

# An implicational hierarchy on the exponence of heterogeneous plurals

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## 1 Heterogeneous plurality: what is it?

- ‘Heterogeneous plural’ is an umbrella term for two kinds of plural marking:

1. **Associative plural (APL):** Combines with a definite, individual-denoting noun ‘X’ (e.g., a proper name, kinship term, title) to generate the meaning ‘X and X’s associate(s)’.

(1) Raaman **okke** Malayalam  
Ram APL  
‘Ram and associates’ (Daniel and Moravcsik, 2013)

2. **Similative plural (SPL):** Combines with a noun ‘X’ to pick out ‘X and things like X’.

(2) wuuc =**yuk** Kuuk Thaayorre  
dance =SPL  
‘dances and things’ (Gaby, 2018, 127)

### 1.1 Expressing heterogeneous plurality cross-linguistically

- In (1) and (2) the exponents of the associative and similative plural are idiosyncratic (*okke*, ‘all’ and =*yuk*, ‘thing/stuff’). Idiosyncratic heterogeneous plural marking is widely attested cross-linguistically.<sup>1</sup>

- (3) Third person plural pronouns as APL (e.g., Alamblak)

a. Yoni <b>rēm</b> Yoni 3PL ‘Yoni and his associates’ (Mauri and Sansó, 2017, 2)	b. yima- <b>m</b> person-PL ‘people’ (Bruce, 1984, 96)
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- (4) Dedicated suffix for SPL (e.g. Japanese)

a. Taroo <b>-toka</b> Taro -SPL ‘Taro and someone like him’	b. gakusei <b>-tachi</b> student -PL ‘the students’ (Smith, 2020)
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<sup>1</sup>To give you an idea: Daniel and Moravcsik (2013) list 95 languages as having a unique affixal or unique periphrastic associative plural and Mauri and Sansó (2021) list ~30 languages with a unique similative plural.

- Interestingly, it is also possible to use the regular plural as a heterogeneous plural.

(5) Turkish [*Turkic*] (regular plural used as the **associative plural**)

- |  |  |                 |
|--|--|-----------------|
| <p>a. Ahmet <b>-ler</b><br/>Ahmet -PL<br/>'Ahmet and his friends/family'</p> | <p>b. Teyze <b>-ler</b> -im<br/>aunt -PL -1SG<br/>'my aunts'</p> | (Görgülü, 2011) |
|--|--|-----------------|

(6) Chintang [*Sino-Tibetan*] (regular plural used as the **similative plural**)

- |   |   |                 |
|---|---|-----------------|
| <p>a. phuŋ <b>-ce</b><br/>flower -PL<br/>'flowers and so'</p> | <p>b. cha <b>-ce</b><br/>child -PL<br/>'children'</p> | (Paudyal, 2013) |
|---|---|-----------------|

- In Lewis (2024) I identify 99 languages that use the regular plural as the associative plural and 7 languages that use the regular plural as the similative plural (Cavieña, Chintang, Tommo So, Eastern Dan, Kharia, Nepali and Shiiba).

A note on the number of languages in the samples:

- Associative plurals are widely discussed in the literature (although usually focused on a single language/language family) and we have a pretty good picture of it cross-linguistically (Daniel and Moravcsik, 2013; Corbett, 2000; Corbett and Mithun, 1996; Moravcsik, 2003; Dékány, 2021; Cinque, 2018; Mauri and Sansó, 2021; Hucklebridge, 2023; Görgülü, 2011; Nakanishi and Ritter, 2008, a.o)
- Similative plurals are nowhere near as well-studied, especially similative plurals that use the regular plural as their exponent (Mauri and Sansó, 2021; Smith, 2020).

## 1.2 Goals of the talk

- 1a. Show that there are four logically possible combinations of heterogeneous plural exponence, and
- 1b. that only three out of the four are actually attested (Section 2).
2. Derive the 3/4 pattern by analyzing it as (something similar to) a restriction on \*ABA patterns (Section 3).
3. Broadly, convince you that the exponence of the similative plural is dependent on the exponence of the associative plural (when a language has both) in a way that can be captured using featural containment.

## 2 A novel implicational relationship

A language may have an associative plural but not a similative plural or vice versa. However, many languages have both associative plurals and similative plurals.

(7) *Japanese* [*Japonic*]

- |  |   |   |
|--|---|---|
| <p>a. Taroo <b>-tachi</b><br/>Taroo -(A)PL<br/>'Taro and his friends/family'</p> | <p>b. Taroo <b>-toka</b><br/>Taroo -SPL<br/>'Taro and someone like him'</p> | Ueda and Haraguchi (2008); Smith (2020) |
|--|---|---|

- This raises an interesting question: When a language has both heterogeneous plurals in its grammar, **is the exponence of one of the heterogeneous plurals dependent on the exponence of the other?**
- For example, if the regular plural is used as the associative plural, does the regular plural have to be used for the similitive plural as well? (No, as Japanese shows us.)

There are four logically possible combinations of heterogeneous plural exponence:

- (i) The APL and the SPL are the same as the regular plural.
- (ii) The APL and the SPL use idiosyncratic morphology (i.e., not the regular plural)
- (iii) The SPL uses idiosyncratic morphology and the APL is the same as the regular plural
- (iv) The APL uses idiosyncratic morphology and the SPL is the same as the regular plural

**Interestingly, pattern (iv) is not found.**

There is the implicational hierarchy in (8) on the exponence of heterogeneous plurality:

- (8) *Implicational hierarchy on heterogeneous plurals*  
 If a language uses the regular plural as the similitive plural, it uses the regular plural as the associative plural too (if it has one).

## 2.1 Pattern (i): the APL and the SPL are the same as the regular plural

- |  |  |
|--|--|
| <p>(9) <i>Shiiba</i> [Japonic]</p> <p>a. togi <b>-domo</b><br/>       friend -PL<br/>       ‘friends’</p> <p>b. Taro <b>-domo</b><br/>       Taro -PL<br/>       ‘Taro and his associates’</p> <p>c. sumoo <b>-domo</b><br/>       sumo -PL<br/>       ‘Sumo wrestling and suchlike’</p> | <p>(10) <i>Chintang</i> [Sino-Tibetan]</p> <p>a. cha <b>-ce</b><br/>       child -PL<br/>       ‘children’</p> <p>b. Mankumar <b>-ce</b><br/>       Mankumar -PL<br/>       ‘Mankumar and friends’</p> <p>c. phuj <b>-ce</b><br/>       flower -PL<br/>       ‘flowers and so’</p> |
|--|--|

(Shimoji and Hirose, 2022, 300)

(Paudyal, 2013, 35–6)

## 2.2 Pattern (ii): the APL and the SPL use idiosyncratic morphology

- The APL and the SPL can be distinct from *each other* and the regular plural (11) or the same as each other but still distinct from the regular plural (12):

(11) *Bargam* [Trans-New Guinea]

- |   |  |
|---|--|
| <p>a. abay <b>-niz</b><br/>       brother/sister.in.law -PL<br/>       ‘brothers/sisters in law’</p> <p>b. Anna <b>=nen</b><br/>       Anna =APL<br/>       ‘Anna and those with her’</p> | <p>c. sansan <b>nagah</b><br/>       leaves SPL<br/>       ‘leaves and things’</p> |
|---|--|

(Hepner, 2006, 31,58,145)

(12) *Ma Manda* [Papuan]

a. daamin -nek -ye  
 ancestor -INSG.POSS -NSG  
 ‘our ancestors’

b. Pandi **kadek**  
 Pandi APL  
 ‘Pandi and his group’

c. mi **kadek**  
 water SPL  
 ‘water and such’

(Pennington, 2016, 249–50, 577)

**2.3 Pattern (iii): the SPL uses idiosyncratic morphology and the APL is the same as the regular plural**(13) *Turkish* [Turkic]

- a. ev **-ler**  
 house -PL  
 ‘houses’
- b. Ahmet **-ler**  
 Ahmet -PL  
 ‘Ahmet and his family’
- c. bulut **m-** ulut  
 cloud M- cloud  
 ‘clouds and the like’

Görgülü (2011); Gillon et al. (2014)

(14) *Manambu* [Sepik]

- a. amæy **-bər**  
 mother -PL  
 ‘mothers’
- b. Nelma **-bər**  
 Nelma -(A)PL  
 ‘Nelma and others associated with her’
- c. ñapwi **-məwi**  
 firewood -SPL  
 ‘firewood and things like that’

Aikhenvald (2008, 132, 140, 509)

**2.4 \*Pattern (iv): the APL uses idiosyncratic morphology and the SPL is the same as the regular plural**

The last pattern combination is not found in any language.

**Methodology:**

- In looking for pattern (iv), we can either (a) look for languages that use the regular plural as the SPL and check to see what the exponent of the APL is (if the language has one) or (b) we can look for languages with idiosyncratic APL morphology check to see what the exponent of the SPL is (if the language has one).
- I opted for option (b):
  - No cross-linguistic work on languages that use the regular plural as the similitive plural. There’s little use looking for such languages and then seeing what the associative plural does.
  - Of the 7 languages that use the regular plural as the similitive plural in Lewis (2024), all of them use the regular plural as the associative plural too (in other words, they are not pattern (iv)).
- Conversely, we have a large list of languages that use idiosyncratic morphology for the associative plural (Daniel and Moravcsik, 2013; Mauri and Sansó, 2021), and we can check (i) whether any of these languages have a similitive plural and (ii) if they do, what its exponent is.

I took 86 languages from Daniel and Moravcsik (2013) that have either a unique affixal or a unique periphrastic associative plural and 29 languages from Mauri and Sansó (2021) (n = 115).

- I was able to examine 49 of these languages in detail.

- Abkhaz, Abui, Afrikaans, Arapesh, Barasano, **Bargam, Belep**, Buwal, Central Pomo, Chechen, Dargwa, **Goemai**, Greenlandic West, Hausa, **Iatmul, Ingush**, Inuktitut, Kambaata, Karardild, **Kayah Li, Kuche, Kuuk Thaayorre, Lao, Ma Manda**, Maltese, Mangarrayi, Mauwake, Meithei, Mian, Muna, Mwotlap, **Nama, Norf’k, Nungon, Persian**, Rapanui, **Sandawe**, Sawila, Sheko, **Shughni**, Slave, Toqabaqita, Tuvaluan, **Wardaman**, Wolof, Yagua, Yidiny, Yukaghir (Kolyma)
- For 17 of these languages (in bold), I was able to find reference to a similative plural in the literature.
- Table 1 shows the regular, associative and similative plural morphology in each of these languages. None of them use the regular plural as the similative plural.<sup>2</sup>

Table 1: Exponence of regular and heterogenous plurals

Language	Regular	Associative	Similative	References
Bargam	<i>-an, -niz, -gniz</i>	<i>=nen</i>	<i>nagah</i>	Hepner (2006, 31, 58, 145)
Belep	N/A	<i>-ma</i>	<i>-mene</i>	McCracken (2012, 248,252)
Goemai	<i>mòe-</i>	<i>gwén</i>	<i>gwén</i>	Hellwig (2011, 123, 143)
Iatmul	N/A	<i>-du</i>	<i>wudi da</i>	Jendraschek (2012, 133,149)
Ingush	<i>-zh / -i/-j-</i>	<i>-aar</i>	<i>yzhazh=’a</i>	Nichols (2011, 138, 154–5)
Kayah Li	N/A	<i>sī</i>	<i>sī</i>	Solnit (1997, 184)
Kuche	<i>bā-</i>	<i>bā-nà</i>	<i>bā-nà</i>	Wilson (2002, 161)
Kuuk Thaayorre	N/A	<i>mangka</i>	<i>=yak</i>	Gaby (2018, 127, 355)
Lao	N/A	<i>khaw3</i>	REDUP + <i>ñang3</i>	Enfield (2007, 82, 309)
Ma Manda	<i>-ye</i>	<i>kadek</i>	<i>kadek</i>	Pennington (2016, 249–50, 577)
Nama	<i>-ku(M), -ti(F), -(i)ñ</i>	<i>hāa</i>	<i>hāa</i>	Hagman (1977, 22, 29)
Norf’k	N/A	<i>dem</i>	<i>en dem</i>	Mühlhäusler (2020, 142)
Nungon	<i>-na-i, -a-i, -i/-n-i</i>	<i>-nūt, oemma, gamong</i>	<i>nungon</i>	Steehan (2014, 196, 199–204, 538)
Persian	<i>-hā</i>	<i>inā</i>	REDUP	Yousef and Torabi (2018, 26), Mauri and Sansó (2021, 14), Smith (2020, 47)
Sandawe	<i>-sò</i>	<i>-x</i>	<i>-x</i>	Steehan (2011, 61–2, 65–6)
Shughni	<i>-(y)en</i>	<i>wāḏ, wav</i>	REDUP	Parker (2023, 148,151–2)
Wardaman	<i>-mulu ~ -bulu</i>	<i>-garrma ~ -warrma</i>	<i>wayana</i>	Merlan (1994, 97–90)

## 2.5 Summing up

There is a typological gap in the exponence of APL and SPL if a language has both:<sup>3</sup>

		Similative plural	
		Regular plural	Distinct
Associative Plural	Regular plural	Shiiba, Chintang, Eastern Dan, Nepali, Caviëña, Tommo So, Kharia (7)	Turkish, Japanese, Gooniyandi, Bengali, Manambu (5)
	Distinct		Bargam, Belep, Goemai, Iatmul, Ingush, Kayah Li, Kuche, Kuuk Thayorre, Lao, Ma Manda, Nama, Norf’k, Nungon, Persian, Sandawe, Shughni, Wardaman (17)

<sup>2</sup>In Appendix A.1 I discuss a potential counterexample (that I don’t think is actually a counterexample).

<sup>3</sup>For examples and references concerning the categorization of Shiiba, Chintang, Eastern Dan, Nepali, Caviëña, Tommo So, Kharia, Turkish, Japanese, Gooniyandi, Bengali and Manambu, see Appendix A.2.

This leads to the following implicational hierarchy:

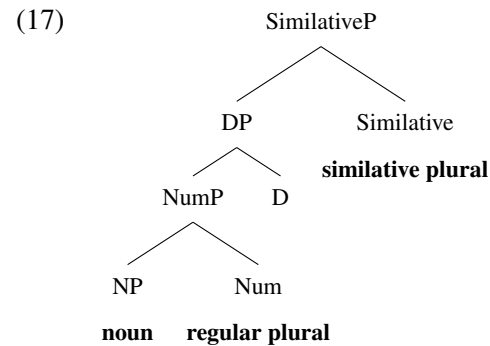
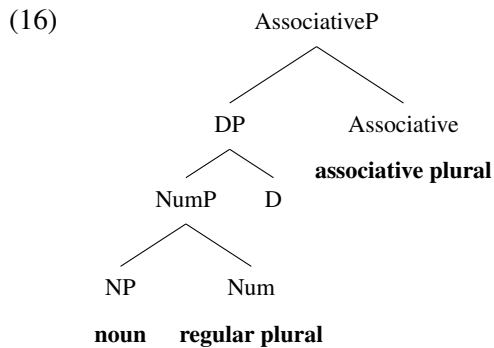
- (15) *Implicational hierarchy on heterogeneous plurals*  
 If a language uses the regular plural as the similitive plural, it uses the regular plural as the associative plural too (if it has one).

### 3 Analysis

#### 3.1 Preliminaries

##### 3.1.1 The syntax

- I adopt the syntactic structure in (16) for the associative plural, which has broad cross-linguistic support in the literature (Nakanishi and Tomioka, 2004; Görgülü, 2011; Dékány, 2021; Biswas, 2014; Forbes, 2013; Cinque, 2018; Lewis, 2024)
- I tentatively propose the structure in (17) for the similitive plural, which is identical to (16) except that now we have a Similitive head and a SimilitiveP. That is, I simply extend analyses of the APL to the SPL.



##### 3.1.2 The pattern(s)

- I treat the exponence of regular, associative and similitive plural as a three-way morphological pattern, similar to other three-way patterns of exponence, e.g., degree adjectival suppletion.
- The degree adjective paradigm is comprised of the positive adjective (POS), the comparative (CMPR) and the superlative (SPRL).
  - When all three forms share the same root, this is an AAA pattern (e.g., English *loud*).
  - When all three forms have distinct roots, this is an ABC pattern (e.g., Welsh *da*, ‘good’)
  - When the second and third forms share a property distinct from the first, this is an ABB pattern (e.g., English *good*).
  - Interestingly, it does not seem to be possible for the first and third forms to share a property that the second does not also share (termed \*ABA, see line 4 in Table 2). (see e.g., Bobaljik, 2012; Moskal, 2018; Smith et al., 2019), a.o)

Table 2: (Un)attested root suppletion patterns in degree adjectives

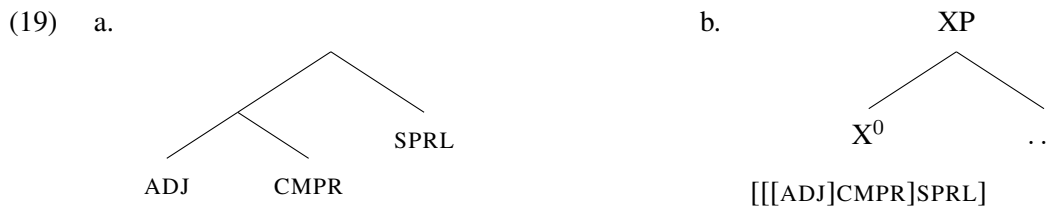
	POS	CMPR	SPRL	
English	<b>loud</b>	<b>loud-er</b>	<b>loud-est</b>	AAA
Welsh ‘good’	<b>da</b>	<b>gwell</b>	<b>gor-au</b>	ABC
English	<b>good</b>	<b>be(tt)-er</b>	<b>be-st</b>	ABB
*English	<b>good</b>	<b>be(tt)-er</b>	<b>good-est</b>	*ABA

- The unattested pattern of exponence for (heterogeneous) plurals also looks like a \*ABA pattern.

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	PL	APL	SPL																
(ii)	A	B	B/C																
	PL	APL	SPL																
*(iv)	A	B	A																

### 3.1.3 Containment relations

- Common analyses of the \*ABA restriction involve containment relations, either of structure (structural containment, (19a)) or features (featural containment, (19b)):



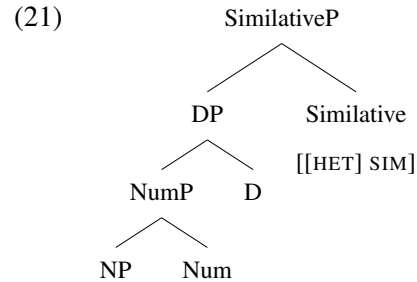
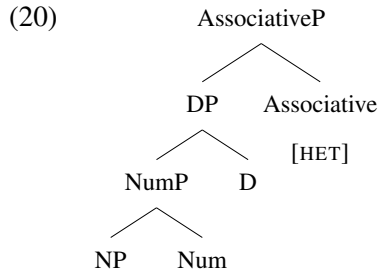
- Both structural and featural containment relations rule out ABA patterns of exponence:
  - **\*ABA**: a language has the rules (i)  $\sqrt{\ } \rightarrow \alpha$  and (ii)  $\sqrt{\ } \rightarrow \beta / \_ \text{CMPR}$ 
    - The comparative is (structurally or featurally) contained inside the superlative, yet the (less specific) elsewhere rule (i) has been applied over the more specific rule specifying CMPR (ii).
- Given that the heterogeneous plurals (associative and similitive) show a similar restriction (i.e., reverting back to the earlier form is banned), perhaps there is a containment relation in heterogeneous plurals too.

Bobaljik (2012) and Smith et al. (2019) argue that *structural* containment also blocks AAB patterns (e.g., *good*, *good-er*, *best*) because the outermost projection (e.g. SPRL) is too far away from the root to trigger suppletion.

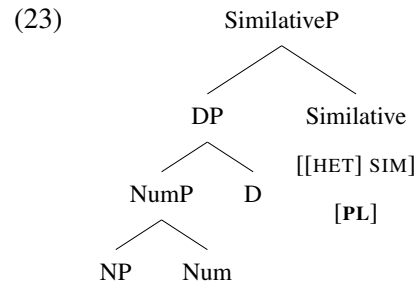
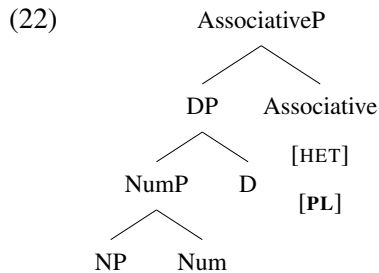
- *Featural* containment, which involves a feature bundle on a single morphosyntactic node, does not block AAB patterns.
- AAB is attested in our *plural-associative-similitive* paradigm, thus I propose there is a featural containment relation between the associative and the similitive plural (Smith et al., 2019).

### 3.1.4 Bringing it all together

- I propose that the Associative head bears a feature [HET] (for *heterogeneous*) and that the Similative head bears the feature [[HET] SIM] (i.e., [HET] is featurally contained inside [[HET] SIM]).



- Each head may also **optionally** bear a [PL] feature that is not in any containment relation with any other feature.<sup>4</sup>



## 3.2 Implementation

### 3.2.1 Deriving AAA

The associative plural and the similative plural are identical to the regular plural.

(24) *Shiiba* [Japonic]

a. *togi -domo*  
friend -PL  
'friends'

b. *Taro -domo*  
Taro -PL  
'Taro and his associates'

c. *sumoo -domo*  
sumo -PL  
'Sumo wrestling and suchlike'

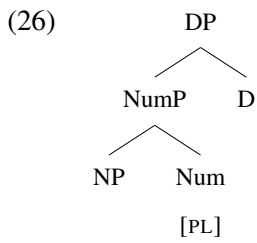
(Shimoji and Hirosawa, 2022, 300)

- This pattern arises when ...
  - both Associative and Similative bear a [PL] feature in addition to their own features;
  - and the language only has the rule [PL] →  $\alpha$

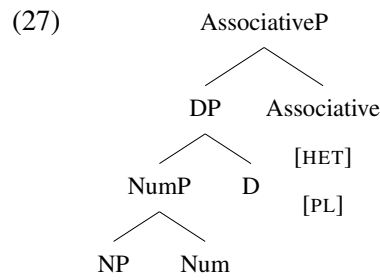
(25) Vocabulary Insertion rules in *Shiiba*:  
[PL] → **-domo**

<sup>4</sup>The optionality of bearing a [PL] feature is constrained in a principled manner (Lewis, 2024). In particular, a [PL] feature may be present on Associative<sup>0</sup> or Similative<sup>0</sup> only if the language lacks free-standing definite articles (but it is not required). The details are not important here; feel free to ask about this in the Q&A.

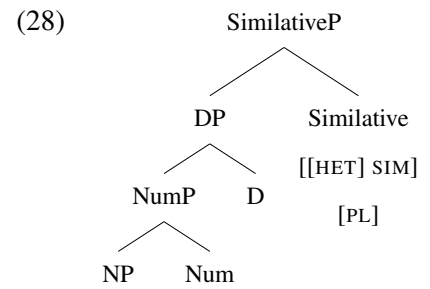




[PL] → **-domo**



[PL] → **-domo**



[PL] → **-domo**

### 3.2.2 Deriving ABB

The associative plural and the similative plural are distinct from the regular plural, but identical to each other.

(29) *Ma Manda* [Papuan]

a. daamin -nek            **-ye**  
 ancestor -1NSG.POSS -NSG  
 ‘our ancestors’

b. Pandi **kadek**  
 Pandi APL  
 ‘Pandi and his group’

c. mi **kadek**  
 water SPL  
 ‘water and such’

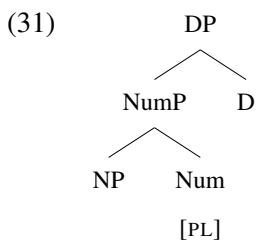
(Pennington, 2016, 249–50, 577)

- This pattern arises when ...

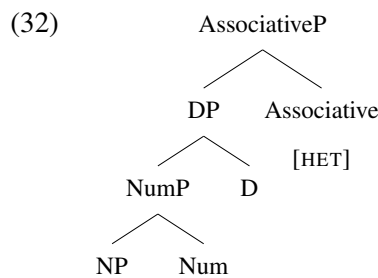
- (a) neither Associative nor Similative bear the [PL] feature in addition to their own features;
- (b) and the language has the rules: (i) [PL] →  $\alpha$  and (ii) [HET] →  $\beta$

(30) Vocabulary Insertion rules in *Ma Manda*

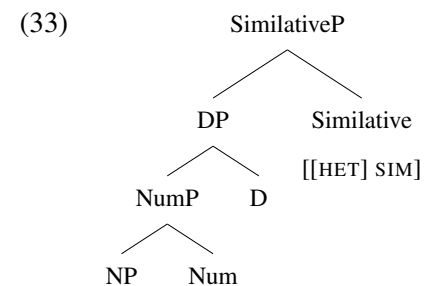
- a. [PL] → **-ye**
- b. [HET] → **kadek**



[PL] → **-ye**



[HET] → **kadek**



[HET] → **kadek**

### 3.2.3 Deriving ABC

The associative plural and the similitive plural are distinct from the regular plural and each other.

(34) *Bargam* [Trans-New Guinea]

- |   |             |  |   |
|---|-------------|--|---|
| a. abay<br>brother/sister.in.law -PL<br>'brothers/sisters in law' | <b>-niz</b> | b. Anna = <b>nen</b><br>Anna =APL<br>'Anna and those with her' | c. sansan <b>nagah</b><br>leaves SPL<br>'leaves and things' |
|---|-------------|--|---|

(Hepner, 2006, 31,58,145)

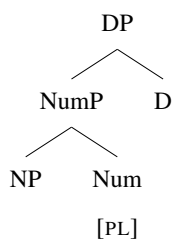
- This pattern arises when

- neither Associative nor Similitive bear the [PL] feature in addition to their own features;
- and the language has the rules: (i) [PL] →  $\alpha$  and (ii) [HET] →  $\beta$  and (iii) [HET] →  $\gamma$  / \_\_ SIM

(35) Vocabulary Insertion rules in Bargam

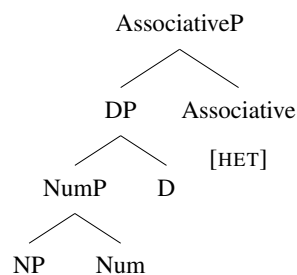
- [PL] → **-niz**
- [HET] → **=nen**
- [HET] → **nagah** / \_\_ SIM

(36)



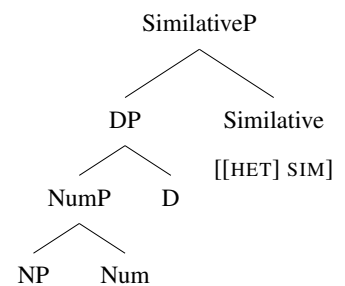
[PL] → **-niz**

(37)



[HET] → **=nen**

(38)



[HET] → **nagah** / \_\_ SIM

### 3.2.4 Deriving AAB

The regular plural and the associative plural are identical, and the similitive plural is distinct

(39) *Japanese* [Japonic]

- |  |  |   |
|--|--|---|
| a. gakusei - <b>tachi</b><br>student -PL<br>'students' | b. Taroo - <b>tachi</b><br>Taroo -(A)PL<br>'Taro and his friends/family' | c. Taroo - <b>toka</b><br>Taroo -SPL<br>'Taro and someone like him' |
|--|--|---|

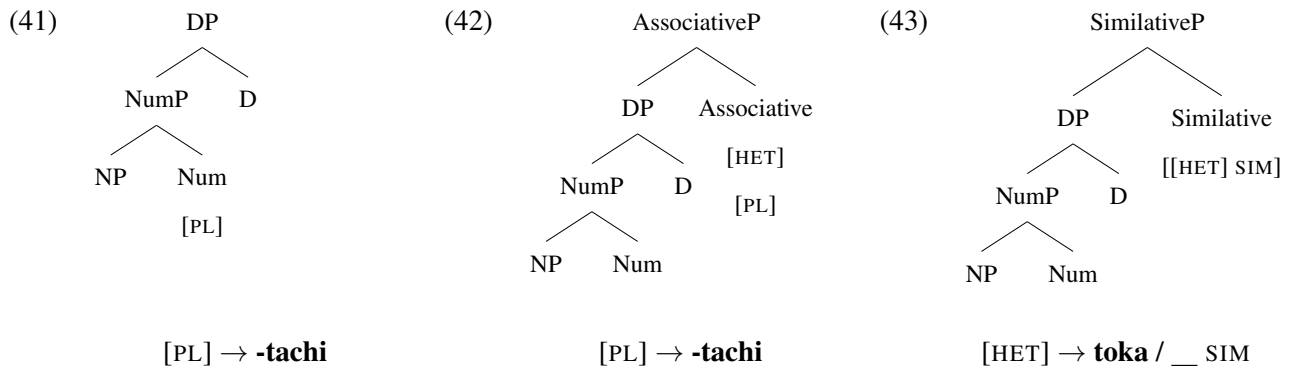
Ueda and Haraguchi (2008); Smith (2020)

- This pattern arises when . . .

- Associative bears the [PL] feature in addition to its own feature but Similitive does not;
- and the language has the rules: (i) [PL] →  $\alpha$  and (ii) [HET] →  $\beta$  / \_\_ SIM

(40) Vocabulary Insertion rules in Japanese

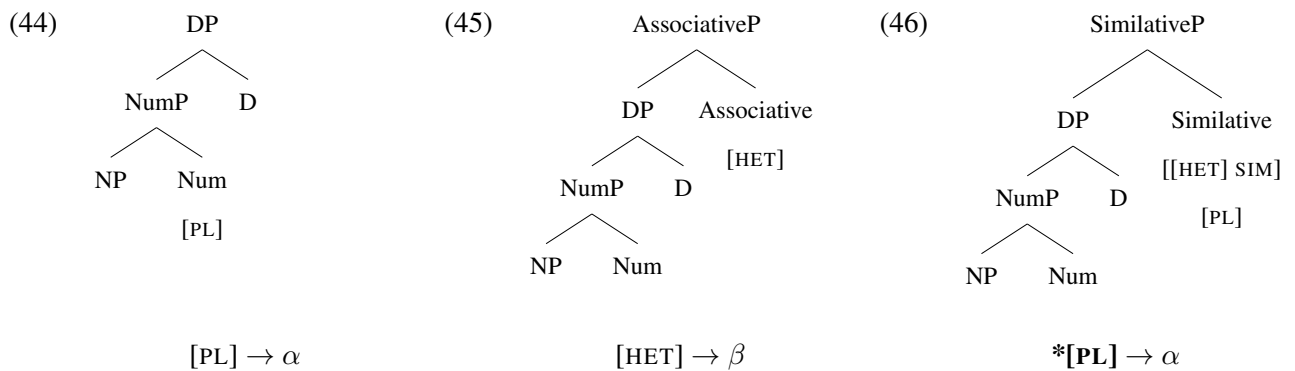
- [PL] → **-tachi**
- [HET] → **toka** / \_\_ SIM



### 3.2.5 Deriving \*ABA

The regular plural and the simulative plural are identical, and the associative plural is distinct.

- This pattern would theoretically arise when ...
  - (a) Associative lacks the [PL] feature and Simulative bears the [PL] feature in addition to its own features;
  - (b) and the language has the rules: (i) [PL] →  $\alpha$  and (ii) [HET] →  $\beta$  (this is required for the AB part of the pattern)



- However, for the Simulative to be identical to the ordinary plural the language must ignore rule (ii) in the simulative plural despite its applicability (and it is applicable because of featural containment).
- **Take-away:** the simulative plural cannot be identical to the regular plural when the associative plural is distinct because the feature responsible for distinct associative plural morphology ([HET]) is contained inside the simulative plural feature.

## 4 Conclusions

There is an implicational hierarchy on the expression of heterogeneous plurality:

- (47) *Implicational hierarchy on heterogeneous plurals*  
 If a language uses the regular plural as the simulative plural, it uses the regular plural as the associative plural too (if it has one).
- The unattested pattern (iv) (dedicated APL; regular plural as SPL) is ruled out if the associative plural consists of the feature [HET] and the simulative plural consists of the feature bundle [[HET] SIM], involving featural containment.
  - All of the attested patterns are also correctly allowed via the same analysis.

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## 5 Appendix

### 5.1 A.1

There is one language that at first looks like a counterexample to the implicational hierarchy (if a language uses the regular plural as the similative plural, it uses the regular plural as the associative plural too (if it has one)). Kambaata (Cushitic) has dedicated associative plural morphology -'VV (48). The regular plural takes two forms in Kambaata depending on the phonological shape of the stem. Nouns with a simplex stem-final consonant are pluralized via stem-final consonant reduplication (+ the case/gender (C/G) suffixes *á-ta*) (49a). Nouns that end with a consonant cluster are pluralized with the suffix *-aakk* (+ the case/gender suffixes) (49b).

- (48) aachch -e        -'éé  
 mum -F.ACC -APL  
 'Mum and her family/friends' (adapted from Treis, 2014, 126)

- (49) a. miní / min -n        -á -ta  
 house / house -REDUP -C/G -C/G  
 'house' / 'houses'
- b. lankaanná / lankaann -aakk -á -ta  
 paternal.uncle / paternal.uncle -PL -C/G -C/G  
 'paternal uncle' / 'paternal uncles'

Interestingly, Treis (2014) provides an example of regular plural marking with what looks like similative plural interpretation. This is shown in (50).<sup>5</sup>

- (50) buur -aakk -áta  
 butter -PL -C/G  
 'butter and other things (associated with butter, e.g. butter spices)'

If (50) is a similative plural using regular plural morphology, it contradicts the implicational hierarchy given above. This is because the associative plural uses dedicated morphology (see (48)). However, there is reason to think that (50) is not a similative plural. Treis (2014) notes that the 'N + others' interpretation of the regular plural in (50) has so far only been attested on mass nouns. This is particularly important because the meaning of plural marking on mass nouns is often different from that on count nouns (e.g. *a great amount of N* in Greek (Alexiadou (2011); see also Kouneli (2019)). In fact, Treis (2014) notes that plural marking on inherently plural nouns (of which mass nouns are a kind) in Kambaata does come with a change in meaning. For example, plural marking on the inherently plural *lal-ú*, 'cattle' individuates: *lal-l-a-sí*, lit. 'cattles' refers to multiple individuated cows rather than multiple herds. Plural marking on nouns that may be interpreted as singular or plural can also pick out species or types: *haqq-aakk*, lit. 'trees' refers to types/species of trees. Most notably, Treis (2014, 125:fn15) also acknowledges that plural marking on mass nouns in Kambaata may express 'types of N', meaning that (50) may be better translated as *types of butter*. Note, too, that of all of the languages with similative plurals I know of, none of them are restricted to mass nouns. Given this, and that idiosyncratic interpretations of regular plural marking on mass nouns are found both cross-linguistically and in Kambaata, it is very likely that (50) is not a similative plural.

<sup>5</sup>Treis (2014) actually calls the construction in (50) an associative plural, but the gloss is reminiscent of similative plurality. Note, too, that associative plurals are not attested on inanimate nouns.

## 5.2 A.2

Table 3: Pattern (i) languages: the APL and the SPL are the same as the regular plural

Language	Regular	Associative	Similative	References
Shiiba	<i>-domo</i>	<i>-domo</i>	<i>-domo</i>	(Shimoji and Hirokawa, 2022, 300)
Chintang	<i>-ce</i>	<i>-ce</i>	<i>-ce</i>	(Paudyal, 2013, 35–6)
Eastern Dan	<i>dhùn</i>	<i>dhùn</i>	<i>dhùn</i>	(Vydrin, 2022, 40)
Nepali	<i>-haru</i>	<i>-haru</i>	<i>-haru</i>	(Riccardi, 2003, 605–6)
Cavieña	<i>=kwana</i>	<i>=kwana</i>	<i>=kwana</i>	(Guillaume, 2021, 15) <sup>6</sup>
Tommo So	<i>mbe</i>	<i>mbe</i>	<i>mbe</i>	(Plungian, 1995, 11), (Corbett, 2000, 238)
Kharia	<i>=ki</i>	<i>=ki</i>	<i>=ki</i>	(Peterson, 2014, 85, 91–2)

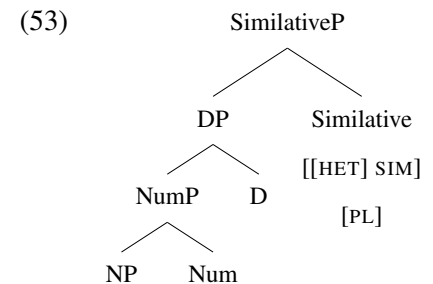
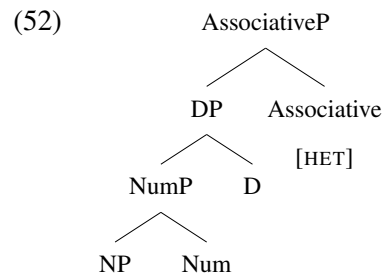
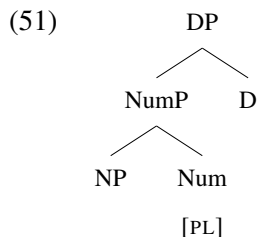
Table 4: Pattern (iii) languages: the SPL uses dedicated morphology and the APL is the same as the regular plural

Language	Regular	Associative	Similative	References
Turkish	<i>-lar</i>	<i>-lar</i>	REDUP	(Göskel and Kerslake (2005), Gillon et al. (2014) )
Japanese	<i>-tachi</i>	<i>-tachi</i>	<i>-toka</i>	(Nakanishi and Ritter (2008), Smith (2020))
Gooniyandi	<i>-yarndi</i>	<i>-yarndi</i>	<i>-nyooloo</i>	(Daniel and Moravcsik (2013), McGregor (1990, 140, 477, 585), Mauri and Sansó (2021))
Bengali	<i>-ra</i>	<i>-ra</i>	REDUP	(Thompson (2012, 58, 313), Biswas (2014))
Manambu	<i>bər</i>	<i>bər</i>	<i>məwi</i>	(Aikhenvald (2008, 140, 509), Mauri and Sansó (2021))

## 5.3 A.3

Another way of thinking of the restriction on the expression of heterogeneous plurality might be to constrain the availability of the [PL] feature.

- If the Similative head bears the [PL] feature than the Associative head must do too.
- What is ruled out is something like (51). There is a [PL] feature on the Similative head, but not the Associative head.



There is a certain type of language that might help to tease apart the right analysis.

<sup>6</sup>Examples of associative plurals in Cavieña in Guillaume (2021) are not entirely convincing, but it clearly uses the regular dual as the associative dual.

- Until now, I have been talking about languages that use the regular plural as the associative or similitive plural (i.e., the two are identical).
- But in some languages (e.g., Central Alaskan Yupik), the regular plural makes up *part of* the associative plural (they are not identical).

(54) a. Cuna-nku-t  
 Chuna-APL-PL  
 ‘Chuna and his family/friends’  
 b. una-nku-k  
 Chuna-APL-DU  
 ‘Chuna and his friend’

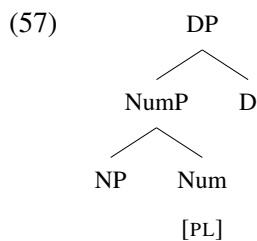
(55) a. qaya-t  
 kayak-PL  
 ‘kayaks (3 or more)’  
 b. qaya-k  
 kayak-DU  
 ‘two kayaks’

(Corbett, 2000, 108–9)

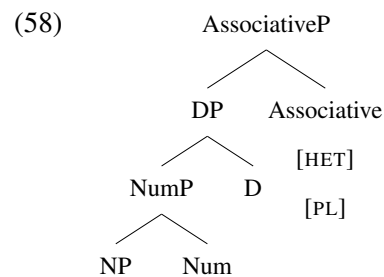
- We can capture this with the current analysis as well.

(56) Vocabulary Insertion rules in Central Alaskan Yupik

- a. [PL] → -t  
 b. [HET] → -nku

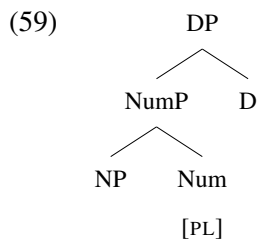


[PL] → -t

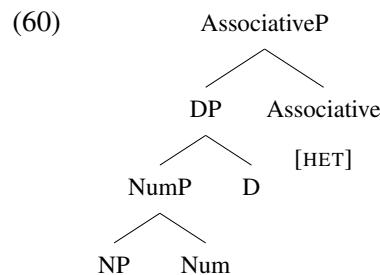


[HET] → -nku  
 [PL] → -t

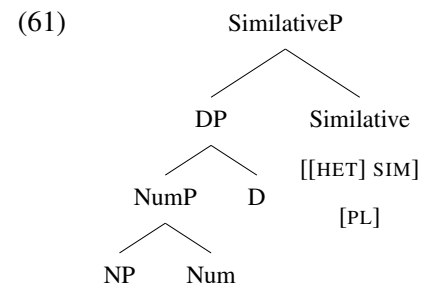
- The current analysis (featural containment) predicts that it is impossible for the similitive plural to be **identical** to the regular plural if the associative plural is distinct.



[PL] → α



[HET] → β

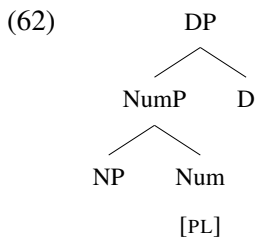


\*[PL] → α

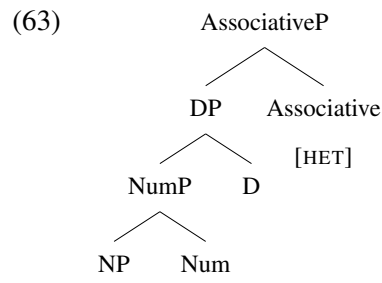
- However, it also predicts that it should be possible to have a language in which the associative plural uses dedicated morphology and the regular plural is used as *part of* the similitive plural.<sup>7</sup>

<sup>7</sup>I am not currently aware of any language in which the regular plural is *part of* the similitive plural. Recall that the cross-linguistic data on similitive plurals – especially those that involve regular plural morphology – is slim.

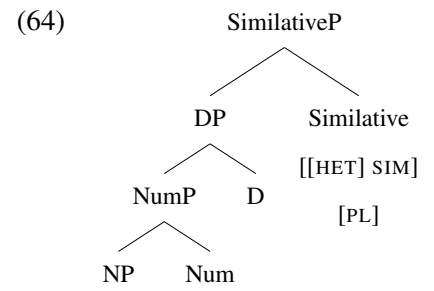




[PL] → α



[HET] → β



[PL] → α  
 [HET] → β or  
 [HET] → γ / \_ SIM

- If this kind of language is found (see fn 7), it suggests that the [PL] feature can optionally be on Simulative<sup>0</sup> without being on Associative<sup>0</sup> (and that the \*ABA-like restriction is due to featural containment).
- If this kind of language is never found, it suggests that the restriction might be reducible to the availability of the [PL] feature.