Associative Plurality and the DP/NP typology
Rebecca Lewis*

Abstract. This paper investigates the phenomenon of additive plural morphology being used to mark the associative plural in a variety of languages. A novel empirical generalization is proposed: Languages with identical additive and associative plural morphology lack free-standing definite articles. This follows a line of generalizations made by Bošković (2008b, 2012), who argues that languages without free-standing definite articles do not project the DP layer. I propose a new analysis of associative plurals that deduces the empirical generalization. I argue that Num, the position of additive plural morphology, moves to the head of an Associative Phrase, a projection above DP. This movement operation is blocked by the DP phase in free-standing definite article languages.

Keywords. Associative plurality; Number Phrase; head movement; typology; definite article

1. Introduction. Associative plurals, also known as associatives, are constructions whose meaning is 'X and X's associate(s)' where X is an individual and *X's associate(s)* is formally expressed on the noun via an affix, clitic, or word (Moravcsik (2003): 470-71). A common feature of Turkic languages, including Bashkir, Crimean Tatar, Chuvash, Gagauz, Karachay-Balkar, Kazakh, Kumyk, Mishar Tatar, Turkish, Uyghur, and Uzbek is the availability of additive plural morphology to mark the associative plural (Daniel & Moravcsik (2013)). (1) and (2) illustrate for Turkish and Kazakh, respectively.

(1)   a.   ev-**ler**
          house-PL
          'houses'

     b.   Abla-m-**ler**
          elder.sister-1SG-PL
          'My elder sister and her family/associates/friends'

(Göskel & Kerslake (2005): 19, 151)

(2)   a.   bala-**lar**
          child-PL
          'children'

     b.   Abay-**lar**
          Abay-PL
          'Abay and his companions.'

(Dotton & Wagner (2018): 12; Daniel & Moravcsik (2013))

This phenomenon occurs in a variety of languages, spanning multiple other language families, including East Caucasian, Niger-Congo, Afro-Asiatic, Sepik, Sino-Tibetan, Cariban, Japonic, Salishan, Uralic, Indo-European, Austronesian, a few creoles and the isolate *Ainu*. For a full list of languages, see Figure 1 in the appendix. Each of these languages use the same morpheme

---

to mark both the associative and the additive plural. I will call such languages IDENTITY languages.[2]

This type of associative plural, and its occurrence in these languages specifically, is the focus of this paper. I will argue that it is a requirement of IDENTITY languages that they lack free-standing definite articles; that is, IDENTITY languages either lack articles altogether or have affixal articles. What is relevant in this respect is the claim that languages without articles lack the DP layer (see e.g. Lyons (1999), Bošković (2008b)) and that languages with affixal articles lack the DP layer when the article is not present (see Talić (2017)). I propose that the derivation of associative plurals in IDENTITY languages involves movement of the head of the Number Phrase (Num), hosting additive plural morphology, to a high functional projection above DP that I call Associative. The DP layer blocks the relevant movement from occurring, prohibiting any language with free-standing definite articles from being an IDENTITY language (the correct empirical result).

The rest of the paper is organized as follows. In the next section, I provide an overview of existing analyses of associative constructions in the generative literature. We will see that associative plural morphology is routinely posited higher in the nominal spine than additive plural morphology, and this will lay the groundwork for my assumptions about where associative morphology is licensed. In Section 3, I propose that what unifies IDENTITY languages typologically is their lack of free-standing definite articles.[3] I propose a new analysis of associative plurals that accounts for why languages with free-standing definite articles and associative plural constructions are never IDENTITY languages. Section 4 considers a number of languages that, according to Daniel & Moravcsik (2013)'s sample, have both free-standing definite articles and identical associative and additive plural morphology. Such languages would be counterexamples to the empirical generalization I propose. I show that these languages do not actually pose a problem for the generalization. Section 5 concludes.
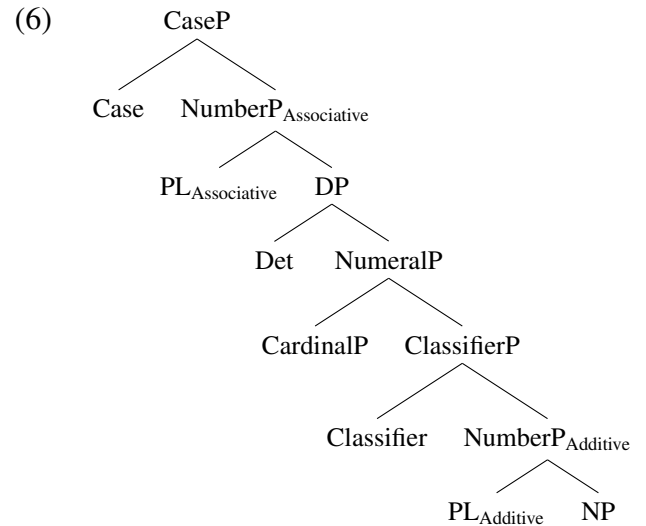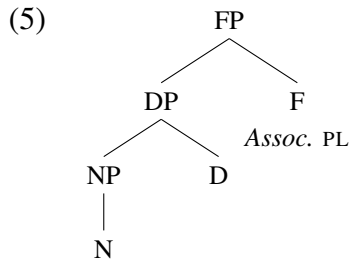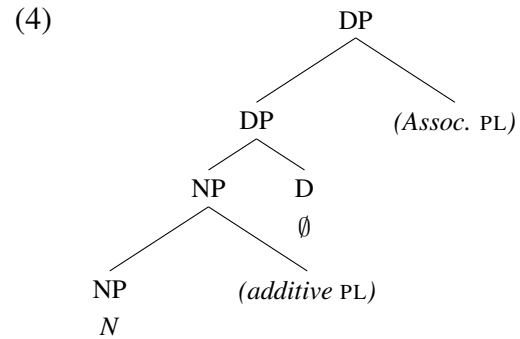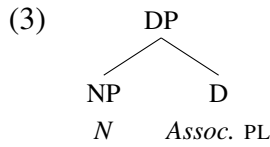
2. Previous descriptions of associative morphology. Associative plurals are nominal expressions that pick out an individual X and their associates. The individual X is largely restricted to proper names and human animate nouns, most commonly kinship terms (though see e.g. René van den Berg (1989) and Daniel (2020) for examples of associative plural morphology on non-human animate nouns). The associates of X are alluded to, and marked by an affix, clitic or word on the noun. Moreover, it has been argued that associative plurals are inherently definite (e.g. Cinque (2018), Daniel (2020), though see Nakanishi & Tomioka (2004) for another perspective). Daniel, for example, notes that the associative plural 'This house is big enough for [**a** grownup.man-ASS.PL] (i.e. for *a man* and his family)' appears to be impossible in languages with associative plural constructions, and Li (1999), Hirose (2004), and Ueda & Haraguchi (2008) all argue that associative plurals are definite in the relevant languages (Chinese in Li (1999) and Japanese in Hirose (2004) and Ueda & Haraguchi (2008)).

Consequently, these and other authors have posited that associative plural morphology is

---

[2] Languages without identical additive and associative plural morphology use a variety of other strategies to mark associativity. These include: plural pronouns, plural demonstratives, the words 'and', 'also', 'with', 'group', and 'all', or plural agreement on the verb (see Mauri & Sansó (2017, 2021) for a fuller typology. Although these languages are not the focus of this paper, I will show in Section 3 that these strategies may also receive a principled explanation under the analysis to be proposed.

[3] This is a one-way correlation. It is not the case that all languages that lack free-standing definite articles will be IDENTITY languages.

associated in some way with D, high in the nominal spine. Li (1999) and Ueda & Haraguchi (2008) both argue that the associative plural heads D (for Mandarin Chinese and Japanese respectively, see (3)). Hirose (2004) and Forbes (2013), on the other hand, argue that the associative plural is adjoined to DP in Japanese and Gitksan, respectively ((4) illustrates for the head-final Japanese). In both Hirose and Forbes's analyses, plural morphology either adjoins to NP (additive) or DP (associative). A third way associative morphology has been analyzed is as heading a functional projection above DP. Nakanishi & Ritter (2008) adopt this approach for Japanese, Görgülü (2011) for Turkish and Biswas (2014) for Bangla ((5) abstractly exemplifies all three). Finally, Cinque (2018) proposes the structure in (6) for all associative plural constructions. An associative morpheme is externally merged above DP but below CaseP, in a second Number phrase, NumberP$_{\text{Associative}}$. The additive plural morpheme is merged in NumberP$_{\text{Additive}}$.

(3)
```
        DP
       /  \
     NP     D
     N    Assoc. PL
```

(4)
```
              DP
            /    \
          DP      (Assoc. PL)
         /  \
       NP    D
              ∅
      /  \
    NP    (additive PL)
    N
```

(5)
```
        FP
       /  \
     DP     F
    /  \   Assoc. PL
  NP    D
  |
  N
```

(6)
```
         CaseP
        /     \
     Case   NumberP_Associative
            /        \
      PL_Associative  DP
                     /   \
                  Det    NumeralP
                        /       \
                  CardinalP   ClassifierP
                             /        \
                       Classifier   NumberP_Additive
                                    /         \
                              PL_Additive     NP
```

Despite slightly different implementations, all of these analyses posit associative plural morphology to be externally merged higher than additive plural morphology, and crucially as high as or higher than DP. However, with the exception of Cinque (2018), these analyses are language-specific and none attempt to establish why only some languages have identical additive and associative plural morphology. In the next section I will show that what unifies IDENTITY languages is that they all lack free-standing definite articles. I then propose a unified analysis of associative plurality in IDENTITY languages that takes this typological generalization into account.

3. Why are there IDENTITY languages?: A typological generalization. Typological descriptions note a variety of strategies that languages may use to mark associativity. These include: ad-

ditive plural morphology (e.g. Turkish (Göskel & Kerslake (2005)), (third person) plural pro-
nouns (e.g. Afrikaans (den Besten (1996)), plural demonstratives (e.g. Amharic (Mauri & Sansó
(2017)), coordinators like 'and', 'with' and 'also' (e.g. Hawaiian (Mauri & Sansó (2021)) and
words like 'group', and 'all; (e.g. Kriol (Mauri & Sansó (2021))). What has not been established
is why languages use the strategy they do. In an attempt to do this, I propose the following de-
scriptive generalization:

(7)   **Generalization**: If a language marks additive plurality in the Number Phrase and has
      identical additive and associative plural morphology, it lacks free-standing definite arti-
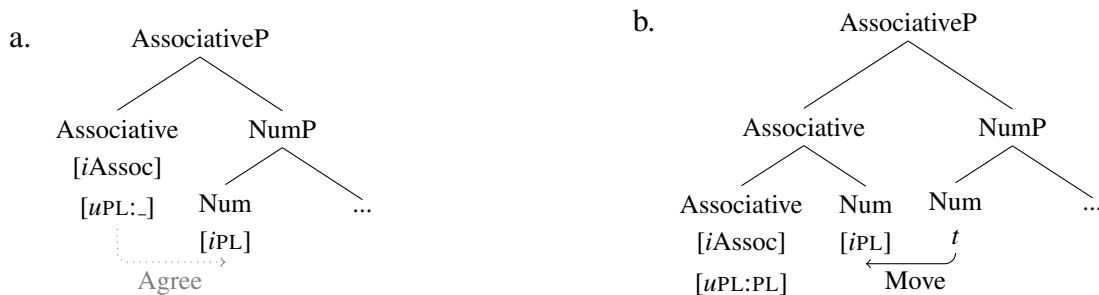   cles.

We will see below why the generalization is only concerned with languages that mark ad-
ditive plurality in the Number Phrase (see also Section 4.4). This is an empirical observation
based on a sample of 97 languages. Of these languages, 90 of them mark plurality in the Num-
ber Phrase and have identical additive and associative plural morphology (see Figure 1 in the ap-
pendix). This is what I call an IDENTITY language. (7) rules in both articleless and affixal article
languages as possible IDENTITY languages. This is empirically true - all of the IDENTITY lan-
guages in Figure 1 either lack definite articles altogether or have affixal definite articles. This is
also a one-way correlation —all IDENTITY languages lack free-standing definite articles but not
all languages that lack free-standing definite articles are IDENTITY languages (see also footnote
10).

This is also a novel generalization. It has not been claimed before that all IDENTITY lan-
guages lack free-standing definite articles. Consequently, analyses of associative plural construc-
tions have not taken such a generalization into account. I will propose an analysis of associa-
tive plural constructions in IDENTITY languages that is able to account for the generalization in
(7). To do this, I will make use of another generalization from Corver (1992), Lyons (1999) and
Bošković (2005; *et seq*):

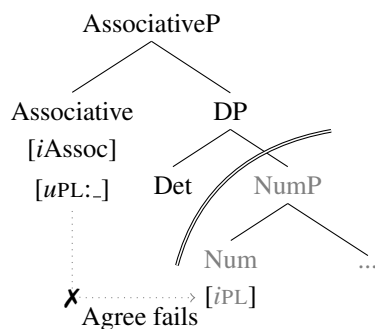(8)   Articleless languages do not project the DP layer.

Bošković (2008b 2012, 2016) has shown that languages without articles behave differently
from languages with articles with respect to a number of phenomena (these include the possi-
bility of Left Branch Extraction (LBE), adjunct extraction and scrambling to name a few). It is
claimed that these and other phenomena are possible in articleless languages precisely because
they lack the DP layer. With this in mind, I propose the derivation in (9a-b) for all articleless
IDENTITY languages (see Section 3.2 for discussion of affixal article languages). There is no
DP layer, but AssociativeP is merged above the position at which DP would be merged were it
present. I propose that Num, hosting interpretable number features, moves to a higher head As-
sociative under Agree with an [uPL] feature on the associative head. This creates a complex asso-
ciative head that possesses interpretable number features (9b).

4

(9) IDENTITY languages:

a.

```
              AssociativeP
             /           \
      Associative        NumP
       [iAssoc]         /    \
       [uPL:_]        Num    ...
                     [iPL]
                    ⋮
                  Agree
```

b.

```
                    AssociativeP
                   /            \
            Associative         NumP
           /         \         /    \
     Associative    Num     Num     ...
      [iAssoc]     [iPL]     t
      [uPL:PL]          Move
```

This movement operation is only possible because there is no DP between NumP and Associative in articleless languages. DP is a phase and so movement out of DP must proceed through the phase edge according to the Phase Impenetrability Condition (Chomsky 2000, 2001). Following Bošković (2008a) I assume that movement to the edge of a phase is driven by the presence of an uninterpretable feature [uF] on the moving element; if [uF] cannot be valued in its current phase, it may move to the phase edge in order to be accessible to a higher probe. This does not apply to the Num head. Num bears an interpretable feature [iPL] but no uninterpretable feature [uF]. It will not move to the phase edge during the DP phase and will always be inaccessible to a probe above DP. As a result, Num will never raise to Associative in languages with free-standing definite articles. That is, languages with free-standing definite articles will never be IDENTITY languages and [uPL] must be valued some other way.
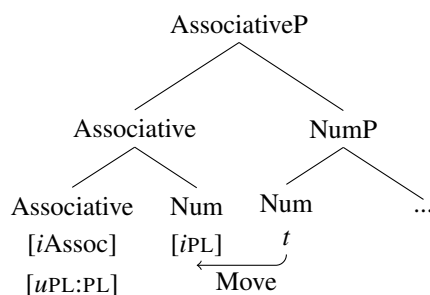
(10) DP languages:

```
              AssociativeP
             /           \
      Associative         DP
       [iAssoc]          /  \
       [uPL:_]        Det    NumP
                           /    \
                        Num      ...
                       [iPL]
            ✗ ⋯⋯⋯⋯⋯⋯>
           Agree fails
```
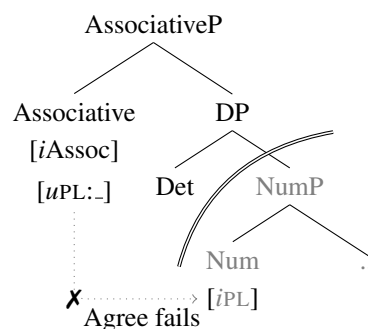
In the next section, I show in more detail how this analysis correctly predicts which strategy of associativity marking will be available in a given language.

3.1. ANALYSIS. I proposed in (7) that if a language marks additive plurality in Num and has identical additive and associative plural morphology, it lacks free-standing definite articles. I have called such languages IDENTITY languages. I then proposed that associative plurals in IDENTITY languages involve movement of Num to a higher functional projection, Associative, under Agree. The required movement operation is blocked by the DP layer in DP languages because of the Phase Impenetrability Condition.

(11) IDENTITY languages:

AssociativeP
- Associative
  - Associative [*i*Assoc] [*u*PL:PL]
  - Num [*i*PL]
- NumP
  - Num *t* (Move)
  - ...

(12) DP languages:

AssociativeP
- Associative [*i*Assoc] [*u*PL:_]
- DP
  - Det
  - NumP
    - Num [*i*PL]
    - ...

✗ Agree fails

This analysis rules out the possibility that a language with free-standing articles - that is, a language which projects the DP layer - that marks additive plurality in Num will ever have identical additive and associative morphology. This prediction is borne out. The first thing to note is that it is quite rare to find a language with free-standing definite articles that has an associative plural construction.[4] Recall that an associative plural construction is the use of an affix, clitic or word expressed on the noun to generate the meaning *X and X's associates*. Most languages with free-standing definite articles do not have an associative plural construction, but express the same meaning through a coordinated structure *X [and them/others/X's friends/family]*. A few languages with free-standing definite articles do have associative plural constructions. These are Alamblak, Amharic, Hungarian, Hawaiian, Maori, Rapanui and Tuvaluan. Crucially, these associative constructions do not use plural morphology to mark the associative.[5] Alamblak uses the third person plural pronoun (13), Amharic uses a plural demonstrative (14) and Hungarian uses a unique associative morpheme *-ek* (15). Maori (16) and Hawaiian (19) use a word that can be traced back to Proto-Oceanic 'and'/'with', (Mauri & Sansó (2021)). Rapanui (17) and Tuvaluan (18) use a collective word *kuá* and *saa*, respectively.

(13) a. Yoni **rëm**
          Yoni they
          'Yoni and his associates'
      b. yima-**m**
          man-PL.3
          'men/people'

(Mauri & Sansó (2017): 2; Bruce (1984): 195)

(14) a. **ïnnä**-Maryam
          those.of-Maryam
          'Mary and her group'
      b. Maryam-**och**
          Maryam-PL
          'More than one Mary'

(Daniel & Moravcsik (2013))

(15) a. János-**ék**
          John-ASSOC
          'John and associates'
      b. János-**ok**
          John-PL
   'More than one John'

(Corbett (2000): 102)

---

[4] I do not consider why associative plural constructions are apparently so rare in DP languages in this paper.

[5] Maori, Rapanui and Tuvaluan do not mark number on the noun. The lack of Num-Associative movement in these languages could then be independently motivated by the fact that there is no plural exponent in Num that could express the associative plural. However, the other languages in the sample do have dedicated plural morphology on the noun and can not utilize it to express the associative plural.

(16) Mere-**maa**
Mere-APL
'Mere and others'

(Daniel & Moravcsik (2013))

(17) **kuá** Nua
COL Nua
'Nua and her lot'

(Feu (1996):142)

(18) **saa** Mauu
COL Mau
'Mau and his group'

(Besnier (2000): 372)

(19) a. Lākou-**ma**
3PL-APL
'They and the others'

b. 'elua a'u **mau** i'a
two my PL fish
'my two fish'

(Daniel & Moravcsik (2013))

The analysis presented in this paper correctly predicts that these languages cannot use regular plural morphology to mark the associative plural because the DP phase prevents Agree between Num and Associative, and thus the follow-up movement operation. Instead the [uPL] feature of the associative head must be valued by other means. One option is to say that there is adjunction of a head, X, bearing [iPL] features, to the Associative head in order to value the [uPL] features on Associative.[6]

(20) DP languages:
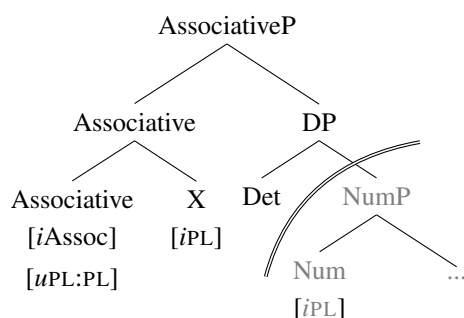
By proposing that associative plural constructions involve a [uPL] feature on an associative head, the analysis presented here makes the right predictions about both articleless and free-standing article languages. First, it correctly predicts that languages without definite articles may have identical additive and associative morphology because [uPL] is a probe that can only Agree with [iPL] on Num in the absence of the DP phase. Second, it correctly predicts that the associative plural in DP languages will never be the additive plural but can be morphologically varied, because the only requirement is that the [uPL] feature on Associative is valued: if X is D with [iPL] features, a plural demonstrative or pronoun; if X is Conj, the word for 'and' or 'with'; if X is N with [iPL], a word like 'group'. This is precisely what we find.

Recall that the generalization in (7) states that IDENTITY languages lack free-standing definite articles. So far, I have been concerned with ruling in only articleless languages (that is, languages that never project the DP layer). But some IDENTITY languages have affixal definite articles. In the next section, I show that the analysis also correctly rules in affixal article languages as possible IDENTITY languages.

---

[6] See, for example, Epstein et al. (2016) for an independent implementation of external head-head adjunction.

3.2. AFFIXAL ARTICLE LANGUAGES. Some IDENTITY languages have affixal articles. These include: Bulgarian, Limbu, and Mandinka (see also the languages in Section 4.2). In this section I will detail why affixal article languages are predicted to pattern with articleless languages in allowing identical additive and associative plurality marking.

In recent work, it has been argued that languages with affixal definite articles fall somewhere between articleless languages and languages with free-standing definite articles in terms of their behaviour (see for example Reuland (2011), Despić (2011), Talić (2017)). That is, a single affixal article language sometimes behaves like an articleless language and sometimes behaves like a language with articles. Talić (2017) studies three affixal article languages in detail - Bulgarian, Romanian and Icelandic - and argues that when the affixal definite article is absent in these languages, the DP layer is not projected. For example, Talić shows that Bulgarian patterns like languages *with* articles when the article is present and does not allow adjunct extraction (22) but that when the article is dropped, extraction of the adjunct out of the noun phrase is possible (23) just as in articleless languages.

(21)　Only languages without articles may allow adjunct extraction.

(22)　*Ot　koj　universitet sreštna-ha nyakolko-**to** studenti t?
　　　from which university met-they　several-the　students
　　　'From which university did they meet several students?

(23)　Ot　koj　universitet sreštna-ha nyakolko studenti t?
　　　from which university met-they　several　students
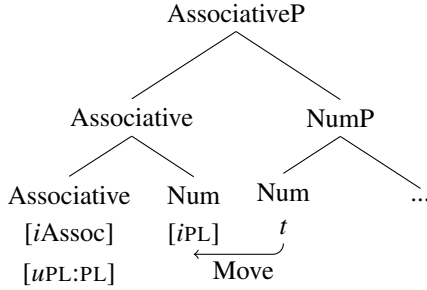　　　'From which university did they meet several students?

In (22), with the affixal article, the DP layer is present whilst in (23), without the affixal article, the DP layer is absent. With this in mind, let's turn to the associative plural construction. Recall that associative plural constructions are formed almost exclusively on proper names and kinship terms. These are also two contexts in which definite articles are often absent, and in which they are not present in the affixal article languages that allow an IDENTITY associative plural construction (see e.g. Elson (1976) for Bulgarian and van Driem (1987):30-34 for Limbu). In these affixal article languages, then, I assume proper names and kinship terms consitute two contexts in which the DP layer is not projected, following the reasoning in Talić (2017). If this is the case, we would expect that affixal article languages would be able to behave just like articleless languages when it came to associative plural constructions because the DP phase is absent (i.e. they can be IDENTITY languages). This is in fact what we find.[7]

---

[7] The situation is not quite as simple as this. Heath (1999) gives the following example of an associative plural in Koyroboro Senni, an affixal article language.

(1)　boŋkoyn-oo-yan
　　　chief-DEF.SG-PL
　　　'The chief and family (or associates)'

(1) shows the plural suffix *-yan* on a DEF-marked noun. DP must be present in (1), yet the additive plural suffix is being used to mark the associative plural in an apparent counter-example to the generalization proposed. I will not discuss this case in detail, except to note that the idea that affixal articles may affect the phasal status of DP has already been noted (see, for example Bošković (2015), Bošković (2018)). Crucially, these works suggest that the phasehood of DP may collapse in the case of N-D movement in languages where N precedes all other nominal ele-

(24) IDENTITY language, no affixal article:

```
                    AssociativeP
                   /          \
          Associative          NumP
          /      \            /    \
  Associative    Num      Num       ...
    [iAssoc]    [iPL]      t
    [uPL:PL]       Move
```

The analysis then correctly rules in both articleless and affixal article languages, and correctly rules out languages with free-standing definite articles. Before concluding, I want to address a number of languages in Daniel & Moravcsik (2013)'s sample that are classified as having identical additive and associative plural morphology and free-standing definite articles. If this classification were correct, these languages would be counterexamples to my generalization. In the next section, I show that their classifications are not correct and the generalization is robust.

4. Troublemakers. Daniel & Moravcsik (2013), in their sample of 104 languages with identical additive and associative plural morphology, list 14 languages that are claimed to also possess free-standing definite articles. These languages are listed below.

(25) Fulfulde (Adamawa), Tariana, Mupun, Awtuw, Margi, Lepcha, Bambara, Koyroboro Senni, Sango, Wichí, Gooniyandi, Kanuri, Chamorro, Malagasy.

In the following sections I show that these languages do not pose a problem for the generalization that I have proposed because they either (i) do not possess a free-standing definite article, (ii) are not IDENTITY languages, or (iii) do not mark number in Num.

4.1. (I): ARTICLE-LESS LANGUAGES. Despite their classification in Daniel & Moravcsik (2013) as languages with articles, I argue that Fulfulde (Adamawa), Tariana, Awtuw, Sango and Gooniyandi do not have free-standing definite articles. Following Greenberg (1978) and Bošković (2016), I define a definite article as an element that is distinct from the demonstrative and that yields an element of type e from an element of type $<e,t>$ (in other words, to an argument from a predicate). Moreover, if a determiner whose meaning is a particular type-shifting operation exists, then such an operation cannot be achieved covertly (i.e. without use of the determiner) (Chierchia (1998)). As such, languages with definite articles cannot use a bare NP to achieve a definite (type e) interpretation. In this light, consider the Tariana bare noun in (26), the Awtuw bare nouns in (27), the Sango bare noun in (28), the Gooniyandi bare noun in (29), and the Fulfulde (Adamawa) bare noun in (30).

(26) ke:ri
      sun
      '**the** sun'

(Aikhenvald (2003): 148)

(27) wanklow æwre-ke   d-awkey
      turtle   house-LOC FA-exist
      '**The** turtle is in **the** house'

(Feldmen (1986): 104)

---

ments. Koyroboro Senni is such an N-initial language. If DP is not a phase in (1), movement of Num to a position outside of DP should, in theory, be possible. I leave (1) and its implications for the proposed generalization to further work.

(28)	mɔrɛngɛ a-zingɔ	(29)	waya thiddgirli-windi	(30)	wuro
	child SM-wake		wire straight-it:got		town
	'The child woke up.'		'The wire got straight'		'a town/the town'

<div align="center">(Pasch (1996): 231)   (McGregor (1990): 154)   (Taylor (1921): 21)</div>

Although each of these languages does have some definite marker (see the works cited for details), all of them allow a definite interpretation of a bare noun. According to the characterization of definite articles above, the definite markers in these languages would not constitute a definite article because they are not obligatory for a definite interpretation. If we consider that these languages do not have definite articles, they do not pose a problem for the generalization.

4.2. (I): AFFIXAL ARTICLE LANGUAGES. There is another subset of languages that are classified as being languages with definite *words* by Daniel & Moravcsik (2013) which actually have definite *affixes*. These are Margi (31), Lepcha (32), Bambara (33) and Koyroboro Senni (34).

(31)	kw-**árì**	(32)	ʔóng-**re**	(33)	so‿	(34)	hãyš-**oo**
	goat-DEF		boy-DEF		house.DEF		dog-DEF.SG
	'the goat'		'the boy'		'the house'		'the dog'

<div align="center">(Hoffman (1963))   (Plaisier (2006): 58)   (Bird et al. (1977): 10)   (Heath (1999): 117)</div>

Recall that I group affixal article languages with articleless languages in this paper (Section 3.2). These languages do not pose a problem for the generalization.

4.3. (II): NON-IDENTITY LANGUAGES. In this section I will show that Kanuri and Wichí are not IDENTITY languages. Recall that IDENTITY languages are those that use the same morpheme to mark both the additive and associative plural. Rather than additive plural morphology, Kanuri and Wichí both use the *collective* morpheme in the associative plural. Examples of the associative plural in Kanuri and Wichí are given in (35a) and (36a), respectively. Examples of collective nouns in the respective languages are given in (35b)[8] and (36b) and examples of plural nouns are given in (35c) and (36c).[9]

(35)	a.	Áli-**sò**	(36)	a.	Loida-**łayis**
		Ali-ASSOC			Loida-ASSOC
		'Ali and friends'			'Loida and her husband'
	b.	bəjí-**sò**		b.	siwele-**łayis**
		mat-COL			white.man-group
		'mats and all'			'white people'
	c.	kóró-**wa**		c.	halo-**j**
		donkey-PL			tree-PL
		'donkeys'			'trees'

<div align="right">(Daniel & Moravcsik (2013); Nercesian (2011): 453;</div>
<div align="center">(Hutchinson (1981): 208, 43)   Terraza & Baito (2014): 213)</div>

---

[8] Daniel & Moravcsik (2013)'s (35b) is actually *bəjí-s*. However, on cross-reference with the grammar cited the example is as written in (35b).

[9] The plural suffix in Wichí has various allomorphs. These are: *-j, -Vs, -tsel, -ł, -haj* (Terraza & Baito (2014)).

These examples show that it is collective, not plural, morphology that associative plural morphology is identical to. Moreover, Corbett (2000) notes that collective and plural morphology belong to distinct categories which should head their own projection in the nominal spine, since the two can co-occur. This is true of both Kanuri and Wichí.

(37) Kanuri-wa-so
      Kanuri-PL-COL

      'Kanuris (generic)'

(38) qate-tsel-łiyas
      star-PL-COL

      'Many stars in a constellation'

Under the analysis presented in this paper it is movement of Num, hosting additive plural features, to the higher Associative head that derives an IDENTITY language. The examples in (37) and (38) show that collective morphology is not in Num. The associative plural in Kanuri and Wichí then cannot be derived by this mechanism.[10]

4.4. (III): NON-NUM NUMBER. The final three languages - Malagasy, Mupun and Chamorro - are excluded entirely from the sample of IDENTITY languages because they do not mark number on the noun, specifically in Num. Malagasy plural nouns are unmarked for number. Instead, the plural form of the demonstrative optionally occurs with a bare noun to indicate plurality. Associative plurals are also derived via a plural determiner (see Paul (2018)).

(39) boky
      book

      'a book/books'

(40) **ireo**   zaza
      DEM.PL child

      'the children'

(41) **ry**   Paoly
      PL.DET Paul

      'Paul and associates'

(Paul (2009): 223, 219; Daniel & Moravcsik (2013))

The plural determiner in (41) is not in Num. The associative plural construction in Malagasy then cannot be derived via Num movement. As such, although both additive and associative plurals in the language make use of plural demonstratives (which is sufficient for Daniel & Moravcsik (2013) to say that the associative is the same as the additive), Malagasy is irrelevant to the generalization proposed in this paper because additive plurality is not expressed in Num.

Similarly, Mupun and Chamorro plural words are homophonous with the third person plural pronoun. I do not assume that pronouns can express plurality as the head of the Number Phrase. Instead, I treat the pronouns in examples like (42a) and (43a) as nominal modifiers (see Butler (2012) for a similar analysis, and Wiltschko (2008)). The associative plural constructions in (42b) and (43b) then cannot be derived via Num movement, because the plural pronouns are at no point in Num.[11]

---

[10] Kanuri and Wichí also do not have free-standing definite articles (Kanuri has an affixal article and Wichí does not have articles). Recall that I have proposed a one-way correlation - all IDENTITY languages lack free-standing definite articles but not all languages that lack free-standing definite articles are necessarily IDENTITY languages. What is important is that these two languages do not challenge the generalization proposed.

[11] I have kept the gloss in (43b) as it appears in Safford (1903), which treats *si* as the definite article that appears with proper names and *ha-* as a prefixal particle. If this is the correct gloss, Chamorro is not an IDENTITY language (the associative marker being *ha-*). Alternatively, this is an incorrect glossing of the third person plural pronoun.

(42) a. saar **mo**
          hand 3PL
          'hands'

      b. James **mo**
          James 3PL
          'James and company'

        (Daniel & Moravcsik (2013))

(43) a. i   gima **siha**
          DEF house 3PL
          'the houses'

      b. **si   ha**-Pedro
          DEF PRT-Pedro
          'Peter and friends'

        (Safford (1903): 298, 304)

Once again, although additive and associative plurality are superficially identical in these languages, they are irrelevant to the generalization proposed in this paper because additive plurality is not expressed in Num. I have only ruled out Num-Associative movement in DP languages; nothing prevents D, bearing [iPL], from externally merging with the Associative head in these languages.

4.5. SUMMING UP. I have shown that all of the 14 possible counterexamples in Daniel & Moravcsik (2013)'s sample do not hold. Nine do not have free-standing definite articles (Fulfulde, Tariana, Awtuw, Sango, Gooniyandi, Bambara, Margi, Lepcha, Koyroboro Senni), two are not IDENTITY languages (Kanuri, Wichí) and three are excluded from the sample because they do not mark number on the noun with inflectional morphology in Num (Malagasy, Mupun, Chamorro).

5. Conclusions. This paper has established a novel generalization about languages with identical additive and associative plural morphology (IDENTITY languages).

(44) **Generalization**: If a language marks additive plurality in the Number Phrase and has identical additive and associative plural morphology, it lacks free-standing definite articles.

Using this generalization as a starting point, I proposed that associative plurality in IDENTITY languages involves Agree between a [uPL] feature on the head of an Associative Phrase, above the DP phase, and [iPL] on Num. Num subsequently moves to Associative. Only in languages without free-standing definite articles, which either do not project the DP layer at all or may omit it, can the relevant Agree relation be established. In languages with articles, when DP is always projected, Agree fails and the relevant movement is blocked.

What I have proposed is also compatible with the previous analyses of Nakanishi & Ritter (2008), Görgülü (2011), Biswas (2014) and Cinque (2018) who assume that associative plurality heads a functional projection high in the nominal spine. For articleless languages, I deviate from analyses like Görgülü (2011)'s in assuming that the relevant language, in this case Turkish, does not project the DP layer. Moreover, the associative plural is derived via *internal merge* in these languages. In DP languages, my analysis is identical to these previous works - I am assuming that associative plurality is externally merged in a high function projection. What the analysis presented here can do, that the previous work cannot, is explain why only some languages use the same morpheme to mark additive and associative plurality.

6. Appendix.

Figure 1: IDENTITY languages

1 Altaic: [1] Bashkir [2] Chuvash [3] Crimean Tatar [4] Evenki [5] Gagauz [6] Karachay-Balkar [7] Kazakh [8] Khalkha [9] Kumyk [10] Manchu [11] Mishar Tatar [12] Nanai [13] Tofa [14] Turkish [15] Udihe [16] Uyghur [17] Uzbek **2 East Caucasian:** [18] Aghul [19] Archi [20] Bagvalal [21] Lak [22] Lezigan [23] Rutul **3 Niger-Congo:** [24] Akan [25] Ewe [26] Fulfulde (Adamwara) [27] Fula (Mauritian [28] Gbeya-Bossangoa [29] Luganda [30] Luvale [31] Sango [32] Sesotho [33] Yoruba [34] Zulu **4 Afro-Asiatic:** [35] Margi **5 Tacanan:** [36] Araona **6 Chukotko-Kamchatkan:** [37] Chukchi [38] Alutor **7 Sepik:** [39] Awtuw [40] Manambu **8 Mande:** [41] Bambara [42] Kpelle **9 Sino-Tibetan** [43] Belhare [44] Burmese [45] Mandarin Chines [46] Chantyal [47] Garo [48] Hayu [49] Lahu [50] Lepcha [51] Limbu [52] Magar [53] Newar (Dolakha) [54] Newar (Kathmandu) **10 Utu-Aztecan:** [55] Comanche **11 Cariban:** [56] Apalai [57] Hixkaryana **12 Japonic:** [58] Japanese [59] Yoron-Ryukyuan. **13 Salishan:** [60] Kalispel **14 Uralic:** [61] Khanty [62] Komi-Permyak [63] Komi-Zyrian [64] Mari (Hill) [65] Moksha [66] Nganasan [67] Udmurt **15 Tucanoan:** [68] Tucano **16 Kadu:** [69] Krongo **17 Central Sudanic:** [70] Lugbara **18 Indo-European:** [71] Bulgarian [72] Hindi [73] Nepali [74] Ossetic (Digor) [75] Ossetic (Iron) [76] Panjabi [77] Polish [78] Sinhala **19 Pama-Nyungan:** [79] Ngiyambaa **20 Arawakan:** [80] Tariana **21 Dogon:** [81] Tommo So **22 Tupian:** [82] Urubu-Kaapor **23 Bunuban:** [83] Gooniyandi **24 Na-Dene:** [84] Koyuokon **25 Austronesian:** [85] Mangap-Mbula [86] Nias **26 Creoles/Pidgins:** [87] Berbice Dutch Creole [88] Bislama [89] Mauritian Creole **27 Isolates:** [90] Ainu

References

Aikhenvald, Alexandra Y. 2003. *A grammar of Tariana, from Northwest Amazonia*. Cambridge: Cambridge University Press.

Besnier, Niko. 2000. *Tuvulan*. New York: Routledge.

den Besten, Hans. 1996. Associative DP. *Linguistics in the Netherlands* 13. 13–24.

Bird, Charles, John Hutchinson & Mamadou Kanté. 1977. *An ka Bamanankan Kalan: Introductory Bambara*. Indiana: Indiana University Linguistics Club.

Biswas, Priyanka. 2014. Bangla associative plural -ra: A cross-linguistic comparison with Chinese *men* and Japanese *-tachi*. In Robert E. Santana-LaBarge (ed.), *WCCFL 31*, 56–65. Somerville, MA: Cascadilla Proceedings Project.

Bošković, Zeljko. 2005. On the locality of left branch extraction and the structure of NP. *Studia Linguistica* 59. 1–45.

Bošković, Zeljko. 2008a. On successive cyclic movement and the freezing effect of feature checking. In Henk van Riemsdijk Jutta Hartmann, Veronika Hegedus (ed.), *Sounds of silence: Empty elements in syntax and phonology*, 195–233. Amsterdam: Elsevier.

Bošković, Zeljko. 2008b. What will you have, DP or NP? In Emily Elfner & Martin Walkow (eds.), *Proceedings of the 37th North East Linguistics Soceity (NELS 37)*, 101–114. Amherst, MA: GLSA (Graduate Linguistic Student Association).

Bošković, Zeljko. 2012. On NPs and clauses. In Günther Grewendorf & Thomas Ede Zimmermann (eds.), *Discourse and grammar: From sentence types to lexical categories*, 179–242. Berlin: Mouton de Gruyter.

Bošković, Zeljko. 2015. From the complex NP constraint to everything: On deep extractions across categories. *The Linguistic Review* 32. 603–669.

Bošković, Zeljko. 2016. On second position clitics cross-linguistically. In Franc Lanko Marušič & Rok Žaucer (eds.), *Formal Studies in Slovenian Syntax*, Amsterdam: John Benjamins.

Bošković, Zeljko. 2018. On affixal articles: An argument from Bantu for Bulgarian, Romanian, and Icelandic. In Steven Franks, Vrinda Chidambaram, Brian Joseph & Iliyana Krapova

(eds.), *Katerino Mome: Studies in Bulgarian morphosyntax in honor of Catherine Rudin*, Bloomington: Slavica.

Bruce, Les. 1984. *The Alamblak language of Papua New Guinea (East Sepik)*. Pacific Linguistics, Research School of Pacific and Asian Studies.

Butler, Lindsay Kay. 2012. Crosslinguistic and experimental evidence for non-number plurals. *Linguistic Variation* 12(1). 27–46.

Chierchia, Gennaro. 1998. Reference to kinds across languages. *Natural Language Semantics* 6. 339–405.

Chomsky, Noam. 2000. Minimalist enquiries: The framework. In *Step by step*, 89–155. Cambridge, Mass: MIT Press.

Chomsky, Noam. 2001. Derivation by phase. In Michael Kenstowicz (ed.), *Ken Hale: A life in language*, 1–52. Cambridge, Mass: MIT Press.

Cinque, Guglielmo. 2018. On the Merge position of additive and associative plurals. In Roberto Petrosino, Pietro Cerrone & Harry van der Hulst (eds.), *From sounds to structures: Beyond the veil of maya*, 499–513. Berlin: Mouton de Gruyter.

Corbett, Greville. 2000. *Number*. Cambridge: Cambridge University Press.

Corver, Norbert. 1992. On deriving certain left branch extraction asymmetries: A case study in parametric syntax. In *North East Linguistics Society*, vol. 22 1, 67–84.

Daniel, Michael. 2020. Associative plural as indexical category. *Language Sciences* 81. 101–256.

Daniel, Michael & Edith Moravcsik. 2013. The associative plural. In Matthew S. Dryer & Martin Haspelmath (eds.), *The World Atlas of Language Structures Online (WALS)*, Leipzig: Max Planck Institute for Evolutionary Anthropology. https://wals.info/chapter/36.

Despić, Miloje. 2011. *Syntax in the absence of determiner phrase*: University of Connecticut dissertation.

Dotton, Zura & John Doyle Wagner. 2018. *A Grammar of Kazakh*. Duke University Slavic and East European Language Resource Center.

van Driem, George. 1987. *A grammar of Limbu*. Berlin: Mouton de Gruyter.

Elson, Mark. 1976. The definite article in Bulgarian and Macedonian. *The Slavic and East European Journal* 20(3).

Epstein, Samuel, Hisatsugu Kitahara & Daniel Seeley. 2016. Phase cancellation by external pair-merge of heads. *The Linguistic Review* 33(1). 87–102.

Feldmen, Harry. 1986. *A grammar of Awtuw*. Dept. of Linguistics, Research School of Pacific Studies, The Australian National University, 1986.

Feu, Veronica Du. 1996. *Rapanui*. New York: Routledge.

Forbes, Clarissa. 2013. Associative plurality in the Gitksan nominal domain. In *Proceedings of the 2013 annual conference of the Canadian Linguistic Society*, .

Görgülü, Emrah. 2011. Plural marking in Turkish: Additive or associative? *Working Papers of the Linguistics Circle* 21. 70–80.

Göskel, Asli & Celia Kerslake. 2005. *Turkish: a comprehensive grammar*. New York: Routledge.

Greenberg, Joseph. 1978. How does a language acquire gender markers? In Joseph Greenberg, Charles Ferguson & Edith Moravcsik (eds.), *Universals of human language*, vol. 3, 47–82. Stanford, Calif. : Stanford University Press.

Heath, Jeffrey. 1999. *Grammar of Koyroboro Senni*. Köln: Rüdiger Köppe Verlag.

Hirose, Tomio. 2004. N-Plural vs. D-Plural. In Vineeta Chand, Ann Kelleher, Angelo J. Rodriguez & Benjamin Schmeiser (eds.), *WCCFL 23*, 332–345. Somerville, MA: Cascadilla Proceedings Project.

Hoffman, Carl. 1963. *A grammar of the Margi language*. London: Oxford University Press.

Hutchinson, John. 1981. *A reference grammar of the Kanuri language*. University of Wisconsin-Madison, African Studies Program.

Li, Yen-Hui Audrey. 1999. Plurality in a classifier language. *Journal of East Asian Linguistics* 8. 75–99.

Lyons, Christopher. 1999. *Definiteness*. Cambridge: Cambridge University Press.

Mauri, Caterina & Andrea Sansó. 2017. Names & co: A diachronic typology of associative and similative plurals. Paper presented at the 50th annual meeting of the Societas Linguistica Europaea, University of Zurich, September 10-13.

Mauri, Caterina & Andrea Sansó. 2021. Heterogeneous sets: a diachronic typology of associative and similative plurals. *Linguistic Typology* 1–40.

McGregor, William. 1990. *A functional grammar of Gooniyandi*. Amsterdam: John Benjamins.

Moravcsik, Edith. 2003. A semantic analysis of associative plurals. *Studies in Language* 27. 469–503.

Nakanishi, Kimiko & Elizabeth Ritter. 2008. Plurality in languages without a count-mass distinction. Paper presented at the Mass/Count Workshop. University of Toronto.

Nakanishi, Kimiko & Satoshi Tomioka. 2004. Japanese plurals are exceptional. *Journal of East Asian Linguistics* 13. 113–140.

Nercesian, Verónica. 2011. *Gramática del wichí, una lengua chaqueña: Interacción fonología-morfología-sintaxis en el léxico*: Universidad de Buenos Aires dissertation.

Pasch, Helma. 1996. Sango. In Sarah G. Thomason (ed.), *Contact Languages: A wider perspective*, 209–270. Amsterdam: John Benjamins.

Paul, Ileana. 2009. On the presence versus absence of determiners in Malagasy. In Jila Ghomeshi, Ileana Paul & Martina Wiltschko (eds.), *Determiners*, 215–241. Amsterdam: John Benjamins Publishing.

Paul, Ileana. 2018. The features of proper determiners in four varieties of Malagasy. *McGill Working Papers in Linguistics* 25. 324–331.

Plaisier, Heleen. 2006. *A Grammar of Lepcha*: University of Leiden dissertation.

René van den Berg. 1989. *A grammar of the Muna language*. Dordrecht: Foris.

Reuland, Eric. 2011. *Anaphora and language design*. Cambridge, Mass: MIT Press.

Safford, William Edwin. 1903. The Chamorro language of Guam. *American Anthropologist* 5(2). 289–311.

Talić, Aida. 2017. *From A to N and Back: Functional and Bare Projections in the Domain of N and A*: University of Connecticut dissertation.

Taylor, Frank William. 1921. *A first grammar of the Adamawa dialect of the Fulani language (Fulfulde)*. Oxford: Clarendon Press.

Terraza, Jimena & Lorena Cayré Baito. 2014. Phonological, grammatical, and written words in Wichí. *Morphology* 24. 199–221.

Ueda, Yasuki & Tomoko Haraguchi. 2008. Plurality in Japanese and Chinese. *Nanzan Linguistics: special issue* 3. 229–242.

Wiltschko, Martina. 2008. The syntax of non-inflectional plural marking. *Natural Language and Linguistic Theory* 26. 639–694.