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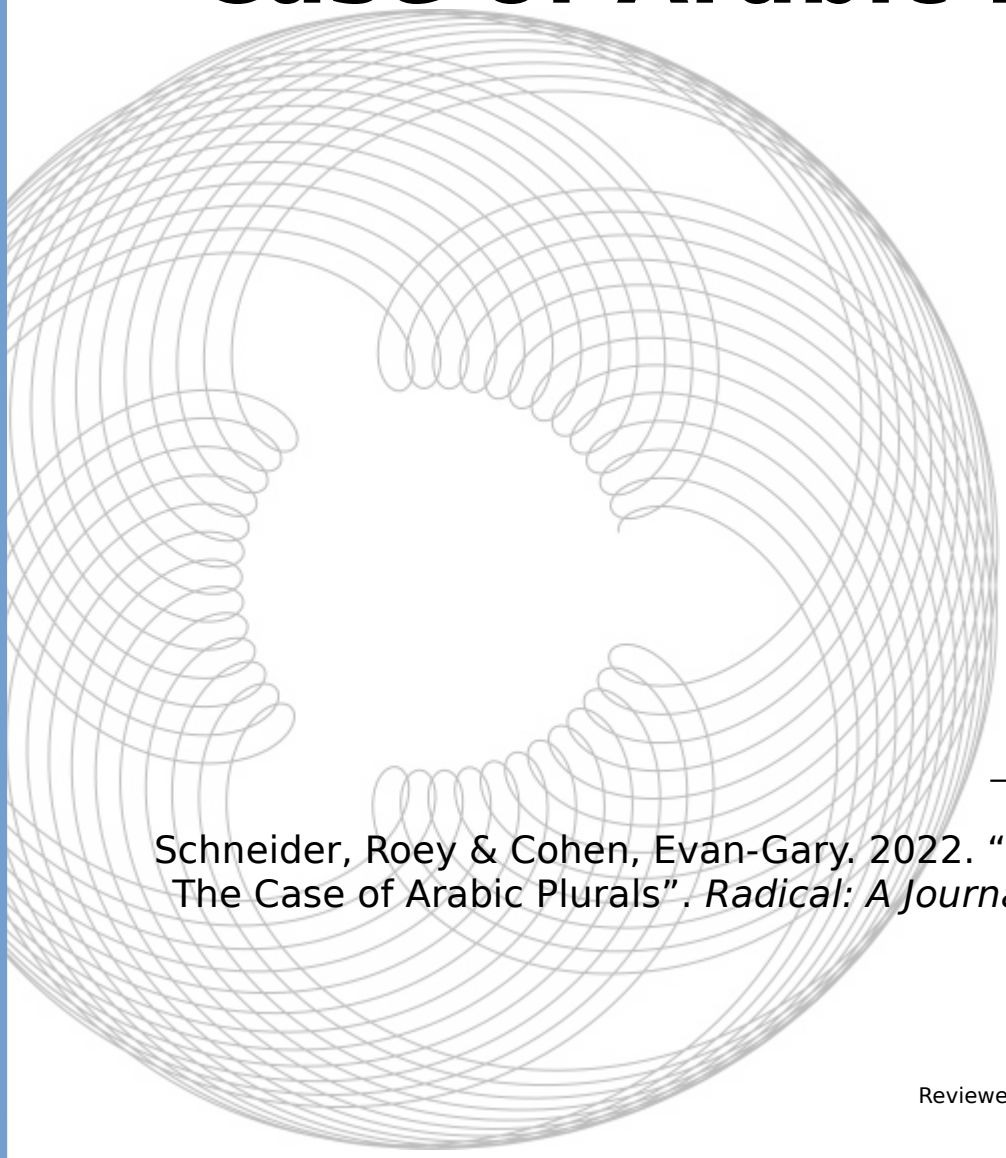

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PAPER

CASE SYNCRETISM – THE CASE OF ARABIC PLURALS

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In this paper, we provide a comprehensive analysis of several instances of case syncretism in Modern Standard Arabic while comparing them to what can be found in other Semitic languages. The goal is to present an explanation for syncretism patterns and directionalities in both the external suffixed (sound) plural forms and some of the affixing and internal pattern-changing (broken) plural forms. We also address various relevant lexical, phonological, and morpho-syntactical issues that may have triggered these phenomena, using both diachronic and synchronic methodologies in addition to a quantitative analysis of the phenomena. We propose that all these instances of syncretism can be explained as a means of avoiding a merger that would give rise to ambiguity more than the merger that actually took place. In the sound plurals and duals, the merger between ACC and GEN in the direction of GEN is meant to avoid a merger between ACC and NOM. In the other group of two-way inflecting substantives, the merger of the same cases but in the opposite direction avoids contrast neutralization between GEN and the 1sg possessive pronoun.

Keywords: Arabic, Syncretism, Case, Morpho-Phonology, Semitic

INTRODUCTION

Modern Standard Arabic (Henceforth: MSA) has two instances of case syncretism between the accusative case (Henceforth: ACC) and the genitive case (Henceforth: GEN). These are found in the forms of the sound plurals and duals, and what Arab grammarians refer to as ʔal-mamnuːʕ-u min-a sˤːarf (Ryding 2005), literally "forbidden for inflection" (Henceforth: Other diptotes).

In the first instance, MSA is not alone. All known Semitic languages with three-way (Henceforth: Triptotic) case inflection display case syncretism in sound plurals and duals. These include, besides MSA: Akkadian, Eblaite, and Ugaritic (Huehnergard 2011, Catagnoti 2012, Tropper 2000). A two-way inflection of the plurals and duals is also known from Samalian, Sabaic and early Phoenician (Tropper 1993, Beeston 1984, Friedrich and Röllig 1999). Therefore, scholars widely accept that this feature can be safely reconstructed for Proto-Semitic (Hasselbach 2013).

Case syncretism of GEN to ACC in the other diptotes is known, besides MSA, only from Ugaritic, in which it is only a marginally attested phenomenon (Tropper 2000), and therefore a reconstruction of this grammatical feature based on these two related instances is on shaky ground.

In this paper, we will concentrate on these two instances of case syncretism and their opposite directionalities and propose analyses to derive these phenomena from MSA grammar as we know it.

MSA is the most widespread, spoken, and attested Semitic language ever (Rubin 2010), and the only modern Semitic language to retain substantial remnants and derivatives of the reconstructed Proto-Semitic case system (Hasselbach 2013). Therefore, it is a well-suited case study for the instances of case syncretism in Semitic.

This paper is organized as follows: We start by defining what case syncretism is in general, and its manifestation in MSA (§1) then we present our analysis for the case syncretism in the sound plurals and duals (§2) and the other diptotes (§3), and then conclude our discussion by addressing other instances of case syncretism in Semitic.

1 CASE SYNCRETISM IN GENERAL AND IN MSA

Case is a morphosyntactic marker added to a noun or adjective (Henceforth: substantive) in relation to its syntactic position. It may or may not be phonetically realized (Blake 1994).

Case syncretism is widely known from languages around the world (Arkadiev 2009) and has been extensively researched in several Classical languages such as Greek (Luraghi 2014) and Latin (Coleman 1976).

When two or more cases have the same phonetic realization, that realization may be neutral in its directionality, meaning different from their expected realizations. This will be referred to as neutral directionality. Otherwise, the realization can be connected to that of one of the cases. This will be referred to as syncretism in the direction of that case.

For example, in a language such as Biblical Hebrew, in which the case system collapsed at a very early stage, most case realizations were reduced to ∅, i.e. neutral directionality. However, in some marginal instances such as inflected vowel-final stems (e.g. /ʔɔv(i)/ "father"), the original GEN case vowel is retained (e.g. /ʔɔv-i-xa/ "your father"). This is syncretism in the direction of the GEN (Blau 2010).

As opposed to Biblical Hebrew, in most dialects of Aramaic and Arabic, the same word is inflected with a remnant of the NOM case vowel (e.g. /ʔɔv-u-x/ in Biblical Aramaic) (Qimron 2002). In this sense, both languages lost the contrast between the different cases, but retained a remnant of one of them.

1.1 CASE IN MSA

Three cases are phonetically realized in MSA. We adopt the standard terminology as in Ryding (2005): Nominative (NOM), accusative (ACC), and genitive (GEN). Their uses are usually as follows:

NOM – Subject and nominal predicate
ACC – Direct object and adverbs
GEN – After prepositions and substantives in the construct state[1]
The following example demonstrates the use of the three cases:

رأى زيدٌ رجلًا مع كلبٍ

raʔa	zajd-u-n	raʤ͡ʒul-a-n	maʕa kalb-i-n
'see' past 3rd sg m	'Zayd'+NOM	'man'+ACC	'with' 'dog'+GEN

"Zayd saw a man with a dog"

1.2 CASE SYNCRETISM IN MSA

MSA has a three-way case inflection in the singular, yet the sound plurals, duals, and other diptotes show only two surface forms:[2]

1 "Construct state" is a category linked to the intra-phrasal position of a substantive. A substantive in the construct state cannot have the article and is followed by its possessor in the GEN. Otherwise, a substantive is in the absolute state (Ryding 2005).
2 The /n/ in parentheses (Henceforth: Nunation) appears mostly in indefinite substantives in the singular and feminine sound plural, and in masculine sound plural and dual substantives in the absolute state (Ryding 2005).

(1) Case Inflections in MSA

mafhu:m – 'understood/ term'	Sg.	Du.	Spl.	Bpl.
NOM	mafhu:m-u(-n)	mafhu:m-a:(-ni)	mafhu:m-a:t-u(-n)	mafa:hi:m-u
ACC	mafhu:m-a(-n)	mafhu:m-aj(-ni)	mafhu:m-a:t-i(-n)	mafa:hi:m-a
GEN	mafhu:m-i(-n)			

sg=singular ; du=dual ; spl=sound plural bpl=broken plural

The merger of ACC and GEN is referred to as the oblique (Hasselbach 2013) (Henceforth: OBL), and usually used for all forms except subjects and nominal predicates.

In both the sound plurals and the other diptotes, the directionality of the syncretized form is towards one of the cases. In the duals, the directionality is neutral. As seen in (1), in the sound plurals the directionality is towards GEN, but in the other diptotes, it is towards ACC. In §2-3, we present possible explanations for this directionality, in addition to the phenomenon itself.

The type of syncretism found in MSA is defined by Baerman (2004) as divergent bidirectional syncretism, in which a feature value [x] takes the form associated with feature value [y] in some contexts, while in other contexts, [y] assumes the form associated with [x].

Arkadiev (2009) explains the directionality using the notion of case syncretism markedness. Structural complexity, frequency distribution, and high cognitive complexity determine the likelihood of two grammatical cases to syncretize (Baerman

2004). This proposal, albeit not enough for explaining such processes, provides sound insight for the typology of case syncretism.

2 ANALYSIS

2.1 GENERAL

Syncretism can be divided into two types: Accidental homophony and systematic homophony (Baerman et. al 2005). Accidental homophony can easily be explained in phonological terms, such as predictable sound changes in different environments. This type is a superficial by-product of phonology. Systematic homophony, on the other hand, is the result of a morphological process and cannot be explained through phonological tools. However, determining whether a type of syncretism is systematic or accidental can be quite difficult.

To classify this instance of syncretism as systematic or accidental, the first question to be asked within the framework of a diachronic morphological analysis is whether case syncretism is the result of a merger in the plural or a split in the singular. Though finding an answer to this question is beyond the scope of this paper, analyzing the options is a crucial part of the analysis.

A merger in the plural may be the result of systematic homophony or accidental homophony. Another option would be a combination of the two: A phonological merger in one category (for example, feminine or masculine sound plural), which then spread to the other categories (the sound plural of the other gender or the duals). These options will be further discussed in §2.2–§2.3.

On the other hand, assuming a split in the singular would be diachronically different and render the discussion of systematic vs. accidental homophony irrelevant. It has been

noted that GEN in Semitic is basically redundant because a noun in the GEN will always be marked by a preposition or a substantive in the construct state before it (Hasselbach 2013).

Considering this and several diptotic case systems found in some Afro-Asiatic languages such as dialects of Berber, Hasselbach (2013) infers that the triptotic case inflection in the singular is the result of a split from an original diptotic inflection.

Her theory does, however, create difficulty in connecting the reconstructed OBL vowel in the singular (/a/) and the OBL vowel in the plural (/i/). This makes this solution seem ad hoc and offers no motivation for the split in the singular.

In our opinion, the data from case systems in Semitic and in other Afro-Asiatic language families do not seem sufficient to corroborate or refute any theory regarding the number or nature of cases in Proto-Afro-Asiatic.

We assume a merger rather than a split. The following sections justify the merger phonologically and morphologically. The aforementioned notion of markedness is helpful in this context, though insufficient to explain the process or its directionality.

2.2 SOUND PLURALS

2.2.1 MASCULINE SOUND PLURALS

Our proposed explanation for the merger in the masculine sound plurals, which can work on both synchronic and diachronic levels, stems from the following paradigm:

(2) Reconstructed Paradigm for the Masculine Sound Plurals

Stem	Singular	Masculine Sound Plural	Dual
NOM	-u(-n)	-u:(-na)	-a:(-ni)
ACC	-a(-n)	*-a:(-na)	-aj(-ni)
GEN	-i(-n)	-i:(-na)	

This paradigm extrapolates the case marker */-a:(-na)/ for ACC in the masculine sound plurals. If we ignore the element in parentheses, which is omitted in the construct state,[3] the ACC of the masculine sound plural is identical to the NOM of the dual.

The specific directionality of the syncretism in the masculine sound plural eliminates the problem of ambiguity.

Because of the limited vowel inventory (a/i/u), there are two possible types of syncretism: one would syncretize ACC and GEN in the masculine sound plural towards the GEN, while the other would syncretize ACC of the masculine sound plurals with NOM of the duals.[4]

Therefore, it should not be surprising that MSA here prefers to syncretize the two oblique cases of the sound plural paradigm, especially since GEN and ACC are always distinguished by their morphosyntactic environment, unlike NOM and ACC which can appear in the same environment.

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3 It should be noted that plural nunation/mimation is absent in certain Semitic languages, specifically East Semitic and Samalian. Also, Ugaritic and Ge'ez don't have regular nunation/mimation in the singular. Therefore, it can be concluded that the functionality of this morph is not crucial.

4 Although such syncretism as the latter is possible in other languages, it is not found in any Semitic language. They all either retained the dual paradigm completely separated from the plural paradigm or lost productivity of the dual system altogether (Hasselbach 2013).
The only instance in which some languages syncretized dual and plural morphemes would be the OBL of both (in some languages only in construct state), as the result of a phonological process or analogy which merged */-i:/ with */-aj/. Such is the case for Akkadian, Aramaic, and Hebrew. In the latter two, it only happened after the collapse of the case system and the loss of productivity of the dual (Hasselbach 2013).

For example, a sentence beginning with a verb can potentially be VSO or VOS, with these two possibilities distinguished by case markers NOM for S and ACC for O. GEN only appears after a preposition or a substantive in the construct state, two environments in which NOM and ACC never appear.

2.2.2 FEMININE SOUND PLURALS

(3) Reconstructed Paradigm for the Feminine Sound Plurals

Stem	Singular	Masculine Sound Plural	Feminine Sound Plural	Dual
NOM	-u(-n)	-u:(-na)	-u(-n)	-a:(-ni)
ACC	-a(-n)	*-a:(-na)	*-a(-n)	-aj(-ni)
GEN	-i(-n)	-i:(-na)	-i(-n)	

In order to explain the case inflection of the feminine sound plural in MSA, one must compare it with the masculine sound plural. It seems as though the two inflections are the same, but the explanation given for the directionality in the masculine sound plural is not valid here, as a triptotic inflection of the feminine sound plural would not cause any ambiguity.

However, the markedness factor is certainly stronger for this group, as it is usually assumed that feminine forms are more marked than their unmarked masculine counterparts, especially when marked by an additional morpheme. Adding this to the plural paradigm makes the feminine sound plural more marked as opposed to the masculine sound plural, which may help us attribute the syncretism in the feminine sound plural to a markedness hierarchy or cumulative markedness. Therefore, besides

the effect of markedness, the only valid explanation for this syncretism would rely upon the spreading of the syncretism from the masculine sound plural.

Another factor that may have contributed to the directionality of the merger is frequency. We performed a quantitative corpus analysis (see appendix for discussion of corpus) yielding the following results:

(4) Frequency of Case Markers on Substantives

	NOM	ACC	GEN
1415 (100%)	239 (16.89%)	284 (20.07%)	892 (63.03%)

(5) Frequency of Case Positions

	NOM	ACC	GEN
1693 (100%)	296 (17.48%)	321 (18.96%)	1076 (63.56%)

GEN, both in its surface marker and its position, is almost four times more frequent than the other cases. These data shed additional light on the directionality, which would be expected to go in the direction of the most frequent surface form (Arkadiev 2009).

However, these data beg the question of how it can be possible that in the other diptotes the directionality is towards the ACC.

2.3 DUAL

The analysis of the dual is more complex. In order to understand the syncretism here, it is necessary to reconstruct earlier forms of both the dual and the masculine sound plural, in addition to a discussion of phonological contractions.

Based upon the fact that in Old Egyptian texts, the plural is marked with <w> and the dual with <j>, we propose a diachronic analysis for the data, assuming the merger was not necessarily an instance of systematic homophony but rather an accidental one. Through addressing MSA vowel-glide-vowel sequences (Henceforth: VGV) and their regular contraction rules, the following morphemes for the masculine sound plurals are possible to reconstruct:

(6) Reconstructed Masculine Sound Plural Morphemes

Case	Reconstructed Morpheme	Surface Morpheme
NOM	/u-wV/	/u:/
ACC	/a-wV/	/i:/
GEN	/i-wV/	

Since VGV may only contract in MSA in the direction of the quality of the second vowel as long as the first vowel is not low (Ryding 2005), the case vowel must precede the alleged number vowel in this paradigm. Otherwise, the existing output would not have been achieved.

Finding the best possible quality of the second vowel in the morpheme can be done through elimination: For /u-wV/ to contract to /u:/, the second vowel must be high. For /i-wV/ to contract to /i:/, only /i/ is compatible as the second vowel.

Therefore, the paradigm will be:

(7) Reconstructed Masculine Sound Plural Morphemes

Case	Reconstructed Morpheme	Surface Morpheme
NOM	/u-wi/	/uː/
ACC	/a-wi/	/iː/
GEN	/i-wi/	

The VGV contractions in NOM and GEN are regular and predictable, as similar environments arise and regularly contract in the same way in MSA. The sequence in ACC, however, should have contracted to /aː/ according to VGV contraction rules in MSA. This means the masculine sound plural ACC would merge with the dual NOM. Therefore, the same result was achieved from this analysis: The syncretism could not have been an accidental one in this case, but a systematic one.

Regarding the dual morpheme: An attempt at assuming a triptotic paradigm such as the former would not succeed unless the order of the morphemes is reversed, meaning the number morpheme will precede the case morpheme, as it is in the feminine sound plural and not as it is in the masculine sound plural.

Since the only vowel in the surface morpheme of the dual (Both in NOM and OBL) is /a/, we assume that the vowel of the dual morpheme itself was /a/.

(8)

Case	Reconstructed Morpheme	Surface Morpheme
NOM	/aj-u/	/aː/
ACC	/aj-a/	/aj/
GEN	/aj-i/	

Here, once again, NOM and GEN contract to the expected result, but ACC does not, as it should have contracted to */aː/ like NOM according to the rules of VGV contractions

in MSA. This would cause syncretism between NOM and ACC in the dual. Such syncretism would be the least desirable in MSA, since NOM and ACC may appear in the same environment. In addition, this syncretism does not exist in Arabic at all. We propose that to avoid this problematic accidental syncretism or loss of contrast, the preferable type of syncretism, between the distinct ACC and GEN, had spread from the sound plurals, thus preserving the contrast between dual NOM and masculing sound plural ACC.

3 THE OTHER DIPTOTES

The other diptotes are a group of substantives which, like sound plurals, inflect only in two cases. However, unlike sound plurals, the other diptotes inflect with NOM /u/ and OBL /a/ when indefinite. They are also not nunated.

This phenomenon is widespread in Arabic and includes a large number of categories including foreign proper names, proper names with certain suffixes, substantives in certain patterns, and trisyllabic broken plurals.

Traditionally, the difference between disyllabic and trisyllabic broken plurals is explained by means of morphology – the shorter broken plurals are in patterns that can also function as singulars (e.g. /buju:t/ ‘house.pl’ as opposed to /duxu:l/ ‘entrance.sg’), while the trisyllabic broken plurals cannot do so, and are reserved only for plurals (Wright 1875). The following tables may show that though there are several exceptions to the first statement, the second has none.

(9) Broken Plural Patterns and Singular Nouns

Singular		Broken Plural	Singular in Same Pattern
bajt-	'house'	buju:t-	duxu:l- 'entry'
sˤawm-	'fast'	sˤija:m-	kita:b- 'book'
ħima:r-	'donkey'	ħami:r-	sˤadi:q- 'friend'
madi:n-a(t)-	'city'	mudun-	ʔufuq- 'horizon'
ʃahr-	'month'	ʔaʃhur-	N/A
walad-	'child'	ʔawla:d-	N/A

(10) Broken Plural Patterns and Singular Nouns

Singular	Trisyllabic Broken Plural
sˤadi:q- 'friend'	ʔasˤdiqa:ʔ-
madras-a(t)- 'school'	mada:ris-
ka:bu:s- 'nightmare'	kawa:bi:s-
risa:l-a(t)- 'letter'	rasa:ʔil-
ra:bitˤ- 'link'	rawa:bitˤ-
wazi:r- 'minister'	wuzara:ʔ-

The difference between [ʔ] and [w] as epenthetic consonants is not important, as /w/ shifts to [ʔ] regularly in the environments where [ʔ] appears as an epenthetic consonant.

It should also be noted that there are also several trisyllabic broken plural patterns which are triptotic. These consist of the singular feminine marker /-at/. They are relatively rare.

(11) Triptotic Long Broken Plurals with a Feminine Suffix

Singular	Plural
naʃa:tˤ- ‘activity’	ʔanʃitˤ-a(t)-
tˤa:lib- ‘student’	tˤalab-a(t)-
malʔak- ‘angel’	mala:ʔik-a(t)-

In order to explain this phenomenon, one should understand which features are to be linked with diptosy in MSA.

What is common to all the singular forms that have diptotic broken plurals is that they all consist of at least two syllables, one or more of which is heavy. The number of heavy syllables in the plural is always the same number of heavy syllables in the singular or greater by one (McCarthy and Prince 1990)

Having one or more heavy syllables is also a feature shared by most nouns inflected in the sound plurals in MSA. Usually, shorter and prosodically simpler nouns in patterns such as /$C_1VC_2C_3$/ and /$C_1VC_2VC_3$/ are not inflected in the sound plurals. In addition, inanimate nouns of both genders do not take the masculine sound plural but many of them do take the feminine sound plural.

When /$C_1VC_2C_3$/ nouns are inflected in the sound plurals, they are likely to have a vowel added to them. In the corpus examined (See appendix), 100% of sound plurals adhere to these rules.

In addition, the diptotes are only diptotic when indefinite. This can also be accounted for by markedness since indefinite substantives are considered to be more marked than definite ones.

It should also be noted that the final vowel in all diptotic broken plurals corresponds in length to the final vowel in the singular, as shown by McCarthy (1982). This can be related to what is common between the trisyllabic broken plurals and the sound plurals, which is the fact that in both, the case marking does not have direct contact with a

template, unlike singular nouns and shorter broken plurals, in which the case marking connects directly to a template.

An additional feature that differentiates these diptotes from triptotes and sound plurals and duals is that the other diptotes are never nunated, meaning they do not have a nasal consonant added after the case marker when indefinite. The cause for the directionality in the diptotes may lie in that. Attempting to explain why the diptotes are not nunated is a matter for future research and beyond the scope of this work.

However, since they are both not nunated and diptotic, assuming one of the phenomena, specifically the lack of nunation, preceded or triggered the other would be a plausible starting point for explaining their diptosy.

Since there are no final long vowels in MSA,[5] there would be a merger between GEN case vowel /-i/, and the 1sg possessive pronoun /-i/, which blocks the case vowel and is monoptotic. In triptotes, this neutralization is avoided by the fact that these morphemes are in complementary distribution. A triptotic substantive without nunation will always be definite: either after the definite article or before a noun in GEN or a possessive pronoun. In this environment, meaning when marked as definite, the 1sg possessive pronoun cannot be mistaken for a case vowel. In the diptotes, the environments should have become overlapping, because there would be no means to differentiate an indefinite substantive from a definite one (specifically, before a possessive pronoun), because of the lack of nunation.

In order to demonstrate the opacity that would be created, the following sentences will be used, in which the only difference between each pair is replacing the triptotic broken plural /kutub/ ‘book.pl’ with the diptotic one /rasaːʔil/ ‘letter.pl’, conjugated as if it were a triptote, though without nunation. All of the occurrences of these nouns in the sentences are in the GEN.

5 See, for example, McCarthy 2005.

(12) A Demonstration of Reconstructed Case-Possessive Pronoun Ambiguity

a.	[ʔal-d͡ʒawa:b-u kutub-i l-xabi:r-i]	mawd͡ʒu:d-un	fi ‘The answer.NOM is found.NOM in the book.pl.GEN of the expert.GEN’
a’.	[ʔal-d͡ʒawa:b-u rasa:ʔil-i l-xabi:r-i]	mawd͡ʒu:d-un	fi ‘The answer.NOM is found.NOM in the letter.pl.GEN of the expert.GEN’
b.	[ʔal-d͡ʒawa:b-u kutub-i]	mawd͡ʒu:d-un	fi ‘The answer.NOM is found.NOM in my book.pl’
b’.	[ʔal-d͡ʒawa:b-u rasa:ʔil-i]	mawd͡ʒu:d-un	fi ‘The answer.NOM is found.NOM in my letter.pl’
c.	[ʔal-d͡ʒawa:b-u kutub-in]	mawd͡ʒu:d-un	fi ‘The answer.NOM is found.NOM in book.pl.GEN’
*c’.	[ʔal-d͡ʒawa:b-u *rasa:ʔil-i]	mawd͡ʒu:d-un	fi ‘The answer.NOM is found.NOM in letter.pl.GEN’
c’.	[ʔal-d͡ʒawa:b-u rasa:ʔil-a]	mawd͡ʒu:d-un	fi ‘The answer.NOM is found.NOM in letter.pl.OBL’

The sentences b’ and *c’ are the same, which shows that if the nunationless substantives were triptotic when indefinite, there would be syncretism between GEN and the 1sg possessive pronoun. Such syncretism would have a much greater impact on the language than an ACC-GEN merger since as mentioned earlier, the GEN marking in Semitic is practically redundant.

(13) Case Paradigm vs. 1st Possessive Pronoun Paradigm

Case	Indefinite	1sg Possessive Pronoun
NOM	-u	-i
ACC	-a	
GEN	*-i	

From this analysis, it can be concluded that the diptotes in MSA are first and foremost nunationless, and that itself may be the trigger for them being diptotes. Such an analysis must presuppose the spreading of this syncretism from substantives to proper names.

The next question is what the connection between nunation and case syncretism, or in general case marking, is. Throughout Semitic, nunation/mimation, state, and case systems are intertwined and connected. The reason why is beyond the scope of this paper.

This analysis does not work for Ugaritic, as substantives in it have no regular nunation/mimation, and as the 1sg possessive pronoun is /-i/ only in the NOM, which would make the syncretism much less impactful in the sense that the two forms would appear in completely different environments.

For an additional discussion on case syncretism in other Semitic languages and nunation and mimation in general, see Schneider (2020).

4 CONCLUSION

In this paper, we presented an analysis of two different instances and different directionalities of case syncretism in Modern Standard Arabic and Semitic in general. The different instances of case syncretism in MSA (and Semitic in general) can be analyzed by using both synchronic and diachronic tools. These also account for the directionality of the system.

We focused on two types of plurals in MSA: The suffixed plurals (Sound Plurals) and the trisyllabic internal pattern-changing plurals (Broken Plurals).

In both forms, there is a merger between ACC and GEN. These two cases will never appear in the same environment, so this merger does not give rise to ambiguity, unlike possible NOM-ACC mergers.

The instances of case syncretism in MSA can be divided into the following groups:
Sound Plurals:

1. The ACC and GEN syncretize.
2. The surface form corresponds to GEN (ACC > GEN Syncretism).
3. We propose that the specific directionality of this merger (namely, ACC>GEN) is the product of a morphological process blocking the merger of the ACC of the sound plurals and the NOM of the duals. A merger between the ACC and NOM, which may sometimes appear in the same environment, is inherently less desirable in Semitic than a merger between the always distinguishable ACC and GEN. Therefore, the directionality had to be towards the GEN. A merger between plural and dual is also unheard of in MSA.

This process then spread to the more marked feminine sound plural, and perhaps to the dual. Frequency too played a role in this process, especially in the choice of the surface form, as this category is the most frequent instance of case syncretism, and the GEN is by far the most frequent case in MSA.

Dual:
1. The dual too exhibits a syncretism between ACC and GEN.
2. The directionality is neutral.

3. This merger happened either as a spreading of the merger from the masculine sound plural, or to avoid a merger between NOM and ACC.

Another role here was played by markedness since duals are inherently more marked than all other number categories.

Other Diptotes:
1. The cases syncretized here are ACC and GEN.
2. The directionality is towards ACC. As opposed to the sound plurals, which exhibit the opposite directionality.
3. This syncretism is the result of a morphological process intended to block a syncretism between the GEN and the monoptotic 1sg possessive pronoun in substantives which are not nunated.

The forms subject to this instance of syncretism are several different categories of nunationless substantives, most of them inherently marked, such as foreign proper names, proper names in certain patterns, proper names with the feminine suffix, indefinite trisyllabic broken plurals, and indefinite adjectives and nouns in certain patterns.

To conclude, all three instances of case syncretism discussed here may be analyzed as a means to avoid another, less desirable, syncretism.

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APPENDIX – TEXT CORPUS

In order to examine the frequency of the different case markers and positions in MSA, a corpus was quantitatively analyzed according to these criteria. The corpus includes four MSA editorial articles from two of the most popular international newspapers written in MSA: ʔa-ʃːarq-u l-ʔawsatˤ and ʔal-quds-u l-ʕarabi.

The articles are:

Atallah, S. ʔilɣaːʔ-u l-ħukamaːʔ-i ʔajdˤ-an (Cancellation of the "Wise Men" too). 02/11/2019.

Rabahi, T. ħatːa laː jastabidː-a bi-na l-jaʔs fi l-d͡ʒazaːʔir (So that Despair may not Rule over Us in Algeria). 11/11/2019.

Shalgham, A. ʔa-nːaːs jaʕlam-uːn (The People Know). 02/11/2019.

Zangana, H. hal li-mutaðˤaːhir-i l-ʕiraːq-i barnaːmad͡ʒ-un muħadːad (Do the Iraqi Protestors Have a Certain Plan). Al-Quds Al-Arabi 05/11/2019.

In addition, a short story by a Palestinian author was added to the corpus in order to diversify the contexts and grammatical forms.

The story is:

Hlewa, S. 2018. zijːara-t-un lajlijː-a (A Nightly Visit). In: Al-Talabiya C345. Milan: Al-Mutawassit.

DISCUSSION WITH ANNA ŁUBOWICZ

(UNIVERSITY OF MINNESOTA)

Łubowicz, Anna. 2022. Discussion in: Schneider, Roey & Evan-Gary Cohen (auth.) "Case syncretism – the case of Arabic plurals". *Radical: A journal of Phonology*, 4, 206-210.

COMMENTS

1. Key Idea: Trading of Oppositions. In their article "Case Syncretism – The Case of Arabic Plurals", Schneider and Cohen present new evidence from Modern Standard Arabic (MSA) on morphological contrast using the examples of sound plurals, duals and broken plurals. The main observation is that case syncretism patterns and directionalities found in sound plural forms and some broken plural forms in Modern Standard Arabic (MSA) can be accounted for in terms of preserving contrast. The key idea is that case syncretism "avoids a merger that would give rise to ambiguity more than the merger that actually took place" (p. 2, Schneider and Cohen).

In particular, in the sound plurals and duals, there is a merger between accusative case (ACC) and genitive case (GEN) in the direction of GEN. This means that the accusative and genitive cases (ACC and GEN) have the same phonetic realization; both being realized as GEN. The authors propose that the actual case merger is meant to avoid a potential merger between accusative (ACC) and nominative (NOM) case. This would take place if ACC were to be realized the same as NOM. In the other diptotes (two way inflecting substantives), there is a merger in the opposite direction and by that it avoids a merger between GEN and the 1sg possessive pronoun. (See section 1.2 in Schneider and Cohen.)

This observation finds support in the proposal made in Łubowicz (2012) whereby phonological opacity can be understood as contrast transformation. That is, in cases of phonological opacity a given contrast is preserved at the cost of neutralizing another

contrast in the grammar. This is referred to as *trading of contrasts or oppositions* and supported with examples of chain shift mappings, stress-epenthesis interaction in Arabic dialects and opaque allomorphy in Polish (Łubowicz 2012, 2016).

In the next section I will expand on the idea developed in Schneider and Cohen by providing a parallel with the analysis of chain shifts as trading of oppositions.

2. Extension to Chain Shifts. At the core of Schneider and Cohen's analysis is the observation that case syncretism can be understood as trading of oppositions. They also discuss how to determine direction of the merger that takes place and what initiates the change.

In this section I will provide a parallel with the analysis of chain shift mappings that can also be understood in terms of maintaining one contrast at the expense of neutralizing another contrast in the grammar. I will also discuss how directionality of a merger can be determined by the relative ranking of constraints on contrast using Contrast Preservation Theory (Łubowicz 2012). The contrast analysis of chain shifts has been proposed by Barrie (2006), Fulcrand (2015), Łubowicz (2011), and Noske (2012), among others.

In a Finnish chain shift (Antilla 1997), long vowels shorten while low short vowels round in the same environment. Crucially, long vowels that shorten do not round. This is represented below:

(1) Finnish chain shift, schematically

aai → ai → oi

In terms of oppositions, in Finnish, a contrast in length is maintained and realized as a contrast in rounding. In consequence, some instances of the contrast in rounding are

neutralized. Thus, trading of oppositions takes place: the length contrast (aai vs. ai) is preserved at the expense of the rounding contrast (ai vs. oi). This is shown below:

(2) Contrast transformation
length contrast → rounding contrast
rounding contrast → neutralized

In OT this can be expressed by the relative ranking of constraints on Preserve Contrast relativized to different phonological properties. In Finnish, PC_{OUT}(long) that militates against length mergers outranks PC_{OUT}(round) which militates against rounding mergers. The whole shift is initiated by markedness against trimoraic syllables, *μμμ ranked over PC_{OUT}(long). See Łubowicz (2012) for a full analysis.

(3) PC analysis of a chain shift (schema)
*μμμ >> PC_{OUT}(long) >> PC_{OUT}(round)

The account of chain shifts that involves trading of oppositions can be extended to the observation made in Schneider and Cohen whereby in sound plurals the failed merger between ACC and NOM is more costly than the actual merger between ACC and GEN. In terms of PC constraints, we could propose that in sound plurals a constraint that militates against a merger between ACC and NOM, PC(ACC/NOM), outranks a constraint which militates against a merger between ACC and GEN, PC(ACC/GEN). With this ranking, a merger between ACC and GEN takes place instead of the merger between ACC and NOM.

(4) PC analysis of MSA (sound plurals)

PC(ACC/NOM) >> PC(ACC/GEN)

Result: It is more costly to merge ACC and NOM than ACC and GEN.

Schneider and Cohen propose further support for this ranking by noting that "GEN and ACC are always distinguished by their morphosyntactic environment, unlike NOM and ACC which can appear in the same environment." (p. 10, Schneider and Cohen)

Further issues involve the reasons for initiating the change and direction of change. In the analysis of chain shift mappings outlined above both are due to markedness constraints in conjunction with PC. The chain shift is initiated by *μμμ markedness and its direction determined by the relative ranking of PC constraints. Schneider and Cohen also discuss combining diachronic, synchronic and quantitative methodologies to analyze these issues (section 2).

3. Conclusion. This discussion has provided a comparison between case syncretism in Arabic Plurals and the analysis of chain shifts. Both cases share at their core the idea of trading of oppositions and discuss how to determine directionality of movement in a paradigm or a scenario and how to initiate a phonological change.

By providing novel data from MSA, Schneider and Cohen's article makes a strong contribution to our understanding of the role of contrast preservation in the grammar and contributes to the growing body of work on the role of contrast in morphophonological paradigms (Downing et al. 2005, among others).

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