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Double plural marking in language mixing and the building blocks of nominals

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In this paper, I will discuss double plural marking found in various language mixing pairs such as Ewe English, Hiaki Spanish, Bantu English, Bantu French and Greek Turkish. I will contrast this double marking, a case of multiple exponence, to better studied cases of double marking of plurality in languages such as Amharic and Breton. I will argue that double marking can be treated uniformly as an instance of split plurality and offer an analysis thereof within the framework of Distributed Morphology. I will then discuss why the plural, as opposed to other numbers, and why language mixing favor doubling. I will argue that double marking is favored in the context of the plural as plurality is manifold, being associated with two semantic primitives in the universal functional spine. Language mixing situations have been argued to show analyticity and thus double marking is favored in those.

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1 Introduction: the many puzzles of double plurality

The study of the mechanisms involved in language mixing¹ below the word level has recently gained prominence in the morpho-syntactic literature, as witnessed by the bulk of work in this area, see e.g., González-Vilbazo & López (2011), Alexiadou (2011b; 2017; 2020), Bandi-Rao & den Dikken (2014), Åfarli (2015), Callies & Stolz (2016), Alexiadou & Lohndal (2018; to appear), Grimstad et al. (2018), Riksem et al. (2019), López (2020), Fisher et al. (2022), Lohndal & Putnam (2024) to mention a few. These authors all argue that this type of mixing may be used as an important tool to identify the basic units that are involved in both monolingual and bilingual word formation. These papers make a convincing case that data from language mixing support a decompositional view of morphology, whereby morphemes are the realizations of abstract syntactic features. Thus, studying word-internal mixing, as Alexiadou & Lohndal (to appear) point out, informs theories of what a word is, how it is built, and how concepts are lexicalized across languages. This work shares with MacSwan (1999) the view that no extra rules are needed to account for code switching, but departs both his lexicalist framework, and also from earlier work that had argued language mixing is conditional upon phonological integration: Mixing can only take place if a morphological ending is integrated into the language of the lexical form, see e.g., Poplack (1980) and Sankoff & Poplack (1981), and Alexiadou & Lohndal (2018), López (2020) for critical overviews.

This paper follows this decompositional tradition and probes the question of how a late insertion model such as Distributed Morphology (Halle & Marantz 1993 and subsequent work) may be employed to account for double marking of plurality in language mixing, illustrated in (1) with an Ewe English example:

- (1) Nye younger brothers wó kata Ewe > Kwa English (Amuzu 2009: 152)
 1SG brother.PL PL all
 ‘all my younger brothers’

Double marking of plurality has long been observed in various language contact situations. For instance, it is a feature found in several English based Creoles. According to Mühlhäusler (1985), in Tok Pisin, there are cases in which the NPs might be doubly marked by two pluralizers, an affix and the plural determiner *ol* shown in (2), from Blaxter Paliwala (2015: 220), and see also Bobileva (2013) and references therein for Jamaican Creole:

- (2) ol directors
 PL director.PL
 ‘the directors’

¹ Following Alexiadou & Lohndal (2018; to appear), I use the term ‘language mixing’, as it is neutral with respect to distinction between borrowing and code switching, which is controversial from a theoretical point of view. See Alexiadou & Lohndal (2018) for a discussion of this terminological controversy.

Doubling of plurality in language contact raises several issues. While roots may be borrowed freely, borrowability of inflectional morphology is controversial, raising the question of whether the borrowed plural form is interpreted as an affix or not, see e.g., Backus (1999), Myers-Scotton (2002), Matras (2009), Muysken (2011), Bakker & Hekking (2012), Gardani (2012), Seifart (2015), Fisher et al. (2022), Gouskova (2023) and references therein for contrasting views. Matras (2009: 212), while admitting that borrowing of inflectional morphology is rare, signals that the plural is one systematic case of borrowing. Gardani (2012: 93) concludes that “the higher borrowability of plurals in and through language contact can be explained based on two facts: First, the category of plural is more similar to derivation than other categories of inflection and, second, in most instances, the plural borrowings investigated are formed via agglutination. These properties seem to favor not only the temporary use but also the permanent integration of plural morphemes in the recipient languages.” More recently, Fisher et al. (2022) discuss allomorphic variation in Pennsylvania Dutch plurality, claiming that -s plurals, e.g., *Schnuppi-s* ‘hankies’ in the language are structurally identical to English plurals. The authors propose that -s realizes the plural predominantly in combination with English roots. According to Myers-Scotton (2008), the plural maybe be borrowed and as a result doubled in mixing, it being an early system morpheme in her system. As she explicitly states, “this is supported by all published corpora”, Myers-Scotton (2008: 31). As detailed in Hakimov (2021), previous research on double plurals in mixing has attributed their presence to either structural factors, i.e., type of affix (Boumans 1998: 91; Myers-Scotton 2002: 91, Gardani 2012), erroneous access in production (Myers-Scotton 1993: 132–136; Myers-Scotton & Jake 1995: 1000) or high frequency of some plurals in the source language (e.g., Backus 1999: 97–99). In Hakimov’s own study of Russian German mixing, frequency, phonetic shape, and mismatch of forms are also shown to play a role. Backus (1999) proposes that these forms are borrowed as complex chunks and Muysken (2011) suggests that plural forms are pied-piped together with the stem and are not interpreted as plurals.

From a morpho-syntactic point of view, double plurals raise a more general issue concerning form-meaning correspondence and the locus of plurality. Double plurals are a sub-case of multiple exponence, defined as in (3), see Harris (2017) for an overview:

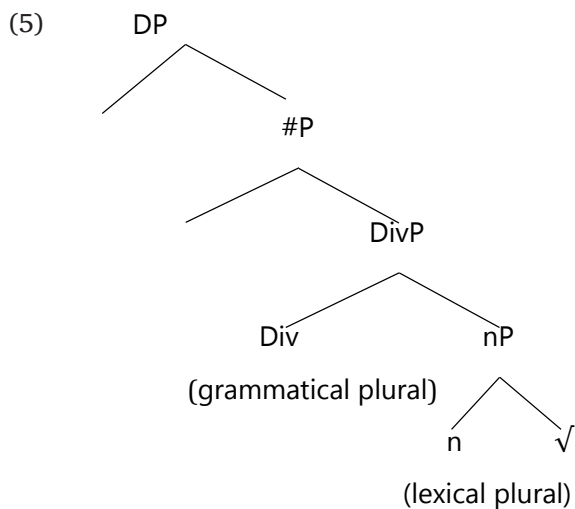
- (3) Multiple exponence is the occurrence of multiple realizations of a single morpho-semantic feature in a domain (Caballero & Harris 2012: 165)

The issue here is that if there is only one semantic feature in a functional projection in the nominal spine associated with plurality, namely Number (Ritter 1992), why should it receive two realizations, thereby violating the principle in (4)?

- (4) Bi-uniqueness Principle (Harris 2017: 3)
There is a one-to-one correspondence between form and meaning

In this paper, I will argue that multiple exponence in the case of mixing plurals is epiphenomenal, see also Caha (2021) for a general such approach to multiple exponence. Specifically, I will argue

that exponents of plurality realize two distinct heads present in the morpho-syntax of nouns and will offer an analysis of (1) and similar patterns along the lines of analyses of double marking of plurality in a variety of typologically unrelated languages, e.g., Amharic (Kramer 2016) and Breton (Acquaviva 2008 and references therein), and more recently Robinson (2022). My hypothesis is that one of the plural affixes, mostly the borrowed one, is a word marker, i.e., it is used to create a word out of a root. Thereby I will show that the patterns Kramer and Acquaviva identify for Amharic and Breton also hold for the mixing cases. The gist of the analysis follows Acquaviva's (2008) and Alexiadou's (2011b) treatment of split plurality, employing the structure in (5): there are two loci for plural morphology, *n*, which hosts lexical plurals, and *Div*, which is the locus of grammatical plurals. The two heads differ in terms of function and semantic contribution. As detailed in Acquaviva (2008: 271 ff.), a decomposition of nouns into *n* and root makes it possible that nouns that share the same root may surface with distinct plural forms, e.g., *braccia* – *bracci* ‘arms (body parts, also measurement)’, ‘arms (any other sense)’. These forms are analyzed as distinct lexemes, and only the former is inherently plural and expresses a non-individual conceptualization. This information is clearly lexical/derivational, not inflectional. Crucially, *-a* plurals do not contain affixes that realize number. Plurals on *n* are thus part of the word defining domain, while plurals in *Div* are outside this domain, see also Alexiadou (2011b), and Wiltschko (2008, 2021).



This analysis predicts that there will be languages where plural markers in *Div* may co-occur with lexical plurals in *n*. Acquaviva (2008) discusses Breton, see (6), from Acquaviva (2008: 260), see also Robinson (2022); Kramer (2016) argues that Amharic is another example, see (7).²

² As we will see in section 3, Kramer (2016) argues that while there is evidence for a split plural analysis for Amharic, this is not the case for English, as regular and irregular forms do not co-occur. Data from English varieties cast doubts on this claim. It is also well-known that double plurals are found in English L1, e.g., *feets* (Cazden 1968: 446) and much subsequent literature, as well as English L2 acquisition and various English varieties, see footnote 4. See also Punske & Jackson (2017) for a split analysis of English plurals.

(6) bugel bugel-e bugel-e-ou
child child.PL child.PL.PL

(7) k'al k'al-at k'al-at-otʃtʃ
word word.PL word.PL.PL

In this paper, I will further develop the split analysis for the mixing cases under discussion, cf. Gutiérrez-Bravo & Uth (2020). Specifically, building on Alexiadou & Lohndal (2018; to appear) and López (2020), I will propose that double plurals in mixing may also be captured under (5): in order to signal that a noun has been created, which in turn can be pluralized, speakers recruit a lexical plural affix to signal the presence of the nP layer. This is related to Backus's (1999) and Muysken's (2011) idea that these forms are borrowed as complex chunks and that one of the plural forms is not interpreted as grammatical plural. As we will see, the mixing data to be discussed support the view that the plural words are not re-interpreted as roots, i.e., *brothers* is not re-analyzed as a root, but the employment of the plural is systematic. Thus, both grammatical and lexical plural are realized. This fine-grained decomposition of the nominal spine is similar in spirit with work following Kayne's 2005 Principle for Decompositionality, see also Putnam (2020), Lohndal & Putnam (2021; 2024), Fisher et al. (2022) and Sauerland & Alexiadou (2020; to appear).

Adopting the proposals on split plurality in Acquaviva (2008), Alexiadou (2011a, 2021), Kramer (2016), Wiltschko (2008, 2021) among others, I will argue that in doubling each plural form lexicalizes a different head in (5) and will discuss the semantic contribution of each head in section 3.1 in detail. This is a consequence of the principle in (8), building on Martin et al. (2023), Guasti, Alexiadou & Sauerland (2023), cf. Hein et al. (to appear), and Fabrégas's Principle in (9). A split analysis of plurality captures the mixed inflectional-derivational nature of the plural mentioned above: Div plurals are inflectional, e.g., they create pluralities out of words, while n plurals are derivational, i.e., they create words out of roots:

- (8) Maximize Exponence
- a. Realize features in the building blocks of a complex unit by using one exponent for each feature
 - b. Avoid zero (and thus fusion of functional nodes)
- (9) Exhaustive Lexicalization Principle
Every syntactic feature must be lexicalized (Fábregas 2007: 167)

In cases a morpheme may receive zero realization, multilingual speakers, as discussed at length in e.g., Polinsky (2018), avoid zero exponence,³ i.e., bilingual speakers prefer overt elements. This further relates to Scontras's et al. (2018) insights into the structure of languages in contact. These

³ Presumably, this generalizes to L1 and L2 acquirers and speakers in non-standard varieties, see footnote 4. A detailed discussion of these patterns is beyond the scope of this paper.

authors argue that two pressures shape contact grammars: representational economy, which leads to more parsimonious representations, and analyticity. I will suggest that there are tools employed in Distributed Morphology (such as Maximize Exponence) that may be employed to model analyticity (in the spirit of Lohndal & Putnam 2024). By contrast, representational economy can be modeled as a case of Minimize Exponence, Siddiqi (2006), which may be the result of Fusion, see sections 3.1, and 4, and Putnam (2020), and Lohndal & Putnam (2024) for alternative ideas.

The paper is structured as follows: I will first introduce double marking of plurality in language contact situations focusing on pairs for which a detailed description exists that facilitates their comparison to e.g., Amharic and Breton. In section 3, I will then turn to the split analysis of plurality as introduced for a variety of languages and then see how it applies to the other cases discussed here. In section 4, I will then turn to a discussion of why the specific contexts favor doubling and why the plural is prone to doubling and no other numbers. In section 5, I conclude and highlight some issues that merit further investigation.

2 Double plurals in language mixing

In this section, I will present data from various language mixing pairs, see also Hakimov (2021) for further patterns.⁴ (10–11) show examples from Romanian English and Romanian Spanish mixing pairs. In (10), the English plural noun combines with Romanian plural morphology, and the same is shown in (11), where the Spanish plural noun combines with Romanian plural morphology.

- | | | |
|------|--|-------------------|
| (10) | i de învăța cu finalsurile. | Romanian English |
| | have.2SG to learn with finals. FEM.PL.DET.FEM.PL | |
| | ‘You have to study with the finals (coming up).’ | |
| | | |
| (11) | mâin înce rebahasurile. | Romanian Spanish |
| | tomorrow start.3PL sales.FEM.PL.DET.FEM.PL | |
| | ‘The sales start tomorrow.’ | (Bancu 2013: 178) |

In (12), from Gutiérrez-Bravo & Uth (2020: 91), a Spanish plural noun combines with the Yucatec Maya plural. What is interesting here is that, unlike the patterns involving English and Romanian,

⁴ Double plurals have been reported in the literature on various English varieties, including L1 and L2 acquisition. Marcus (1995) reports forms such as *mens*, where a plural affix has been added to an already plural noun. A similar form has been reported in L2 child language acquisition (Jia 2003: 1305). It has been also widely reported about African American English, see (i), from (Poplack & Tagliamonte 1994: 236). Mohr (2022) also reports forms such as *mens* for African Englishes:

(i) it was in summertime, in June, and the ol’ OXENS got out. [ESR/Y/59–60]

In *oxens* there are two plural suffixes, suggesting that the two cannot compete for insertion under the same node, namely Div. Collins & Kayne (2023) report that while *oxens* and *oxesen* both seem unacceptable the former is much better than the latter, thus reflecting an inner vs. outer plural contrast.

plural morphology is optional on Yucatec nouns. A second interesting observation Gutiérrez-Bravo & Uth (2020) make is that the affixes must appear in the order shown in (12); the reverse order is un-attested in their data, and it is also not reported elsewhere in the literature:

- (12) ayik'al le u abuelo-s-o'ob.
 rich DET his grandparent.PL.PL
 'His grandparents were rich.' [NM-24]

A very interesting example of Greek Turkish double plurals is discussed in Joseph (2016), see (13):

- (13) xodza-lár-es
 Moslem priest.PL.PL.NOM
 'Moslem priests'

The noun *xodza-lár-es* has both the Turkish *-lar-* plural as well as the Greek affix *-es*, which signals both plural and nominative.

Further plural doubling mixing pairs are illustrated below: (1) repeated as (14) from Ewe English, (15) from Hiaki Spanish, (17) from Quechua Spanish, (18–19) from Bantu (Shona and Zulu) English, and (19) from Bantu (Lingála) French mixing:

- (14) Nye younger brother-s wó kata Ewe > Kwa English, (Amuzu 2009: 152)
 1SG brother.PL PL all
 'all my younger brothers'
- (15) ume waka-s-im Hiaki > Uto-Aztecan Spanish (Pierson 2017: 28)
 the.PL cow.PL. PL
 'the cows'
- (16) ataq-kuna-s Quechua Spanish (Muysken 2012: 485)
 fox.PL.PL
 'foxes'
- (17) Shona > Bantu-English (Myers-Scotton 1993: 132)
 ma-game-s
 PL.game.PL
 'games'
- (18) Zulu > Bantu-English (Tappe 2013: 279)
 ama-problems
 PL.problem.PL
 'problems'

- (19) ba-jeunes
 PL.young.PL
 ‘youths’ (Bokamba 1988: 56)

Thus, double plurals exist in a variety of language mixing pairs.⁵ In the next section, I proceed to the introduction of my assumptions about the structure of the DP and the basics of Distributed Morphology, and then to an analysis of the Ewe English, Hiaki Spanish and Bantu English/French, and Greek Turkish pairs. I will also discuss how my proposal extends to the Romanian/English Spanish cases. The focus on these pairs is determined by the fact that the sources cited provide descriptions that allow me to offer a morpho-syntactic analysis of the data. Before doing that, however, two issues should be addressed:⁶ first, the patterns we have just seen are to a certain extent asymmetrical as far as the obligatoriness and the form of plural marking is concerned. While plural marking is obligatory in e.g., English, Hiaki and Romanian, the status of Bantu noun classes as markers of plurality has been controversial in the literature, see Mufwene (1980), Kramer (2015), and more recently Fuchs & van der Wal (2023) to mention a few sources and references therein. Moreover, in languages such as Yucatec Maya, Turkish and Quechua plural marking is not obligatory. While in e.g., English the plural is a suffix, in languages such as Ewe it is a clitic to the preceding word. Since number marking is not a unified phenomenon cross-linguistically, see Wiltschko (2021) for recent discussion, it is not surprising that this non-uniformity transfers to the mixing pairs. The important point is that double plurality appears independently of the form and the obligatoriness of the plural morpheme. This situation seems to contradict Boumans (1998: 91), who claimed that “[t]he likelihood of double marking appears to increase when each language marks the same feature in a different manner, for instance, by means of prefixes and suffixes.”

Second, with respect to the bilingual populations discussed here, the following remarks are in order: according to Bancu (2013), the Romanian English data come from bilinguals in the US, while the Romanian Spanish data come from Romanian immigrants to Spain, and Romanian is classified as the dominant language in both cases. West Africa is generally recognized as an area where multilingualism is the norm and speakers are generally fluent often in more than two languages (see Amuzu & Singler 2014 for an overview), and similar descriptions are given for Bantu speakers (e.g., Myers Scotton 1993). Southern Albania speakers are described as being bilingual and fluent in both languages by Joseph (2016). All Hiaki speakers speak Spanish next to Hiaki, and according to Estrada-Fernández & Guerrero (2007), Spanish is the dominant language. These could be seen as differences that may correlate with the frequency

⁵ Double plurality has also been discussed for a several mixed languages, see Velupillai (2015) for discussion and references. For instance, it is found in Angloromani, e.g., *vast* ‘hand’/ *vast-a-s* ‘hand. PL.PL’, where the Romani plural co-occurs with the English plural, as reported by Matras (2010).

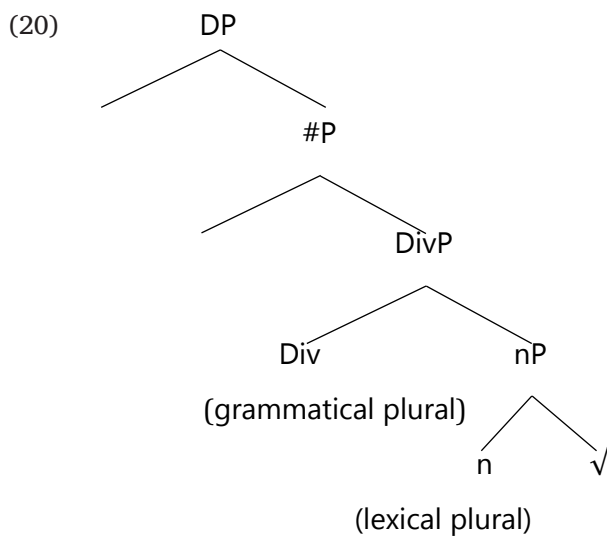
⁶ Many thanks to two anonymous reviewers for discussion on these points.

of use of double plurality and the situations it is used in (e.g., family vs. formal contexts, see Bokamba 2012), not its actual production. But we know by now that such gradience is not only characteristic of bilingual populations, it is found among monolinguals as well (see Francis 2022 for recent discussion). For the purposes of this paper, and following the *Null Theory* approach to mixing, I assume that we do not need a different theory to account for the competence of L_n speakers, irrespectively of the type of bilingual population these may belong to, building on Lohndal & Putnam (2024) and Mahootian (1993). I further assume that in the case of bilinguals, none of the two languages is ever completely turned off, see also Libben & Swieter (2019) for recent discussion and experimental evidence.

3 Towards an analysis

3.1 Theoretical preliminaries

For the purposes of my discussion, I assume, as is standard in Distributed Morphology, that all words are complex, they are built based on acategorial roots and functional morphemes/categorizers. The first categorizing head in the process of word formation is responsible for negotiating the meaning roots may receive, Arad (2003), Embick (2010), Marantz (2013), *n* in our case. Building on Borer (2005), the functional spine of noun phrases includes (at least) the layers illustrated in (20): *D* is the layer that introduces definiteness, *#P* introduces the counting function. Plural morphology is in *DivP* (acting as a divider), but may also surface on *n*, i.e., plurality is split within the DP, as illustrated in (20), see also Acquaviva (2008), Lowenstamm (2008), Wiltschko (2008, 2021), Alexiadou (2011a, 2021), Kramer (2016), Adamson (2017), Punske & Jackson (2017), Dali & Mathieu (2021) and others, cf. Booij (1996), Ojeda (2005), Collins & Kayne (2023). The two plurals have distinct functions and semantic contribution:



Let me briefly summarize some evidence for split plurality: Acquaviva (2008) discusses plurals in Breton as showing on the one hand properties of inflectional morphology and on the other properties of word formation. Consider (6), repeated below:

- (6) bugel bugel-e bugel-e-ou
 child child.PL child.PL.PL

Citing Stump (1989), Acquaviva (2008: 239) notes that *-e* is an obsolete and unproductive stem extension pattern, and then argues in detail that Breton uses for word formation nominal plurality, hence the emergence of double plurals. Robinson (2022) further elaborates on this analysis; the plural morpheme with the greater number of selectional restrictions consistently appears closer to the root in all Breton nominals. *-ed*, which is lexically restricted to semantically animate nouns, is always inserted closer to the root than *-où* in a double plural, (21). Such lexical restrictions are accounted for by the proposal that these plurals realize features on n:

- (21) a. paotr- ed- où
 boy PL.ANIM.PL
 ‘boys’
 b. *paotr- où- ed
 boy.PL.PL.ANIM
 ‘boys’

In Amharic, see (7) repeated below, double plurals involve a combination of irregular and regular plural forms.

- (7) k'al k'al-at k'al-at-ot[tʃ]
 word word.PL word.PL.PL

According to Kramer (2016), every noun can have both an irregular and a regular plural, suggesting that the two do not compete for insertion in Number. This fact as well as the presence of double plurals provide support for a split analysis of plurality. From this perspective, while regular plurals realize Number (our Div), irregular plurals realize n, a head that categorizes and specifically nominalizes acategorical roots. As the two plural affixes are associated with distinct heads, they may co-occur, see (5–20). Kramer's (2016) take on double plurality relies on the fact that regular and irregular forms are not in competition. As she points out, double plurals in Amharic are of the form [Root- irregular plural-regular plural]. Only a subset of nouns has an irregular plural – the irregular plural is not productive across nouns; however, all nouns have a regular plural. Importantly, irregular plurals have selectional restrictions on stems and nouns have an idiosyncratic interpretation when irregularly pluralized. These properties are reminiscent of root-based word formation processes as detailed in Arad (2003), Embick (2010)

and Marantz (2013) among others. This leads then to an analysis of Amharic, according to which the regular plural realizes Div⁷ and the various irregular forms realize n.^{8,9}

As in Punske & Jackson (2017), I further assume that (20) is universal, contra Kramer (2016).¹⁰ When it comes semantic contribution of these two plural heads, beginning the lexical plurals, i.e., plurals on n, as discussed in Acquaviva (2008), this type of plurality covers a wide range of interpretations, it is idiomatic and not productive; it creates nouns out of roots (e.g., *good-s* ‘merchandise’), and it also hosts collectives. Lexical plurality involves a plural from that is associated with n in (20), it creates nouns out of roots. By contrast, grammatical plurality in Div is compositional and productive; it creates pluralities of nouns, and as we have just seen, it appears outside lexical plural in languages that lexicalize both (e.g., Amharic, Kramer (2016)).

According to Acquaviva (2008: 1–2), lexical plurals involve special morphological and semantic properties, which are summarized here and see Alexiadou (2021) for an overview: a) listedness, b) idiosyncratic ending, c) lack of inflectional disjunctivity, i.e., regular plurals are not blocked by the lexical variant, d) in languages that have grammatical gender, lexical plurals go hand in hand with a fixed gender, e) constitute a class of lexically related lexemes, f) lexical plurals are the result of a lexeme forming operation. We will be reminded of these properties in what follows. For Acquaviva, collectives and other minor numbers such as duals and paucals are also lexical numbers: such numbers differ from plurals on Div as far as their reference domain is concerned.¹¹

⁷ Note that Kramer (2016) and the other sources cited here use the label Number and not Div.

⁸ A similar description is offered for Maay in Paster (2010): *-o* plurals impose phonological restrictions to the root they attach to (it must end in a consonant), but no such restrictions apply to *-yal* plurals.

⁹ Kramer (2016: 554) argued that “most languages with a contrast between irregular and regular plurals (e.g., English) do not show evidence for a split analysis; instead, irregular and regular plurals are in competition for the realization of Num. English does not have double plurals (**feets*, **childrens*), and nouns are cleanly divided into nouns that have regular plurals and nouns that have irregular plurals.” To begin with, certainly English does have lexical plurals of the type identified in other languages in Acquaviva (2008), e.g., *waters*. As mentioned in the main text, English irregular plurals have been analyzed as plurals on n. As we have seen in footnote 4, double plurals exist in several English varieties, thus, we may suggest that in *oxens*, *-en* realizes nP and *-s* DivP, cf. Collins & Kayne (2023). Adamson (2017) and Punske & Jackson (2017) propose that English irregular plurals are n plurals and Punske & Jackson (2017) claim that the regular plural may also appear on n, when no competing irregular form exists.

¹⁰ There are proposals in the literature that argue for further splits. As discussed in Wiltschko (2008, 2021), plural can be merged either as a head or as modifier in the nominal functional spine, and ii) plural can be merged in different positions, namely, D, #, Div, n and also at the root level. If that is the case, then formal and interpretational differences among n-head, Div-head, #-head, and D-head plurals are expected, see Butler (2012) for an elaboration of this typology. This system has been employed by Gutiérrez-Bravo & Uth (2020) to explain the Yucatec Maya Spanish data: they argue that the Yucatec plural is an adjunct on D, while the Spanish plural appears in its canonical position in Div.

¹¹ These criteria have also been applied to certain languages, where mass nouns pluralize without being co-erced into a count interpretation, which takes place in Div. For instance, in Greek this type of plural does not combine with all mass nouns; it also does not combine with numerals, (i) (Tsoulas 2006, Alexiadou 2011a):

With respect to Div, its function has been described in Borer (2005) as follows: plurals divide undivided mass, which can then be counted, i.e., embedded under the Quantity Phrase. For Borer, plural in a number marking language such as English has the same contribution as classifiers in languages such as Chinese and does not create individuals. Support for this comes from Armenian, where plural morphology and classifiers are in complementary distribution, as shown in (22), from Borer (2005: 94–95):

- (22) a. Cardinal, classifier, no plural Armenian
 Yergu had hovanoc unim.
 two CL umbrella have.1SG
 ‘I have two umbrellas.’
- b. Cardinal, no classifier, plural
 Yergu hovanoc-ner unim.
 two umbrella.PL have.1SG
 ‘I have two umbrellas.’
- c. *Yergu had hovanoc-ner unim.
 two CL umbrella.PL have.1SG

Acquaviva (2008) offers a detailed discussion about meaning differences between the two heads in (20), see also Punske & Jackson (2017) and Wiltschko (2021). Specifically, Acquaviva (2008: 270) states: “When number is entirely a property of the syntactic context, it is encoded as the head of the DivP, directly above the noun-denoting complex [nP n [Root]]. When a particular choice of number is instead inherent in a noun, the relevant information is expressed on [n] itself.”¹²

Thus, if indeed there are two loci for plural morphology with distinct contribution and function, namely DivP and nP, then double plurality can be captured straightforwardly, while its treatment is problematic under an approach, where there is only one NumberP, Ritter (1992). The only way to accommodate double marking by assuming a single locus is to employ Fission, a post-syntactic operation that splits nodes into two. This happens when a particular Vocabulary Item does not discharge all the node’s features (Noyer 1997, Halle & Marantz 1993). As argued

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- (i) epesan nera/*tria nera sto kefali mu.
 fell.3PL water.PL/three waters on head my
 ‘Water fell on my head/*Three waters fell on my head.’

Only the grammatical plural can combine with cardinal numerals and give count interpretations. Plural on mass nouns in Greek was analyzed by Alexiadou (2011a) as a lexical plural, which semantically, it is interpreted as “a great amount of X” and can also have cohesion and collective interpretations, see Acquaviva (2008).

¹² Sauerland (2003) and subsequent work proposes that plural is semantically unmarked, and the more than one interpretation is reached by an inference, see Scontras (2022) for a recent discussion. Mathieu (2014) aligns Borer’s DivP with the semantically unmarked plural in Sauerland (2003) and I will assume this here.

in Kramer (2009), Fission cannot be employed at least in Amharic, as it cannot copy a feature into a new terminal node, there would be only one feature [+PL]. Matters may differ if plurality is decomposed as in Harbour (2014), where plural is associated with the feature [–minimal, –atomic], see also Martí (2020). However, since a) there are certain restrictions on double plurality, which would be unexpected if Fission were employed, and b) the one plural form is not interpreted as plural in this sense, a Fission account will not be entertained here.

As double plurality does not always occur in Amharic, Kramer argues that plural *n* and plural *Div* may optionally undergo Fusion, defined as a process merging two syntactic terminals into one. This can be viewed as following from the principle in (23) (Siddiqi 2006: 82). According to Siddiqi, Minimize Exponence forces Fusion to occur; Fusion is motivated by an effort to reduce an utterance to the fewest pronounced morphemes, and is in contrast with the bi-uniqueness principle in (7):

(23) Minimize Exponence

The most economical derivation will be the one that maximally realizes all the formal features of the derivation with the fewest morphemes

What I would like to argue is that double plurals in mixing provide further support from the split analysis of plurality. Specifically, building on Martin et al. (2023), Guasti, Alexiadou & Sauerland (2023), cf. Hein et al. (to appear), I propose that double plurals adhere to (8), repeated below:

(8) Maximize Exponence

- a. Realize features in the building blocks of a complex unit by using one exponent for each feature
- b. Avoid zero (and thus fusion of functional nodes)

From this perspective, there is no such thing as multiple exponence or redundant exponents in the context of double plurals: double marking involves realization of plurality in two distinct heads, *n* and *Div*, and the two heads receive a distinct realization each. In fact, double plurals are expected under such a decomposition. Thus, while fusion eliminates multiple exponence, the reverse is observed in the contexts we are interested in, providing cases of multiple exponence where the two exponents are not redundant.

In what follows, I will analyze double marking in Ewe English, Hiaki Spanish and Bantu English/French and Greek Turkish mixing as instances of split plurality. This is in line with recent work that has successfully applied the Distributed Morphology perspective on word formation to language mixing e.g., Alexiadou (2011b), Alexiadou et al. (2015), Alexiadou & Lohndal (2018; to appear), López (2020; to appear), Lohndal & Putnam (2021, 2024) and many others. There are no additional operations that form words in multilingual grammars. The main feature of multilingual speakers is that they may realize features with exponents drawn from both their

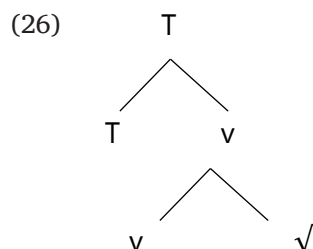
lexical inventories. Specifically, following López (2020), I assume that the lexicon of bilingual speakers is integrated: they have one List 1, containing roots and abstract features, and one List 2, containing the Vocabulary Item rules (VIRs) at their disposal from both their languages, see also Alexiadou & Lohndal (to appear). As these authors argue, List 1 items are employed to build words and phrases. List 2 provides exponence to features. Following Embick (2015), and Alexiadou & Lohndal's (2018) as well as López's (2020) implementation of mixing in Distributed Morphology, each terminal is associated with semantic features, drawn from a universal feature inventory. Prior to VIR, Fusion may take place. When VIRs apply to a syntactic node, the exponent occurs in the position of the node. The properties of Vocabulary Insertion are illustrated in (24):

(24) Properties of Vocabulary Insertion

1. Ordering: VIs are ordered (according to specificity, in the normal case).
2. Uniqueness: Only one Vocabulary Item may apply to a terminal node.

As an illustration, consider tense formation in English: the competition for insertion at the T node is negotiated between the three VIs in (25): in any given derivation, only one may be employed and inserted in the structure in (26).

- (25)
- a. T[past] ↔ -t/{√BEND, ...}
 - b. T[past] ↔ -∅/{√HIT, √BREAK, ...}
 - c. T[past] ↔ -ed



In certain cases, e.g., *broke*, an additional Readjustment rule is required. Such rules are defined as morpho-syntactically triggered phonological rules that alter the phonology of roots.

When it comes to providing exponence to terminals, Alexiadou & Lohndal (2018) and López (2020; to appear) argue that bilingual speakers simply have more options: they could provide two realizations for roots and abstract morphemes, one from each language, and also combine roots with functional heads bearing different flavors.

3.2 Zooming in on double plurals in language mixing

In this section, I will substantiate the hypothesis that one of the plural affixes is used to create a word out of a root. According to Amuzu (2009: 153ff.), the following restrictions apply when it comes to double plurals in Ewe English mixing:

1. the Ewe marker cannot be dropped, while the English one can (27a–b)
2. double plurality is found only on English nouns, not Ewe nouns (27c)
3. English irregular plural nouns appear with the Ewe marker (27d)
4. English collective nouns do not appear with the Ewe plural marker (27e)

- (27) a. Nye younger brother-0 wó kata English plural can be dropped
 1SG PL all
- b. Nye younger brother-s *0 kata Ewe plural cannot be dropped
 1SG all
- c. agbale- *s yeyε No double plurality on Ewe nouns
 textbook. PL. PL
- d. Nice children ya wó English irregular plural + Ewe plural
 this PL
 ‘These nice children’
- e. Wó forecast be [flood-s] ga nu gble-ge this year. Collective noun, no Ewe plural
 3PL COMP REP thing spoil.PROG
 ‘It has been forecast that floods will cause a lot of damage this year.’

Amuzu concludes that Ewe *wó* is the only plural marker. Amuzu (2013) presents similar restrictions involving Ewe French language mixing. The observation that the *-s* plural appears only on English words is reminiscent of the discussion in Fisher et al. (2022): *-s* in Pennsylvania Dutch also occurs predominantly with English roots. In the examples Amuzu discusses, the point is that *-s* appears to alternate with zero realization. Assuming Maximize Exponence, the one head that can be lexicalized by *-s* or zero is *n*. Especially in view of (27d) and (27e), Amuzu’s insights can be straightforwardly accommodated under split plurality: (27d) shows that irregular plurals combine with regular plurals, and (27e) that collective nouns, which carry the *-s* affix may not be pluralized by a grammatical plural. In Ewe, collective and mass nouns do not combine with *wó*, e.g., *tsi* ‘water’.¹³ When they do, the plural form receives the different kind interpretation provided by grammatical plural (e.g., kinds of water, Dzablu-Kumah 2015). Amuzu makes the following observations (Amuzu 2013: 87): “An English noun that occurs in this kind of structure is one whose referent naturally occurs in pairs or groups, and/or when... [it] is generally referred to collectively. When such nouns, however, take both *-s* and *-wó*, they would signal that different kinds or different groups of the entities in question are being referred to. For example, *SANDAL-S-wó* will mean ‘the pairs of sandals’”. In this respect, the English plural collectives behave similar to the Ewe bare collectives. Collectives are lexical plurals in Acquaviva’s (2008) analysis, i.e., they cannot associate with plurality in Div. The interpretation of *sandal-s*, the form containing the lexical plural, in combination with *wó*, the grammatical plural, aligns with the semantic

¹³ Many thanks to an anonymous reviewer for raising this issue.

contribution of Div to nP. From the perspective of split plurality then, the English plural is the realization of plural on n, while the Ewe plural is the realization of Div, see (28a) and the VIRs in (29a–b):

(28) [DP [DivP wo [nP s [Root brother]]]]

(29) a. n [coll] ↔ s /{√BROTHER, √FLOOD, ...}
 b. Div [pl] ↔ wó

To get the correct word order, we must assume nP raising at least to DivP, as detailed in Aboh (2004) for languages such as Yoruba and Gungbe. Specifically, according to Aboh (op.cit.) number morphology is realized under Number (our Div), but as *wó* appears in final position within the noun phrase, further phrasal movements may be necessary to yield the correct word order.

The Hiaki Spanish situation is very similar. According to Pierson (2017: 48): “many Spanish forms are loaned into Hiaki by semantically bleaching the plural -s on a Spanish word.” Two pieces of evidence suggest that the Spanish plural is not plural in Div, and thus not carrying the semantics of grammatical plurality, but rather a lexicalized affix, a plural on n: First, as shown in (30), Spanish plural nouns can occur with singular definite determiner, suggesting that the plural form does not carry grammatical plural meaning, (30a). The form may be further pluralized with the Hiaki affix *-im*, and be accompanied with the plural Hiaki definite determiner, (30b):

(30) a. u wakas
 the.SG cow.PL
 ‘the cow’
 b. ume wakasim
 the.PL cow.PL.PL
 ‘the cows’

Borrowing of the Spanish plural applies randomly to certain nouns, see (31), which is reminiscent of the properties of lexical plurals discussed in 3.1.

(31) aaso-s ‘garlic’
 laabo-s ‘nail’
 waeba-s ‘guava’
 ankele-s ‘angel’

According to Estrada-Fernández & Guerrero (2007: 421), an explanation for this might be that the Spanish forms are introduced as collectives. As seen above, and discussed in Acquaviva (2008: 257), “the term collectives refers to nouns that are plural by syntactic and morphological criteria, which crucially, however, differ from regular count plurals in the conceptualization of

their reference domain.” These are analyzed on a par with minor numbers as lexical plurals, see section 5. If these forms are collectives, then we may view the Spanish plural as a plural on *n*, the locus of creating a collective interpretation (Acquaviva 2008). The above mixing data may receive the representation in (32a) and the VIRs in (32b–c). N-movement to Div yields the order seen in (31b):

- (32) a. [DP [DivP im [nP s [Root waka]]]]
 b. *n* [coll] ↔ /s/
 c. Div [pl] ↔ /im/

Let me now turn to double plurals in Bantu English/French mixing. As Mashiri (2002) details, the English plural marker co-occurs with Shona plural class marker 6 *ma-*, (33a–b). According to Mashiri (2002), trying to leave out *ma-* but retaining *-s* produces ungrammatical sentences, see (33c–d). Mashiri stresses that *ma-* is compulsory to complete the morphosyntax:

- (33) a. Ma-janitor(s) ava mashoma.
 CL6.janitor.PL are CL6.ADJ.few
 ‘Janitors are now few.’
 b. Grace akapedza kunyora ma-assignment(s) here?
 Grace SM.PAST.finish.FV INF.write CL6.assignment.PL yes/no
 ‘Did Grace finish writing assignments?’
 c. *Janitors ava mashoma.
 d. *Ndipewo notes.
 ‘May I see your notes please.’

According to Kamwangamalu (1997), any English plural noun may be prefixed with the class marker 6 *ama-* in Zulu English mixing. Fuchs & van der Wal (2023: 310–311) note that in Gikuyu English mixing the plural affix appears as expected, but English *-s* must also be present, see (34). Class 6 in Bantu includes plurals of class 5, and collectives, liquids, mass nouns (see Demuth 2000).

- (34) a. ka-monsta ‘little monster’
 b. tu-monstaz ‘little monsters’

Whenever English nouns are borrowed in Bantu, they must appear with Bantu morpho-syntax, and typically they enter class 5, see (35) from Tappe (2013: 270), and Amuzu (2013):

- (35) English Zulu
 cake ikhekhe
 bucket ibhakede

In Lingála, (36a), double marking is not constant in mixing but depends on interlocutor, context of speech or the occasion (Bokamba 2012: 299). Bokamba (1988) and Kamwangamalu (1997) report that these double plurals had the effect that double plurality is now systematic in the Kinshasa Lingála variety, while this is not the case in other Bantu languages apart from Kikongo. Specifically, in this variety, the plural prefix of the human class *ba* has spread to all noun classes, the result being that all other classes except classes 1/2 undergo pluralization twice, Bokamba (1988: 55), see (36b):

- (36) a. *ba-bouteilles*
 CL2.bottle.PL
 ‘bottles’
 b. *ba-mi-langi*
 CL2.CL6.bottle
 ‘bottles’

According to Kihm (2005), Ferrari (2005), Kramer (2015), López (2020), Fuchs & van der Wal (2023) and others, but cf. Déchaine et al. (2014), Taraldsen et al. (2018), Bantu class markers realize *n*. It is assumed that the singular and plural of the same noun have the same noun class, and the realization of the noun class varies depending on number, as illustrated in (37), from van der Wal & Fuchs (2019):

- (37) $n \rightarrow ma- / _PL$ (Class 6)

From the descriptions available to me and adopting the view that class markers are realization of *n*, then rule (37) applies in the mixing cases as well. The question is what about the English/French plurals? Muysken (2011) states that *-s* is pied-piped along with e.g., the English word, and it is not crucial for the meaning of plurality, which is realized by the relevant Bantu class marker. If *-s* functions as a word marker, then it is possible to analyze it as also being on *n*, as in (38a). It is well-known that some noun classes in Bantu may stack. Bokamba (1988: 56) suggests that double plurals in the Kinshasa Lingála variety are the result of the reanalysis of the foreign affix as a Bantu prefix, followed by attachment of the overgeneralized Bantu marker *ba* to the derived noun. This insight supports a view of the foreign plurals as word markers (but see the remarks in section 5 on other pairs including French). Two further alternative analyses are: a) (37) applies and English/French plurals spell out PL in Div in addition, as in (38b). Root to *n* followed by *nP* to Spec,DivP movement would give the correct word order. b) Fuchs & van der Wal (2023: 310) suggest that one language (English) must be closed off by NumberP (our DivP) before the other language (Gikuyu) can be switched to, alluding to a version of (38a), where it is DivP and not *nP* that appears under *nP* realized by *ma*.

- (38) a. [*nP* *ma* [*nP* *s* [Root]]]
 b. [DivP *s* [*nP* *ma* [Root]]]

The Greek Turkish example *xodza-lár-es* discussed in section 2 can also be accommodated under split plurality, building on Markopoulos's (2019) treatment of imparisyllabic nouns in Greek. According to Joseph (2016), the double plural form co-exists with the form *hodz-ad-es*, where the plural is only realized once by the Greek suffix. Note, however, that the plural of this noun class cannot be built without *-ad-*. The *-ad-* affix is found in many Greek nouns, but only in the plural, creating so called imparisyllabic forms, whereby the number of syllables in the plural is greater than that in the singular. Joseph (2016) argues that it is very well possible that Turkish *-lar-* has been recruited as having a similar function to *-ad-*. As Joseph (op.cit.) points out, the Greek affix *-es* appears either following *-ad-* or following *-lar-*. He compares this borrowing with the borrowing of the Turkish past Tense form *-di-* into Greek, which is now a simple verbalizer. Joseph concludes that Turkish *-lar-* is not really a plural marker per se. Markopoulos (2019) argues that when one zooms in on the morpho-syntax and semantics of the Greek affix *-ad-*, one notes that its distribution is restricted: it only applies to Greek [+human, -feminine] nouns. Building on Kramer (2015), Markopoulos proposes that *-ad-* is the exponent of an n head with the features [+human, -feminine]. This leads to the representation in (39), where *lar* and *ad* are in complementary distribution realizing n and the Greek plural is in Div:

(39) [DivP (e)s [nP_[+human, -feminine] ad/lar [Root]]]

The Romanian/English and Romanian/Spanish pairs may also be treated along the lines of what has been suggested for Ewe English: the English/Spanish forms *sales* and *offers* are lexical plurals in Acquaviva's (2008) sense, as pointed out by an anonymous reviewer, and thus may be further pluralized by the Romanian affix in Div. Finally, a split analysis may apply to double plurals in the case of the English Russian example *jeansy*, provided by an anonymous reviewer. As in the other cases, there is no evidence that *-s* in this form is a plural marker. Indeed, *jeans* is a lexical plural in Acquaviva's (2008) sense, in which case the root *jean* and *-s* combine to form the noun *jeans*, which can then be affixed by the Russian plural marker.¹⁴

4 Why the plural? And why mixing?

In this paper, I focused on double plurals in language mixing considering what we know about double plurals in several typologically unrelated languages. I argued that all instances of double plurality can be treated as cases of split plurality, suggesting that multiple exponence is in fact

¹⁴ It remains to be investigated whether the treatment of some plurals as being realizations of n can be extended to double plurals in Creoles. If Bobyleva (2013) is right in treating some of the plural forms as markers of collectivity, or Rijkhoff's (2002) set nouns, then a plural on n analysis seems feasible. An anonymous reviewer suggests that the analysis put forth here might be relevant also in a historical perspective, see also Bokamba (1988) for some discussion. The reviewer points out that in earlier English the *-s* form coexists with the *-en* form for certain nouns and that *children* is generally considered the result of suffixing *-en* to an already plural form. This awaits further investigation.

an epiphenomenon. This shares with Backus (1999) and Muysken (2011) the intuition that some plural forms are word markers. As stated in Backus (1999: 98), “plurals are established lexical units for the speakers who use them. This means they are chunks [...]: they are lexical units that consist of more than one morpheme.” I argued that this follows from some version of a general principle that requires a one-to-one form-meaning mapping, along the lines of (8), and cf. earlier work by Slobin (1977, 1985) and van Hout (2008):

- (8) Maximize Exponence
- a. Realize features in the building blocks of a complex unit by using one exponent for each feature
 - b. Avoid zero (and thus fusion of functional nodes)

I now turn to two questions: why (8) applies to the plural, and why language mixing is where we see it at play. Beginning with the latter, language contact situations have been argued to trigger overexplicitness in one way or another, see e.g., the by now extensive work on heritage languages, and Polinsky (2018), Lohndal & Putnam (2021) for recent summaries. For instance, there are claims that “creole languages lose opaque features and become more transparent”, Seguin (2020: 218). In his discussion of vernacular universals, Chambers (2004: 128) notes that explicitness “features occur not only in working-class and rural vernaculars but also in child language, pidgins, creoles and interlanguage varieties. Therefore, they appear to be natural outgrowths of the language faculty.”

Thus, the more general question is what it is about the language faculty that it allows in some domains to Maximize Exponence and to strictly respect Bi-uniqueness by avoiding zero (and thus fusion of functional nodes). Some reasons have been suggested in the literature, for instance, it can be argued that it is due to communication pressure (see Leufkens 2015) for lengthy discussion. I will develop my ideas about that considering the discussion in Scontras et al. (2018) with respect to heritage languages. These authors argue that there are two pressures that shape heritage grammars: representational economy, which leads to more parsimonious representations, and analyticity, which leads to fully articulated structures. In their terms, analyticity favors one-to-one correspondence between form and meaning. Let us generalize this and claim that these two pressures shape grammars in general and lead to speaker variation. Specifically, analyticity leads to a representation where underlying semantic relations should be marked overtly and clearly and there is a preference not to mark a semantic category by \emptyset . Perhaps zero marking is avoided as it leads to processing difficulties, see Truong (2024). For analyticity to be preferred, there must be an alternation that involves a zero form and/or a form that has been built based on Fusion of two terminals and a form that contains overt realization of each feature/terminal, see Guasti, Alexiadou & Sauerland (2023), and also Alexiadou (2017), and Alexiadou & Rizou (2023) for discussion of such alternations in the verbal domain. Analytic vs. synthetic alternations may be

recruited for register purposes, showing sensitivity to certain situations/contexts, hence allowing speakers to signal register shifts by changing the form of linguistic expressions, along the lines of Adger's (2006) combinatorial variability, see also Alexiadou et al. (2022) for some discussion. This may yield formal vs. informal and/or spoken vs. written language contrasts of the type discussed in Bokamba (2012). By contrast, representational economy is in line with Minimize Exponence and Fusion; note that this is unlike the proposal in Scontras et al. (2018) that structural heads are eliminated as the result of bundling. Rather, here the functional sequence is always present, and Fusion is one way to post-syntactically model representational economy. Note furthermore that an explanation along these lines does not predict that Maximize Exponence will always be at work, it simply predicts that speakers may sometimes opt for an analytic representation, explaining perhaps the rarity of doubling across domains and its non-obligatoriness. This type of explanation departs from views, according to which double forms are a symptom of erroneous access in production (Myers-Scotton 1993: 132–136).

The second question is: why the plural feature, see also Hakimov (2021) for discussion and references. As stated in Gardani (2012: 93): “the category of plural is more similar to derivation than other categories of inflection.” This dual nature is what the analysis of split plurality straightforwardly captures. Specifically, plurality is manifold (Acquaviva 2008): it creates at least (i) collection of singularities, and (ii) lexical meanings (collectives, groups). (ii) is the derivational nature of plurality, while (i) comes close to the inflectional nature of plurality. I assume, following Wiltschko (2014), that the primitives of the functional spine are universal and category neutral, see (40). In the nominal domain, (41), DP realizes discourse linking, while nP, the locus of lexical number, is associated with classification, and DivP, the locus of grammatical number, is associated with point of view (*dividing* in Wiltschko's 2021 terms, presumably #P associates with anchoring):

(40) discourse linking- anchoring- point of view - classification

(41) DP DivP (grammatical Number) nP (lexical number)

Importantly then, plural morphology may associate with both point of view and classification, allowing double realization that is associated with different layers of the spine, i.e., double marking may be expected as the function of the form differs.¹⁵

A further question, raised by an anonymous reviewer, concerns doubling affecting other numbers, e.g., singular, dual and paucal in languages that have these distinctions. With respect

¹⁵ A question that arises concerns double realization in the verbal domain: for instance, double marking of past Tense has been reported in the literature on (first and second) language acquisition -often discussed together with double plurality (see Marcus 1995)- and heritage languages (Polinsky 2018). However, it is not clear how wide-spread double Tense marking is across languages and in language mixing, cf. Bolonyai (2005). The issue awaits further research.

to the singular, the following remarks are in order. The plural is considered morphologically marked (Greenberg 1963, Jakobson 1968), as in several languages the singular is expressed via a zero form. If the singular is expressed via a zero form, it is unlikely that doubling of singulars will be found. In languages with singulative morphology, we do have examples of plural of the singulative, see Acquaviva (2008), Mathieu (2014) and Kramer (2015). If the singulative is treated as being on *n*, see Acquaviva (2008), Kramer (2015), but see Mathieu (2014), it may of course co-occur with plural on *Div* or combine with other *n* heads bearing class information. With respect to duals, Acquaviva (2008: 253ff.) argues that in e.g., Breton duals may be analyzed as lexical plurals, i.e., plurals on *n*. In Breton, dual morphology may co-occur with plural morphology, see (42), from Acquaviva (2008: 249).

- (42) Gloss Singular Dual Dual + Plural
 'thigh' morzed di-vorzed di-vorzid-i

Paucals and other minor numbers may also be treated as instances of lexical number, Acquaviva (2008: 71), thus, again predicting co-occurrence with plurals in *Div*. Acquaviva cites Koasati, Acquaviva (2008: 67), see (43), as an example of a language with the paucal affix may co-occur with the plural one:

- (43) Gloss Singular Paucal Paucal + Plural
 'nephew' icofó:si icofós-ki ikofós-ki-ha

The prediction for mixing is that if duals and paucals are lexical numbers, they should co-occur with grammatical plural in *Div*. This awaits further research.

5 Conclusion and outlook

In this paper, I discussed double plural marking found in language mixing pairs. I proposed that this double marking, a case of multiple exponence, may be treated along the lines of better studied cases of double plurality in languages such as Breton and Amharic as an instance of split plurality and offered an analysis thereof within the framework of Distributed Morphology. I further discussed why the plural and why language mixing favor doubling. I argued that double marking is favored in the context of the plural as plurality is manifold, being associated with two semantic primitives in a universal functional spine. Language mixing favors double plurality, as multilingual speakers avoid zero realization of semantic features and tend to lexicalize all the functional heads in the spine.

While several mixing pairs can be analyzed as involving split plurality, there is one pair that I did not discuss in detail, namely Quechua Spanish. Bakker & Hekking (2012) argue that Spanish plurals in mixing are not notational variants of their singular forms, i.e., they are not borrowed as such. In all the other cases of plurality doubling discussed here, the word order of the markers

is fixed. However, in Quechua there is variation among different varieties, (44a, from Muysken 2012: 485) and (44b), from Lorenzino (2000: 117):

- (44) a. ataq-kuna-s Bolivian Quechua
 fox.PL.PL
 ‘foxes’
- b. warmi-s-kuna Santiago Quechua
 woman.PL.PL
 ‘women’

According to Muysken (2012), in Bolivian Quechua, *-s* is most frequent after a vowel, while *-kuna* appears after a consonant. This seems to be the rule also in Santiago Quechua, according to Lorenzino (2000). However, while *-s* is unrestricted, *-kuna* is restricted, as it appears only on animate nouns and does not co-occur with numerals in traditional Quechua. Moreover, in Ecuadorian Quechua, Spanish plural *-s* is limited to Spanish nouns. Often these are count nouns reinterpreted as Quechua mass nouns (45), Muysken (2012: 484). This suggests an analysis of Spanish *-s* as a lexical plural, also supported by the fact that in some cases, (45), *-s* simply marks the Spanish word as a borrowing:

- (45) a. haba lima bean jabs
 b. calambre cramp calabris

However, if *-kuna* is indeed restricted to animate nouns, it seems to function as an exponent of *n*, see Kramer (2015) on gender-number interactions. Recently, Sánchez & Vengoa (2023) discussed the distribution of *-kuna* and concluded that it is not a marker of plurality, but rather acts as a sorting mechanism. This conclusion is in line with an analysis of *-kuna* as a realization of *n*, meaning that both *-s* and *-kuna* act as realizations of *n*, not contributing the meaning of grammatical plurality. This constellation may differ from variety to variety. This further raises the question of whether the Yucatec Maya Spanish data discussed in section 2 could be re-analyzed in this light. Both issues await further research.

A further question is whether there are mixing pairs where doubling does not occur and how the present analysis may explain them. Doubling of plurality is supposedly absent from French based Creoles: for instance, in Haitian Creole, it is always *D* that bears plural marking, and never *n*, data from Cyrino & Espinal (2020: 171), Déprez (2005):

- (46) a. liv la
 book the. SG
- b. liv yo
 book the.PL

This has been attributed to the fact that French number cliticizes to D, rather than to the noun, see e.g., Bouchard (2002). According to Pomino (2016), French nouns no longer bear a plural marking (see also Carlier 2016, and Gerards & Stark 2021).

In the French-Algonquian mixed language Michif, French derived nouns pluralize via D ((47), Gillon & Rosen 2018: 62):

- (47) a. li garsoo'n
the boy
b. lii garsoo'n
the.PL. boy

In Michif, only the Algonquian derived nouns can bear both markers of plural, the affixal one from Algonquian and the French determiner *lii*, (48a), which according to Gillon & Rosen (2018) is in NumberP, our DivP. Algonquian plurals can be argued to be on n: support comes from two observations: first they are conditioned by animacy, and second, these plurals cannot co-occur with diminutives, see (48c), from Gillon & Rosen (2018: 67). This follows from an analysis of diminutives as being on n, see Kramer (2015) on this point for Ojibwe plurals, which also cannot co-occur with diminutives.

- (48) a. lii takwaminaan-a
the.PL chokecherry.IN.PL
'(the) chokecherries'
b. lii takwaminaan
the.PL chokecherry
c. *maato-shk-ish-ak
cry. HAB.DIM.AN.PL
(intended: criers)

Amuzu (2013) points out that Akan and Ga plurals may not combine with English plurals: the English noun either carries the English plural or the Akan/Ga plural, *foɔ* or *-nom* and *-fo'i* respectively. Akan/Ga nouns never take the English plural. Interestingly, Amuzu (2013: 96) suggests that the plural forms in Akan and Ga are derivational morphemes and that the English plural and the Akan/Ga forms are in competition. This analysis comes very close to viewing the Akan/Ga forms as plurals on n, (see Ahenkorah 2024 for a recent such proposal for Akan), and thus in competition with the English plural, which is an exponent of n in the context of mixing. A further pair that does not show double plurality is Hausa English, according to Amuzu (2013). Hausa is a language in which there are no gender distinctions in the plural, but the choice of a particular plural form correlates with gender. In addition, certain feminine derivational affixes are dropped in the presence of plural morphology (Newman 2022). It seems reasonable

to suggest that such plurals are *n* plurals, in view of certain similarities with Somali, Lecarme (2008), and Romanian, Kramer (2015). If this is the correct analysis for the Hausa plural, the fact that it does not co-occur with the English plural on *n* is expected.

Finally, Hakimov (2021) reports that in Russian German mixing, German nouns either appear with Russian plural forms or with German plural forms, but no instances of double plural marking are found in his corpus. Hakimov suggests that this may be attributed to the fact that both languages have declension classes, and a conflict arises, thus only one determination of class is retained. This suggests that lack of doubling may be a general characteristic of languages with declension classes. In the case of Pontic, a Greek dialect in contact with Russian, I was not able to detect double plural forms on Russian loan words, see Berikashvili & Lobzhanidze (2017). Russian roots are borrowed and assigned into Pontic Greek declension classes, similarly to what has been discussed in Alexiadou et al. (2015) for English and German roots and Greek declensions. From a Distributed Morphology perspective, declension class information is on *n*. Typically, in Greek plural surfaces on *n*, as a result of fusion between *Div* and *nP*, Alexiadou & Stavrou (1997), but cf. Markopoulos (2019). If double marking of plurality is indeed prohibited in languages with declension classes of the Greek/Russian type, we may conclude that this is the result of a conflict for class assignment on *n*. This issue certainly requires further empirical research.

Abbreviations

ADJ = adjective, ANIM = animate, CL = class, COMP = complementizer, DET = determiner, DIM = diminutive, FEM = feminine, FV = final vowel, HAB = habitual, IN = inanimate, INF = infinitive, NOM = nominative, PL = plural, PROG = progressive, REP = repetitive, SG = singular, SM = subject marker

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Competing interests

The author has no competing interests to declare.

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