish, and Armenian. In chapter 2, I introduced data that showed consistent behaviours of associative plurals that that are not obviously related to their characteristic associative meaning. This includes the fact that associatives are necessarily specific (in Japanese closer to specific indefinites, and in Turkish and Armenian, something that more closely approximates definites), their intensionality, and the absence of associative plurals in existential / possessive constructions, generics, and numerals.

In chapter 3 an account of associative plurals is proposed that takes the focal referent to be a determinerized noun that introduces a relation between that noun and a contextually specified individual concept introduced by the associative marker. The specificity of associative plurals is accounted for by the introduction of a situation pronoun by the focal referent determiner following Schwarz (2012). Variation between Japanese on the one hand and Turkish and Armenian on the other is captured by variation in whether or not the determinizer requires the individual concept to be equal to the maximal element related to the focal referent at a situation. Chapter 3 also showed how additive readings are possible with associative markers, either through taking a kind as a focal referent (Japanese), homophony with an additive marker (Turkish), or with incidentally homogeneity with the focal referent (Armenian). This chapter concludes with a discussion of limitations on the kind of noun that can be a focal referent in some languages, and how this relates to accessibility.

In chapter 4, the proposal of chapter three was extended to account for why associative plurals do not appear in existential *there* constructions and possessive *have* constructions. This is followed with a discussion of why the situation variable

introduced by associative plurals can be bound by quantificational adverbs, but not by generic operators or modal *could*. This is analysis is then further extended to first and second person plural pronouns in order to account for the oft-remarked on similarity they share with associative plurals. Chapter 4 concludes with a discussion of associative plurals in previous literature.

In sum, the proposal set out in this thesis captures the range of interpretations available to associative plurals, their quantificational force, and their behaviour within languages. In addition, it contributes to discussion of relations and relational nouns, group nouns, and plural pronouns.

BIBLIOGRAPHY

Anand, Pranav. 2006. De de se. Doctoral dissertation, MIT.

Ariel, Mira. 1985. The discourse functions of given information .

Ariel, Mira. 1988. Referring and accessibility. *Journal of linguistics* 24:65–87.

Ariel, Mira. 1991. The function of accessibility in a theory of grammar. *Journal of pragmatics* 16:443–463.

Ariel, Mira. 2001. Accessibility theory: An overview. *Text representation: Linguistic and psycholinguistic aspects* 8:29–87.

Ariel, Mira. 2006. Accessibility theory. *Encyclopedia of language and linguistics* 1:546–551.

Bale, Alan, & Hrayr Khanjian. 2008. Classifiers and number marking. In *Semantics and Linguistic Theory*, volume 18, 73–89.

Bale, Alan, & Hrayr Khanjian. 2014. Syntactic complexity and competition: The singular-plural distinction in western armenian. *Linguistic Inquiry* 45:1–26.

Bale, Alan Clinton, Michaël Gagnon, & Hrayr Khanjian. 2010. Cross-linguistic representations of numerals and number marking. In *Semantics and Linguistic Theory*, volume 20, 582–598.

Barker, Chris. 1992. Group terms in english: Representing groups as atoms. *Journal of semantics* 9:69–93.

Barker, Chris. 1995. Possessive descriptions, csli publication.

Barker, Chris. 2000. Definite possessives and discourse novelty .

Barker, Chris. 2011. Possessives and relational nouns. semantics: An international hand book of natural language meaning, vol. by claudia maienborn, klaus von heusinger, and paul portner, 1109-30.

Bartsch, Renate. 1973. The semantics and syntax of number and numbers. In *Syntax and semantics volume 2*, 51–93. Brill.

Barwise, Jon, & John Perry. 1983. Situation semantics. *MIT Press* 183:184.

Benveniste, Emile. 1971. Subjectivity in language. *Problems in general linguistics* 1:223–30.

den Besten, Hans. 1996. Associative DPs. *Linguistics in the Netherlands* 13:13–24.

Biswas, Priyanka. 2012. Plurality in a classifier language: two types of plurals in bangla. *Proceedings of GLOW in Asia IX, Japan* .

Bliss, Heather. 2003. The semantics of the bare noun in turkish. *BA honours thesis, University of Calgary* .

Büring, Daniel. 2004. Crossover situations. *Natural Language Semantics* 12:23–62.

Bylinina, Lisa, & Rick Nouwen. 2020. Numeral semantics. *Language and Linguistics Compass* 14:e12390.

Cable, Seth. 2010. The basics of plurals: Part 1, the meaning of plural nps and the nature of predication over plurals.

Cable, Seth. 2018a. The *GEN* operator.

Cable, Seth. 2018b. Unselective binding, modals, adverbs, and focus.

Carlson, Greg. 1977. Reference to kinds in English. Doctoral dissertation, University of Massachusetts Amherst.

Charlow, Simon, & Yael Sharvit. 2014. Bound'de re'pronouns and the lfs of attitude reports. *Semantics and Pragmatics* 7:3–1.

Chierchia, Gennaro. 1985. Formal semantics and the grammar of predication. *Linguistic inquiry* 16:417–443.

Chierchia, Gennaro. 1998a. Plurality of mass nouns and the notion of "semantic parameter". In *Events and grammar*, 53–103. Springer.

Chierchia, Gennaro. 1998b. Reference to kinds across language. *Natural language semantics* 6:339–405.

Chung, Sandra. 2000. On reference to kinds in indonesian. *Natural Language Semantics* 8:157–171.

Corbett, Greville, & Marianne Mithun. 1996. Associative forms in a typology of number systems: evidence from Yup'ik. *Journal of Linguistics* 32:1–17.

Crum, Jonathan. 2020. Eastern armenian pseudo-incorporation. *Unpublished manuscript* .

Daniel, Michael. 2000. A typology of associative plurals. Doctoral dissertation, Russian State University for Humanities.

Daniel, Michael. 2020. Associative plural as indexical category. *Language Sciences* 81:101256.

Daniel, Michael A, & Edith Moravcsik. 2005. Associative plurals. world atlas of language structures. 150-153. dryer, ms & haspelmath, m. & gil d. & comrie b.

Dayal, Veneeta. 1998. Any as inherently modal. *Linguistics and philosophy* 21:433–476.

Dayal, Veneeta. 2004. Licensing by modification. *Ilha do Desterro Florianópolis* 47:217–238.

Dayal, Veneeta. 2014. Bangla plural classifiers. *Language and Linguistics* 15:47–87.

De Vries, Hanna. 2012. Lexical distributivity with group nouns and property indefinites. In *43rd meeting of the North Eastern Linguistic Society (NELS 43)*.

De Vries, Hanna. 2021. Collective nouns .

Déchaine, Rose-Marie, & Martina Wiltschko. 2002. Decomposing pronouns. *Linguistic inquiry* 33:409–442.

Dryer, Matthew S. 2013. Order of subject, object and verb. In *The world atlas of language structures online*, ed. Matthew S. Dryer & Martin Haspelmath. Leipzig: Max Planck Institute for Evolutionary Anthropology. URL `https://wals.info/chapter/81`.

Elbourne, Paul D. 2005. *Situations and individuals*. Cambridge, Massachusetts: The MIT press.

Everett, Daniel L. 1986. Pirahã. *Handbook of Amazonian languages, Berlin: Mouton de Gruyter* .

Faghiri, Pegah, & Pollet Samvelian. 2019. Modern eastern armenian: Sov or svo? In *Western Conference on Linguistics (WECOL) 2019*.

Fradin, Bernard. 2007. On the semantics of denominal adjectives. In *Mediterranean Morphology Meetings*, volume 6, 84–98.

Fukumura, Kumiko, & Roger PG Van Gompel. 2011. The effect of animacy on the choice of referring expression. *Language and cognitive processes* 26:1472–1504.

Ghomeshi, Jila, & Tasheney Francis Holness. 2018. Additive and associative plural marking in jamiekan. *Proceedings of the Canadian Linguistics Associatiion* .

Görgülü, Emrah. 2011. Plural marking in turkish: Additive or associative? *Working Papers of the Linguistics Circle* 21:70–80.

Haig, Helen A. 1982. Passivization in modern western armenian. In *Studies in transitivity*, 161–176. Brill.

Harley, Heidi, & Elizabeth Ritter. 2002. Person and number in pronouns: A feature-geometric analysis. *Language* 482–526.

Heim, Irene. 1982. The semantics of definite and indefinite NPs. Doctoral dissertation, University of Massachusetts, Amherst.

Heim, Irene. 1991. Articles and definiteness. *Semantics: An international handbook of contemporary research* 487–535.

Heim, Irene, & Angelika Kratzer. 1998. *Semantics in generative grammar*, volume 13. Blackwell Oxford.

Henderson, Robert. 2017. Swarms: Spatiotemporal grouping across domains. *Natural Language & Linguistic Theory* 35:161–203.

Hodgson, Katherine. 2013. Discourse configurationality in eastern armenian: The nominal projection. *Cambridge, University of Cambridge MPhil thesis* .

Hoeksema, Jack. 1983. Plurality and conjunction .

Hosoi, Hironobu. 2005. Japanese plural marker tachi. □□□□□□□□□□ 26:29–40.

Iljic, Robert. 1994. Quantification in mandarin chinese: Two markers of plurality .

Iljic, Robert. 2005. Personal collective in chinese. *Bulletin of the School of Oriental and African studies* 68:77–102.

Jenkins, Lyle. 2012. *The english existential*, volume 12. Walter de Gruyter.

Jiang, Li Julie. 2017. Mandarin associative plural-men and nps with-men. *International Journal of Chinese Linguistics* 4:191–256.

Kayne, Richard S. 2000. *Parameters and universals*. Oxford University Press, USA.

Kayne, Richard S. 2002. Pronouns and their antecedents. *Derivation and explanation in the minimalist program* 133–166.

Keshet, Ezra Russell. 2008. Good intensions: Paving two roads to a theory of the de re/de dicto distinction. Doctoral dissertation, Massachusetts Institute of Technology.

Kratzer, Angelika. 1977. What 'must'and 'can'must and can mean. *Linguistics and philosophy* 1:337–355.

Kratzer, Angelika. 1989. An investigation of the lumps of thought. *Linguistics and philosophy* 607–653.

Kratzer, Angelika. 1998. More structural analogies between pronouns and tenses. In *Semantics and linguistic theory*, volume 8, 92–110.

Kratzer, Angelika. 2009. Making a pronoun: Fake indexicals as windows into the properties of pronouns. *Linguistic Inquiry* 40:187–237.

Kratzer, Angelika. 2012. *Modals and conditionals: New and revised perspectives*, volume 36. Oxford University Press.

Krifka, Manfred. 2003. Bare nps: Kind-referring, indefinites, both, or neither? In *Semantics and linguistic theory*, volume 13, 180–203.

Krifka, Manfred, Francis Jeffry Pelletier, Gregory Carlson, Alice Ter Meulen, Gennaro Chierchia, & Godehard Link. 1995. Genericity: an introduction .

Kurafuji, Takeo. 1999. *Japanese pronouns in dynamic semantics: The null/overt contrast*. Rutgers The State University of New Jersey-New Brunswick.

Kurafuji, Takeo. 2004. Plural morphemes, definiteness, and the notion of semantic parameter. *Language and Linguistics* 5:211–242.

Landman, Fred. 1989. Groups, I-II. *linguistics and philosophy* 12:559–605, 723–744.

Landman, Fred. 2000. Plural roles, scope and event types. *Events and Plurality: The Jerusalem Lectures* 177–221.

Lasersohn, Peter. 1995. Pluractional markers. *Plurality, conjunction and events* 238–266.

Lederman, Harvey. 2021. Fine-grained semantics for attitude reports. *Semantics and Pragmatics* .

Li, Yen-hui Audrey. 1999. Plurality in a classifier language. *Journal of East Asian Linguistics* 8:75–99.

Lichtenberk, Frantisek, Jyotsna Vaid, & Hsin-Chin Chen. 2011. On the interpretation of alienable vs. inalienable possession: A psycholinguistic investigation .

Link, Godehard. 1983. The logical analysis of plurals and mass terms: A lattice-theoretical approach. *Formal semantics: The essential readings* 127:147.

Lochbihler, Bethany, Will Oxford, & Nicholas Welch. 2021. The person-animacy connection: Evidence from algonquian and dene. *Canadian Journal of Linguistics/Revue canadienne de linguistique* 66:431–442.

Matthewson, Lisa. 1998. On the interpretation of wide-scope indefinites. *Natural language semantics* 7:79–134.

Meral, Hasan Mesut. 2013. Binding as an a'-phenomenon?: Some remarks from turkish. *IBERIA: An International Journal of Theoretical Linguistics* 5:45–68.

Milsark, Gary L. 1974. Existential sentences in English. Doctoral dissertation, Massachusetts Institute of Technology.

Moravcsik, Edith A. 2003. A semantic analysis of associative plurals. *Studies in Language* 27:469–503.

Nakanishi, Kimiko. 2020. Pseudo-additivity of japanese plurals .

Nakanishi, Kimiko, & Elizabeth Ritter. 2008. Plurality in languages without a count-mass distinction. In *Mass/Count Workshop*, 7–8. University of Toronto.

Nakanishi, Kimiko, & Satoshi Tomioka. 2004. Japanese plurals are exceptional. *Journal of East Asian Linguistics* 13:113–140.

New, Keely. 2021. A post-suppositional account of associative plurals in burmese. In *Semantics and Linguistic Theory*, volume 31, 166–183.

Nunberg, Geoffrey. 1993. Indexicality and deixis. *Linguistics and philosophy* 1–43.

Partee, Barbara, Johan van Benthem, & Alice ter Meulen. 1983. Uniformity vs. versatility: the genitive, a case study. appendix to theo janssen, 1997. *Compositionality. The Handbook of Logic and Language. Elsevier* 464–70.

Partee, Barbara H. 1997. Genitives-a case study. appendix to theo mv janssen," compositionality". *Handbook of logic and language* 464–470.

Pearson, Hazel. 2011. A new semantics for group nouns. In *Proceedings of WCCFL*, volume 28, 160–168.

Percus, Orin, & Uli Sauerland. 2003. On the lfs of attitude reports. In *Proceedings of Sinn und Bedeutung*, volume 7, 228–242.

Postal, Paul. 1966. On so-called pronouns in English. *Monograph series on language and linguistics* 19:177–206.

Reinhart, Tanya. 1997. Strategies of anaphora resolution. In *OTS Working Papers in Linguistics*. Utrecht Institute of Linguistics.

Rett, Jessica. 2022. A typology of semantic entities. *Linguistics meets philosophy* .

Rice, Keren. 1989. *A grammar of Slave*. Walter de Gruyter.

Rice, Keren. 2000. *Morpheme order and semantic scope*. Cambridge University Press.

Richardson, Ivanna. 2019. On co-occuring plurals and classifiers in khmer .

Roberts, Craige. 2003. Uniqueness in definite noun phrases. *Linguistics and philosophy* 26:287–350.

Rothstein, Susan. 2013. A fregean semantics for number words. In *Proceedings of the 19th Amsterdam Colloquium*.

Rullmann, Hotze. 2004. First and second person pronouns as bound variables. *Linguistic Inquiry* 159–168.

Rullmann, Hotze, & Aili You. 2006. General number and the semantics and pragmatics of indefinite bare nouns in mandarin chinese. In *Where semantics meets pragmatics*, 175–196. Brill.

Sadler, Louisa, & Douglas J Arnold. 1994. Prenominal adjectives and the phrasal/lexical distinction1. *Journal of linguistics* 30:187–226.

Safir, Kenneth. 1982. Syntactic chains and the definiteness effect. Doctoral dissertation, Massachusetts Institute of Technology.

Sağ, Yağmur. 2018. The semantics of turkish numeral constructions. In *Proceedings of Sinn und Bedeutung*, volume 22, 307–324.

Sağ, Yağmur. 2019. The semantics of number marking: Reference to kinds, counting, and optional classifiers. *New Brunswick: Rutgers University dissertation* .

Sağ, Yağmur. 2022. Bare singulars and singularity in turkish. *Linguistics and Philosophy* 45:741–793.

Samvelian, Pollet, Pegah Faghiri, & Victoria Khurshudyan. 2023. On the persistence of svo: the case of modern eastern armenian. *Linguistics* 61:459–497.

Sauerland, Uli. 2003. A new semantics for number. In *Semantics and linguistic theory*, volume 13, 258–275.

Saxon, Leslie. 1990. Reflexive agreement binding. In *Annual Meeting of the Berkeley Linguistics Society*, volume 16, 116–127.

Schein, Barry. 1993. *Plurals and events*, volume 23. Mit Press.

Schwarz, Florian. 2009. *Two types of definites in natural language*. University of Massachusetts Amherst.

Schwarz, Florian. 2012. Situation pronouns in determiner phrases. *Natural Language Semantics* 20:431–475.

Schwarzschild, Roger. 1996. *Pluralities*. Kluwer, The Netherlands.

Sharvy, Richard. 1980. A more general theory of definite descriptions. *The philosophical review* 89:607–624.

Sigler, Michele. 1997. Specificity and agreement in standard western armenian. Doctoral dissertation, Massachusetts Institute of Technology.

Smith, Ryan. 2020. Similative plurals and the nature of alternatives. Doctoral dissertation, The University of Arizona.

Stowell, Tim. 1978. What was there before there was there. In *Papers from the... Regional Meeting. Chicago Ling. Soc. Chicago, Ill*, volume 14, 458–471.

Szabolcsi, Anna, & Bill Haddican. 2004. Conjunction meets negation: A study in cross-linguistic variation. *Journal of Semantics* 21:219–249.

Tomioka, Satoshi. 2021. *Japanese-tati and generalized associative plurals*. Oxford University Press.

Turgay, Tacettin. 2020. Semantics of turkish bare nouns and the function of classifiers. *Turkic Languages* 24:30–77.

Vaid, Jyotsna, Hsin-Chin Chen, & František Lichtenberk. 2019. A processing advantage for inalienable possession: Evidence from english phrase plausibility judgments. *Te Reo* 62.

Vassilieva, Maria. 2005. Associative and pronominal plurality. Doctoral dissertation, Stony Brook University.

Vikner, Carl, & Per Anker Jensen. 1994. Lexical knowledge and the semantic analysis of Danish genitive constructions. *Topics in knowledge-based NLP systems* 37–55.

Vogels, Jorrig, Alfons Maes, & Emiel Krahmer. 2014. Choosing referring expressions in belgian and netherlandic dutch: Effects of animacy. *Lingua* 145:104–121.

Wilhelm, Andrea. 2008. Bare nouns and number in Dëne Sųłiné. *Natural Language Semantics* 16:39–68.

Wilhelm, Andrea. 2014. Nominalization instead of modification. In *Cross-linguistic investigations of nominalization patterns*, ed. Ileana Paul, 51–81. John Benjamins Publishing Company.

Wilhelm, Andrea. 2015. A radically [+arg, -pred] language. In *SULA 8: Proceedings of the Eighth Meeting on the Semantics of Under-represented Languages in the Americas*, ed. Jeremy Pasquereau, 121–136. Amherst, MA: Graduate Student Association, University of Massachusetts.

Winter, Yoad. 1997. Choice functions and the scopal semantics of indefinites. *Linguistics and philosophy* 399–467.

Zaizen, Kosuke. 2021. Dorobo – The Thieves. URL `https://www.lingual-ninja.com/folktales/Dorobo--The_Thieves`.

Zweig, Eytan. 2009. Number-neutral bare plurals and the multiplicity implicature. *Linguistics and philosophy* 32:353–407.

Appendix A

Data from other languages

A.1 Associative plurals and numerals

(220) *Mandarin* (Nakanishi & Tomioka 2004: 119)

*san-ge haizi-men
three-CL child-men

(221) *Jamiekan Creole* (Ghomeshi & Holness 2019:6)

som/chrii likl bad-brok bwai (***dem**)
some/three little ill-mannered boy apl

'some/three little misbehaving boys'

(222) *Bulgarian* (Vassilieva 2005:33)

*trimata Pešovi
three-det Peter-OV-pl

'Peter and his family, all three'

A.2 Data from Dene

The following data shows the behaviour of associative plurals in Slave and Tłı̨chǫ Yatìì, Dene languages of the Northwest Territories. While there was insufficient data on these languages to include them as one of the primary languages examined in this dissertation, an overview of their associative plurals is included here for

completeness. Data comes from other sources where cited, and from original fieldwork. Original data was contributed by Alina Takazo (Sahtugot'ine) and Tłı̨chǫ Yatìì (Cecilia Wood) – all errors are my own. In Northeastern Dene languages, the associative plural (the only marked plural) is an enclitic particle on the verb of the form *go/ge/ke-*:

(223) Slave:

a. dene jǫ nádé[1]
person here 3S.live
'People live here' (Rice 1989:184)

b. dene jǫ ná**ge**dé
person here **3pl**.live
'People live here' (Rice 2000:184)

(224) Tłı̨chǫ Yatìì:

ʔamba **edetı** **go**ı̨tsʼı
o-sister refl.daughter 3plO.3S.kissed

'Older sister kissed her daughters' (Saxon 1990:124)

The focal referent may or may not be included in the group, and the group may contain only a single other member:

(225) Tłı̨chǫ Yatìì:

a. The FR is part of a group that contains other members:

i. John wechı **edemǫ** **go**gha łı nı̨̀wa
John 3.y-brother **refl.mother 3pl.**for fish 3.pf.take
'John's younger brother took fish for **his mother and them**' (Saxon 1990:124)

ii. Heʔe, dzìekʼootì **semǫ** **go**gha nàyehdì...
yes juice **1s.mother 3pl.**for 3.pf.bought
'Yeah, he bought some for **my mother and them**' (CW, 2018)

b. The FR is part of a group that contains one other member:

ʔarı bò **demǫ** **go**ghàʔeedı
Harry meat **3.mother**

'Harry gave meat to **his mother and her**' (CW, 2018)

(226) Slave

a. The FR is part of a group that contains one other member:

i. **setá** názé-łe-**ke**-dé-h-tła
1sg.father hunt-dual-**3pl**S-inceptive-aspect-go
'**My father and he** went hunting' (Rice 2000:191)

ii. duhdeı **ehtsée** e-**ge**-nı-h-sud-ı
here grandfather unspec.O-**3pl**S-aspect-valence-drag-suffıx
'**My grandparents** have passed this way dragging (toboggan)' (Rice 2000:191)

b. The FR represents the group but may not be included in it:

mbetá sóon dá-**ghe**-já élính
3.father then what-**3pl**-aspect-do dub
wo-k'e-nde-a-de-dah
area-on-mınd-unspec.O-qual-go

'He was always thinking about what **his father's people** might have been doing' (Rice 2000:191)

A range of associations are also possible in these languages, as shown below for Sahtugot'ine (Bearlake Slavey):

(227) **Family association**

a. *Context:* A woman has three children; a son named Pídere, and two daughters. Pídere goes on a hunting trip and shoots a moose, and he brings back lots of meat. He gives some meat to hıs mother and to both of his sisters.

Pídere **deno** **go**gha bérı̨dí
Peter 3.mother 3pl.to 3.gave.meat
'Peter gave meat to his mother and them (her daughters)' (Alina Takazo, 2019)

(228) **Spatio-temporal association**

a. *Context:* There are two brothers — Pídere and John. One day Pídere decides he wants to go on a long fishing trip, so he is trying to organize a bunch of people to go with him. His brother doesn't want to go, so he stays behind, and a bunch of people stay with him. About 10 people go fishing with Pídere, and the rest stay behind with John. The people who went on the fishing trip caught a lot of fish.

Pídere łue łǫ **ge**hłú
Peter fish many 3pl.net.pfv
'Pídere's people caught a lot of fish' (Alina Tazako, 2019)

(229) **'Fan' association**

a. *Context:* Báaʔen is a very popular radio announcer, and she has a lot of fans who always listen to her show

Báaʔ**en** radıo **ge**wehkw'e
Barbara-ann radio 3pl.listen(?)
'Báaʔen's fans listen to the radio' (Alina Tazako, 2019)

SH: Can we say this even if her fans are all in different places?

AT: Yes

Additionally, in Sahtugot'ine, the focal referent may be excluded from the associative group:

(230) Sahtugot'ine (Bearlake Slave):

Context: Yozé lives in Délı̨nę, where his mother is from. His father wasn't Dene, he was an Inuit man from Baffin Island. His father moved to Délı̨nę when he got married to Yozé's mother. Yozé doesn't know much about the Inuit people, but every once in a while he wonders how those people are doing, because his father came from them.

Yozé **betáʔı̨** dag**ı̨**t'e sóonı ghǫ
Yozé 3.father(deceased) how.3pl.be(opt?) uncertainty about
náadıwe
3.wonder.pfv
'Yozé wonders how **his (deceased) father's people** are doing' (Alina Tazako, 2019)

Interestingly, when there are only two members of the group in this language, either may act as the focal referent as long as they are human and of roughly equal social status:

(231) a. Marı xaetáǫnéht'é detsáə **go**tsę́ nánadá
Mary every.year 3refl.grandfather apl.with 3sg.visit
'Mari visits her grandparents every year' (Alina Takazo 2019)

b. Marı xaetáǫnéht'é detsı̨ **go**tsę́ nánadá
Mary every.year 3refl.grandmother apl.with 3sg.visit
'Mari visits her grandparents every year' (Alina Takazo 2019)

Like Japanese, Tłı̨chǫ Yatıì (closely related to Sahtugot'ine) allows some flexibility with respect to the animacy restriction in the case of anthropomorphization, and in the case of certain animals which count as 'human' in these languages (such as dogs):

(232) *Tłı̨chǫ Yatıì* (Cecilia Wood, 2019)
ʔarı bò mòlanoda **go**ghàʔeedı
Harry meat cat assoc.for.3O.3S.gave
√ 'Harry gave meat to his cats'
√ 'Harry gave meat to his cat and them (two dogs)'[2]

A.3 Armenian associatives and sluicing

(233) Armenian

#Usanox-**enq** havaqvelen gradaran-um bayc ch-gitem ovq-er
student-assoc gathered library-loc but neg-know who-pl

Intended: 'Students gathered in the library but I don't know who' (Mariam Asatryan, 2023)

A.4 Additional Japanese Data

In Japanese, marking a noun with *tati* becomes obligatory in some contexts where a specific interpretation is required:

(234) Japanese (*Japanese*, Yosho Miyata, 2022)

a. *Context* (*iii*)*:* The next day, the school lawn ornaments have been damaged over night and the principle is trying to discover if a particular group of three students are responsible. The leader of these three students is Yuri. There were some students on the lawn that night, but he doesn't know who. Their teacher tells him:

b. Sakuuban shibafu-de Dare-mo ano-gakuusei-**tachi**-o mi-nakat-ta
Last.night lawn-on who-NCI that-student-assoc-o see-Neg-Past
Offered: 'Nobody saw those students on the lawn last night (Yuri's group)'

c. *Without a name:*

Sakuuban shibafu-de Dare-mo Yuri-**tachi**-o mi-nakat-ta
Last.night lawn-on who-NCI Yuri-assoc-o see-Neg-Past
Accepted: 'Nobody saw those students on the lawn last night (Yuri's group)'

d. *Without the -tati:*

#Sakuuban shibafu-de Dare-mo ano-gakuusei-o mi-nakat-ta
Last.night lawn-on who-NCI that-student-o see-Neg-Past

Intended: 'Nobody saw those students on the lawn last night (Yuri's group)'

YM: The sentence is grammatical, but only the singular interpretation is available here (i.e. a single student).

e. *Without the demonstrative:*

#Sakuuban shibafu-de Dare-mo gakuusei-o mi-nakat-ta
Last.night lawn-on who-NCI student-o see-Neg-Past

Intended: 'Nobody saw students on the lawn last night (Yuri's group)'

YM: The sentence is grammatical, and the plural is available, but doesn't necessarily mean Yuri's group. In this case there has to be no students on the lawn, there can't be students that aren't a part of Yuri's group.

A.5 Bangla associatives in kinds and generics

In the literature it is reported that the Bangla associative marker *-ra* is not subject to the ban on kind and generic readings. The data used to demonstrate this is given in Biswas (2014), and included here below:

(235) Kinds and Bangla Plurals (Biswas 2014:58-59)

a. Kind, non-human

DoDo-(**ra**) Obolupto (hoye gEche)
dodo-ASSOC extinct become

'Dodos are extinct'

b. Kind, common noun

chatro-(**ra**) Obolupto (hoye gEche)
student-ASSOC extinct become

'Students are extinct'

c. Kind, capacity

Daktar-(**ra**) Obolupto (hoye gEche)
doctor-ASSOC extinct become

'Doctors are extinct'

(236) Generic sentences and Bangla Plurals (Biswas 2014:59)

a. Generic, non-human

hati-(**ra**) buddhiman (prani)
elephant-ASSOC intelligent (animal)

'Elephants are intelligent (animals)'

b. Generic, human

puruS(**ra**) SoktiSali (hOn)
man-ASSOC powerful be

'Men are powerful'

c. Generic, capacity

Daktar-*(**ra**) SOhomorni (hOn)
doctor-ASSOC compassionate be

'Doctors are compassionate'

However, given that none of these examples have a clear associative meaning, it is difficult to say whether this is a true exception, or a case of homophony between and associative and additive pluralizer.