Systematically Altered Whole-Syllable Reduplication in Western Armenian

I – Introduction

This paper aims to show that it is possible to determine the origin of a contact phenomenon based on its linguistic and geographical distribution, and consequently to chart its development in the languages in which it is not original. The phenomenon in question is systematically altered whole-syllable reduplication (SAWSR), also variously known as emphatic reduplication or "pre-specified reduplication" (Steriade 1988) with quasi-fixed segmentism. This morphological device is used in Western Armenian ("WA") as an intensifier or emphatic form, by which a portion of the base is prefixed to the base with a different consonant than that of the base consonant, such as in *garmir* 'red'→ *gas-garmir* 'extremely red', *šidag* 'straight'→ *šip-šidag* 'completely straight'. This phenomenon has been remarked upon for WA, but never systematically studied as it has been in Modern Turkish.

Emphatic reduplication is explored here as a morphological phenomenon induced by contact with Turkish via prolonged periods of bilingualism, c.f. *dop* 'full' → *dop-dolu* 'chock-full', *beyaz* 'white' → *bem-beyaz* 'thoroughly white', *yuvarlak* 'round' → *yus-yuvarlak* 'very round', *çıplak* 'naked' → *çır-çıplak* 'stark naked' (Godel 1945, Demir

2018), etc.. With additional examples from Cappadocian Greek (and other minority Anatolian Greek dialects), we hope to give a historical account of this imported morphological mechanism through the lens of Johanson (2013)'s thesis, which explains that when foreign elements of a grammar are copied into another language, they merely serve as models and are never identical to the way the donor language has encoded the borrowing.

A few terminological notes – we will refer to repeated or reduplicated V or CV as the *reduplicant* in this paper. While Göksel & Kerslake (2005) refer to these forms as *linker consonants*, they are defined as affixes in several other studies including Yu (1999), Alderete et al. (1999), and Wedel (2000). The additional syllable or consonants will be referred to as the *linker* or *linker infix* in this section as a more theory-neutral term. Finally, the original root of the adjective will be referred to as the base, while C_1 and C_2 will denote the first and the second consonant of the base, respectively (Vurgun 2021:2).

II – **Origin**

In this section, we first establish that SAWSR is present in WA but not as much in Eastern Armenian ("EA"), then we establish that SAWSR is present in Cappadocian and other Anatolian Greek dialects but not in other dialects of Greek; afterwards, we establish that SAWSR is present not only in Osmanli Turkish but also in other Turkic languages such as Sakha, Tuvan, and others, where it cannot have been acquired from Armenian or Greek. We end this section with an interim conclusion that SAWSR was inherited in Turkish but not in WA or Cappadocian Greek; therefore in the latter two languages it must be a contact phenomenon.

A. SAWSR in Western Armenian

Since the literature has not written much about this phenomenon in WA, much of the data comes from the author as a native speaker. A summarized descriptive account is first required here, along with answering the question of whether these emphatic reduplicative forms can be predicted, and, as a minor point, to what extent other reduplicative processes, such as full reduplication (*gama͡ts-gama͡ts* 'very slowly', *abuš-abuš* 'very stupidly, without thinking'), root reduplication (*d͡zaxd͡zux* 'commerce', *d͡ʒɾ̇d͡ʒɾ̇al* 'to squeak', *hrahrel* 'to kindle, to inflame') *m-* or echoic reduplication (*London Mondon*, 'London and such other cities like it', *bnag-mnag* 'plates and other

kitchenware', *alyr-malyr* 'flour and such things'), etc., interfere or compete with emphatic reduplication.

There are several classes of words that can do this, and several that cannot. Adjectives, especially those of color and basic physical descriptions (fat, thin, long, wide, etc.), can felicitously accept SAWRS – from there on out, the borders of acceptability are fuzzy – adjectives for abstract properties do not often easily lend themselves to be emphatically reduplicated. Derived adjectives, as we will see below, almost always cannot be emphatically reduplicated. A small number of adverbs can also be reduplicated this manner.

To give some examples – a portion of the base is prefixed to the base with a different consonant than that of the base consonant, restricted to /-s-/ and /-p-/ (except *kam-kak* and a few others which we will explore below, though these are very likely lexicalized or have an alternate etymological source) but with some optionality:

Word	Gloss		Partially reduplicated form	Meaning
garmir	'red'	→	gas-/-p-/ps-garmir	'extremely red'
šidag	'straight'	→	šip-šidag	'completely straight'
le͡tsun	'full'	→	lep-le͡tsun	'entirely full'
teʁin	'yellow'	→	tep-/-s-/ps-teʁin	'thoroughly yellow'
barab	'hollow'	→	bas-barab	'fully hollow'
jergar	'long'	→	jep-jergar	'really long'
nor	'new'	→	nop/ps-nor	'brand new'
gabujd	'blue'	→	gas-/-p-/ps-gabujd	'vivid blue'
par͡tsr	'high, tall'	→	pas-par͡tsr	'very tall (of things)'
šud	'fast'	→	šup-šud	'very quick, hurriedly'
lajn	'long'	→	lap-lajn	'very long'
d͡zanr	'heavy'	→	dap-d͡zanr	'extremely heavy'
pa͡ts	'open'	→	pas-pa͡ts	'completely open'
čar	'evil, bad'	→	čap-čar	'very bad'
barz	'simple'	→	bas-barz	'very simple'
tetev	'light'	→	tep-tetev	'very light'
xisd	'severe'	→	xip-xisd	'excessively strict'
dapag	'flat'	→	das-/-p-/ps-dapag	'completely flat'
xošor	'huge'	→	xop-xošor	'absolutely huge'

darper	‘different’	→	dap-/-s-/ps-darper	‘completely different’
pokr	‘small’	→	pos-pokr	‘very small’
dxur	‘sad’	→	dəp-dxur	‘extremely sad’
luṛ	‘silent’	→	lup-luṛ	‘dead silent’
d͡zer	‘old’	→	d͡zep-/ps-d͡zer	‘very old’
gamat͡s	‘slow’	→	gap-/-s-/ps-gamat͡s	‘very slow(ly)’
bzdig	‘small, tiny’	→	bəs-bzdig	‘minuscule’
tyrin	‘easy’	→	typ-/-s-/ps-tyrin	‘very easy’

There are quite a few adjectives and a few adverbs fall into a fuzzy area of uncertain acceptability (from just slightly odd to wanting to use one or two question marks) – there are quite a few more, but these examples below will suffice.

yeridasart	‘youthful’	→	? jep-jeridasart	‘very youthful’
keʁet͡sig	‘beautiful’	→	? kes-/p-keʁet͡sig	‘very beautiful’
nerga	‘present’	→	? nep-nerga	‘very present’
xelat͡si	‘intelligent’	→	*xep-xelat͡si	‘very intelligent’
med͡z	‘big’	→	? mes-med͡z	‘very big’
vsdah	‘sure, certain’	→	? vəp-/s-vsdah	‘very sure, certain
tžvar	‘difficult’	→	? təp-/-s-/ps-tžvar	‘very difficult’
jeʁčanig	‘well-behaved’	→	*jep-jeʁčanig	‘very well-behaved’
šakarod	‘sugary’	→	*šap-šakarod	‘very sugary’
pavagan	‘enough’	→	*pas-pavagan	‘very much enough’
sxal	‘wrong, false’	→	? səp-sxal	‘very wrong, false’

We then have many hundreds of common adjectives (first group) and adverbs[1] (second group) that cannot ever receive SAWSR, though first as an exercise in native speaker judgment as to what these forms ought to look like if we forced emphatic reduplicaton on words starting with a voiceless glottal fricative [h], vowels[2], and other consonants or clusters, respectively, we can show them below as:

1 Like in English but unlike in German, WA adverbs can either be bare (just the adjectival form) or receive the *-oren* or *-apar* suffix, which can both be translated as *-ly* in English, but note that any suffixed adverb cannot be emphatically reduplicated, such as *barzoren* ‘in a simple manner, simply’ → **bas-barzoren* ‘very simply’.

2 In WA, almost all historical *e*-initial words have been diphthongized to *je-*, with only a few non-loanword exceptions such as *eagan* ‘subsantial, related to Being’.

Adjectives:

hin	‘old’	→	hip-hin
hsgah	‘gigantic’	→	həp-hsgah
harusd	‘rich	→	? hap-harusd
hojagab	‘excellent’	→	*hop-hojagab
hankisd	‘calm, quiet’	→	*hap-hankisd
ha$\widehat{\text{dʒ}}$eli	‘pleasurable’	→	*hap-ha$\widehat{\text{dʒ}}$eli
hajdni	‘obvious’	→	*ha(j)p-hajdni

aʁkad	‘impecunious’	→	? ap-aʁkad	‘dirt poor’
ampoʁč	‘complete’	→	?? ap-ampoʁč	‘very thorough’
aṛoʁč	‘healthy’	→	? ap-aṛoʁč	‘very healthy’
azniv	‘noble’	→	?? ap-azniv	‘very noble’
aʁdod	‘dirty’	→	ap-aʁdod	‘excessively dirty’
anuš	‘sweet’	→	ap-anuš	‘very sweet’
arak	‘quick’	→	*ap-arak	‘very quick(ly)’
arti	‘modern’	→	*ap-arti	‘very modern’
əndir	‘exquisite’	→	*əp-əndir	‘very exquisite’
isdag	‘clean’	→	*ip-isdag	‘clean’
odar	‘foreign’	→	*op-odar	‘completely foreign’
uriš	‘other’	→	*up-uriš	‘very other (?)’
yrakančyr	‘individual[3]’	→	*yp-yrakančyr	‘very individual’

Underived adverbs generally cannot accept SAWSR:

ha$\widehat{\text{dʒ}}$ax	‘often’	→	*hap-ha$\widehat{\text{dʒ}}$ax
jerpemn	‘sometimes’	→	*jep-jerpemn
jerpeg	‘never’	→	*jep-jerpeg
grgin	‘again’	→	*gəs/-p-/ps-grgin
polor	‘all’	→	*pos-polor
mišd	‘always’	→	*mis-mišd
ajžm	‘thus’	→	*a(j)p-ajžm
ajsbisi	‘like this’	→	*a(j)p-ajsbisi
ajnbisi	‘like that’	→	*a(j)p-ajnbisi

3 As an adjective, not the noun meaning ‘person, human’. /y/ in our transcription stands for a high front rounded vowel. Eastern Armenian has lost [y] and turned it into a [ju] diphthong.

ajtbisi	‘like yon’	→	*a(j)p-ajtbisi
miasin	‘together’	→	*mis-miasin
hima	‘now’	→	*hip-hima

Adverbs describing motion, style, velocity can generally be emphatically reduplicated, but it appears that all so-called “higher adverbs”, adverbs of frequency, and quantity, cannot. SAWSR cannot be applied to function words (conjunctions *u* ‘and’, **up-u*, prepositions, *əsds* ‘according to’, *əp-əsd*, postpositions, *aveli* ‘more’, **ap-aveli,* etc.).

Compound or derived adjectives, that is, any polymorphemic adjective based on an inflected verb or a compound noun, which are very numerous in WA, cannot accept SAWSR:

əspaʁ(v)a$\widehat{\text{dz}}$[4]	*əspaʁ-* root ‘busy, occupied’ + v-infix + -*a$\widehat{dz}$* past participle suffix = busy *əp-əspaʁ(v)a$\widehat{\text{dz}}$
čara$\widehat{\text{dʒ}}\widehat{\text{dʒ}}$i	*čar-* ‘bad, evil’ + *a*-linking infix + *$\widehat{dʒ}\widehat{dʒ}i$* ‘worm’ = naughty, misbehaved *čap-čara$\widehat{\text{dʒ}}\widehat{\text{dʒ}}$i
garevor	*gar-* ‘need, sorrow’ + -*avor* adjectival suffix of possession = important *gap/-s-/ps-garevor
nšanavor	*nšan* ‘symbol, aim, sign’ + -*avor* = significant, haver of *nəp/nəps-nšanavor
xaʁaser	*xaʁ-* ‘game (n.)’ + *a*-linking morpheme + -*ser* ‘-phile, -loving’ = playful *xap-xaʁaser
sireli	*sire-* verbal root ‘to love’ + -*li* (future infinitival suffix) = obj. to be loved *sip-sireli
mdahok	/mid/ ‘mind’ + *a*-linking morpheme + -*hok* ‘care, worry’ = concerned *məs-mdahok
amenadgar	*amena-* ‘most’ superlative prefix + *dgar* ‘weak’ = weakest *ap-amenadgar

In any word frequency list, such as the one given in the Appendix, one will notice plenty of derived adjectives that are so commonly used as to be treated as monomorphemic by most naive speakers, though they too cannot accept SAWSR (**hip-*

4 Both *əspaʁad$\widehat{z}$* and *əspaʁvad$\widehat{z}$* mean ‘busy, occupied’, but the -v- is an infix showing reflexivity or self-referentiality – the word without the infix denotes that an external factor is causing one to be or become busy, while the one with the v-infix is denoting an internally-motivated cause that has made oneself be or become busy.

himn-agan ‘very foundational’, from *himn* ‘foundation’ + suffix -*agan* forming adjectives or personified nouns, **vap-vajr-eni* ‘very savage’, *vajr* ‘wild place’ + suffix forming belonging/affiliation adjectives -*eni*, **up-užeʁ* ‘strong’, from *už* ‘force’ + -*eʁ* (Jahukyan 1998:804) adjective-forming suffix likely from CA *heɫum* ‘to pour out’ through *h*-apheresis).

Adjectives and adverbs which can typically be fully reduplicated cannot use SAWSR, either in their simplex or fully reduplicated forms; however, adjectives that may occasionally be fully reduplicated, such as *parc͡tsr-parc͡tsr* ‘very tall’, can use the simplex form with SAWSR, such as *pas-parc͡tsr*, but never the fully reduplicated variant **pas-parc͡tsr-parc͡tsr.* Full reduplication, for factors outside the scope of this paper, can be formed either with or without a linking morpheme (-*a*-, -*e*, or -*u*- infix):

gamac͡ts-gamac͡ts	‘very slowly’
abuš-abuš	‘very stupidly, without thinking’
aʁvor-aʁvor	‘so very well’
c͡tsac͡dz-c͡tsac͡dz	‘in a very lowly (cowardly) way’
pac͡ts-e-pac͡ts	‘completely openly, without hiding at all’
mec͡dz-a-mec͡dz	‘great, awesome’
zan-a-zan	‘various types (of)’

Rarely, it is possible to find native words with both valid fully reduplicated and emphatically reduplicated forms, such as *barab* ‘empty’, *barab-barab* ‘idly, wastefully’, and *bas-barab* ‘completely empty, thoroughly hollow’, though because of the degree of semantic specialization that has occurred here, this is a good candidate to support it being (or possibly becoming) lexicalized.

The only possible candidate for a -m- linking morpheme is the word *kam-kak* (*kak*, ‘shit, crap’, related to Greek κᾰκκᾰ́ω), though a likelier alternate etymology is *kam* ‘nail’ + *kak* ‘shit’, thus not any kind of reduplicative process in this scenario; **kap-kak* or **kaps-kak* are unacceptable.

As far as we know, there is no extant evidence of emphatic reduplication in Middle Armenian (11-17$^{\text{th}}$ centuries) though two very important caveats need to be mentioned: 1) no dedicated Middle Armenian corpus or database exists (Vidal-Gorène et

al. 2020:92); and 2) the body of existing text in Middle Armenian is scanty[5] given that almost all written material would have continued to be written in CA until the middle of the 19th century.

Though SAWSR is used in both WA and EA without structural differences, it is clear that its use is more extended in WA (Donabedian-Demopoulos, 2018) and that EA speakers do not use this as a productive strategy to emphasize or intensify adjectives. EA speakers usually cannot spontaneously produce SAWSR forms, and when they do, they do not exhibit the same optionality as a typical WA speaker. The Eastern Armenian National Corpus, a mixed corpus consisting of both written discourse and oral discourse with about 110 million words, for example, only shows us 45 results with *kas-karmir* (EA, 'extremely red') but zero with *kap-karmir* or *kaps-karmir*; *kap-kapujt* (EA, 'vivid blue') and *kaps-kapujt* have zero results, whereas *kas-kapujt* has one; another very commonly reduplicated color is *sev* 'black', and here too, we get almost nothing – zero results for *seps-sev* and two results for *sep-sev*. The prudent approach here would be to consider all SAWSR forms to be lexicalized fossils in EA.

B. SAWSR in Cappadocian Greek

Cappadocian is a group of mutually related Modern Greek dialects which belongs to the Eastern Greek dialectal branch along with Pontic Greek and the Greek of Mariupol (Anastasiadis 1995, Arapopoulou 2001, Dawkins 1910, 1916, 1937, 1940, Kontossopoulos 1994), which were spoken in a number of villages in Central Anatolia (contemporary Turkey) until 1924.

There is evidence of fairly early adoption of Turkish, as described in some detail by Korobeinikov (2010) and Kappler (2011), who use documentary evidence to establish extensive Greek-Ottoman Turkish bilingualism, in some areas as early as the 13th century, and as the centuries go by, pervasive language mixing ("bilingual mixed language") onto Turkish societal monolingualism, with isolated areas showing various stages of the continuum prior to Turkish societal monolingualism by the time we get to the early 20th century. Dawkins (1916) is a seminal resource for us here, as he described in considerable detail, through his fieldwork, Anatolian Greek dialects which were in a

5 Very few complete texts exist – one notable example is compiled by Amirdovlat Amasiatsi or "Amirdovlat of Amasia" (c. 1420-1496 CE) who wrote in his then-colloquial Middle Armenian dialect of Cilicia, in order to make his medical writings accessible to a wider public; he later became the chief physician to Sultan Mehmed II of the Ottoman Empire.

advanced stage of mixing or disuse, which were soon to disappear after the population exchange between then newly-formed Republic of Turkey and Greece, and remains perhaps the most accurate transcription of the Greek inhabitants of Asia Minor[6].

Both modern and historical sources have often remarked that large swaths of Greek-speaking communities in Anatolia were Turkish-dominant. Ačařean (1902), in his seminal work on Turkish loanwords in Armenian dialects, remarks offhandedly that the Greek communities in the central part of Asia Minor (Caesarea, Konya, Karaman) had forgotten their heritage language, but that other Greek-speaking communities had kept their language in a form which was heavily influenced by Turkish.

In a section below (III.B.), we cover more on this theme of morphological borrowing. To take just one example regarding the loss of gender agreement (Karatsareas 2009:213), there have been calls for a readjustment of the contact hypothesis whereby Cappadocian–Turkish bilingual children would fail to acquire only part of the Greek morphosyntactic agreement rule, namely agreement in gender, but not in number, though this hypothesis was consequently revised as a language-internal process of change leading to the decline of grammatical-gender distinctions in Cappadocian which had already been ongoing at the onset of the Cappadocian–Turkish contact, a process most probably accelerated by the subsequent language contact but not triggered by it, though this reasoning likely cannot be applied for SAWSR, as we have no evidence of an analogous language-internal change.

As Melissaropoulou (2016) explains, though Koine and later Byzantine Greek had plenty of diminutives (*-ion*, *-iđion*, *-arion*, etc.), they possessed no pure augmentatives, i.e. suffixes that express augmentation of a thing itself, rather than denoting a person bearing some property or characteristic to a greater degree than normal. Augmentatives of this type appear in Greek only after the 12th century (Melissaropoulou & Manolessou, 2010), after the Seljuk invasion of Cappadocia and its separation from the rest of the Greek-speaking world.

Melissaropoulou (2016) explains in detail that Cappadocian diverges from all other varieties of Modern Greek, including Standard Modern Greek, in that the semantic counterpart of suffixal diminution, augmentation, remains unrealized (Turkish too, the long-dominant language, does not display any augmentative suffixes), which

6 Though his study mostly focused on the Greek vernacular in Cappadocia, nevertheless Dawkins briefly mentioned other obscure Greek dialects (see, for instance, Korobeinikov 2010 for Bithynia Greek).

perhaps partly explains why Turkish-style SAWSR was adopted as another word-formation pattern to fill in this missing augmentative niche.

Cappadocian Greek can emphatically reduplicate with both C-initial and V-initial bases, and can also tolerate /-m-/ on top of /-p-/ and /-s-/, but not /-r-/ (Alektoridhis 1883, Dawkins 1916, Krinopoulos 1889:54, Fosteris & Kesisoglou 1960:33, and Bağrıaçık & Janse 2016), and to our knowledge, not /-ps-/. Available evidence of reduplicated words come from the villages of Aravan, Fertek, and Ulaghats:

mávro	'blue'	→	más-mavro	'pitch black'
líɣo	'little'	→	líp-liɣo	'very little'
kaló	'good'	→	káp-kalo	'very good'
polí	'much'	→	póm-poli	'in excessive amounts'
kelés	'beautiful'	→	kép-keles	'very beautiful'
áspro	'white'	→	áp-aspro	'snow white'

Note the stress shift, unlike in Turkish and WA, which predictably occurs word-initially with each emphatically reduplicated form, whether or not the simplex form had ultimate (such as *kelés*) or penultimate stress (such as *áspro*).[7] Other than the typical {p, s, m} borrowed set of infixes, we also see one example of /-n-/ (Dawkins 1916), not seen in Turkish, namely in:

manax(o)	'alone'	→	man-manax(o)	'completely alone'

Thus despite otherwise quite Greek-sounding morphosyntax[8], speakers of this dialect were sensitive both to the Turkish morphological process and to the fact that this SAWSR is the preferred way to intensify colors or other basic adjectives, and expanded the use of initial-syllable reduplication (Wertheim 2003:315). Just as SAWSR

7 Though both Turkish and Cappadocian Greek have lexical accent systems (Inkelas 1999, Revithiadou 1999), meaning morphemes carry lexically prespecified information on the possible position of stress prominence, the two languages differ in the principles they employ for the resolution of competing accents. Standard Modern Greek opts for compositionality (Karatsareas 2016), a morphoaccentual principle that assigns prominence to accents belonging to morphemes which are important in morpho-syntactic structure, in other words, heads (Revithiadou 1999). Compositionality is one of the principles that govern the prosody-morphology interface (*ibid*.). Turkish, on the other hand, selects edgemostness, a principle that assigns prominence to accents standing at or near a word edge (Inkelas 1999), which is a purely metrical concept. According to the interdialectal comparative analysis done by Kooij & Revithiadou (2002), dialects closer to Greek, such as Pontic, have compositional accentuation, whereas dialects that experienced greater Turkish influence, such as the various Cappadocian subdialects, adopt an edge-oriented mode of stress assignment.

8 Though Southwestern Cappadocian even had vowel harmony and verb-final word order.

turned out not to be limited to the stratum of Turkish borrowings, the use of full reduplication for intensification does not seem to be either — the Turkish mechanism of reduplication for intensification seems to have been borrowed and generally applied (*ibid.*:316).

There are no Modern Greek fossilized remnants in any extant (non-Anatolian) dialect[9]. Furthermore, Bağrıaçık & Janse (2016) note that SAWSR is not productive today in the only surviving dialect of Cappadocian, Misiótika (from the village of Misti in Greece), once thought to have been extinct since the 1960s (Karatsareas & Lekakou 2016).

C. SAWSR in Turkish and Turkic

Turkish SAWSR is by far the best-studied; /-p-/, /-s-/, and /-m-/ are productive to this day, /-r-/ is perhaps synchronically unproductive though we will expound this point later. Like in WA and Cappadocian, many mono- and disyllabic adjectives and adverbs can support SAWSR (Godel 1945, Demir 2018, hyphens not found in Turkish orthography but are shown here for clarity):

dop	'full'	→	dop-dolu	'chock-full'
uzun	'long'	→	up-uzun	'very long'
güzel	'pretty'	→	güp-güzel	'very pretty'
dop	'full'	→	dop-dolu	'chock-full'
yumru	'swollen'	→	yus-yumru	'very swollen'
katı	'hard'	→	kas-katı	'hard as a rock'
yuvarlak	'round'	→	yus-yuvarlak	'very round'
boş	'empty'	→	bom-boş	'completely empty'
bok	'crap(py)'	→	bom-bok	'really crappy'
dik	'straight'	→	dim-dik	'bolt-upright'
beyaz	'white'	→	bem-beyaz	'thoroughly white'
çıplak	'naked'	→	çır-çıplak	'stark naked'
temiz	'clean'	→	ter-temiz	'clean as a pin'

9 Through private correspondence with Lefteris Paparounas and Alexandros Kalomoiros.

Loanwords, even relatively recent non-Arabic, non-Iranian loanwords, may also be subject to SAWSR, as well as older Perso-Arabic loanwords:

gri (Fr.)	'gray'	→	gip-gri	'totally gray'
garanti (Fr.)	'guaranteed'	→	gap-garanti	'absolutely guaranteed'
popüler (Fr.)	'popular'	→	pos-popüler	'very popular'
güzide (Ir.)	'élite'	→	güp-güzide	'very élite'
siyah (Ir.)	'black'	→	sim-siyah	'pitch black'
zengin (Ir.)	'rich	→	zep-zengin	'very rich'
kırmızı (Ar.)	'red'	→	kıp-kırmızı	'crimson red'
medeni (Ar.)	'civil'	→	mes-medeni	'very civil'

There are also lexicalized forms (Dhillon 2009, Göksel & Kerslake 2005) – these are generally regarded as idiosyncratic and are not the result of a productive morphophonological process:

yalnız	'alone'	→	yapa-yalnız	'all alone'
parça	'piece'	→	param-parça	'smashed to pieces'
çıplak	'naked'	→	çırıl-çıplak	'stark naked'
gündüz	'by day'	→	güpe-gündüz	'in broad daylight'

According to Yu (1999), because the affixal consonants {p, s, m, r} do not form a natural class, phonotactic constraints are unable to derive the surface form from one single underlying form, and based on the novel emphatic forms elicited by Wedel (1999), we know that since /-r-/ is no longer productive, the remaining forms with /-r-/ must be lexicalized according to certain authors (Dhillon 2009:13-14).

A further note on lexicalization – Dhillon (2009) posits lexicalized forms for /-p-/, /-s-/, and /-m-/ as well if, after going through numerous Optimality Theory-driven analyses, such forms were found to be phonologically suboptimal (data from Göksel & Kerslake (2005) and Wedel (1999), separated by what we find as the typically attested infix):

		Theoretically optimal infix	Typically attested infix
kısa	'short'	kım-kısa	kıp-kısa
kara	'black'	kas-kara	kap-kara

karanlık	‘dark’	kas-karanlık	kap-karanlık
kızıl	‘red’	kıs-kızıl	kıp-kızıl
koyu	‘dark’	kos-koyu	kop-koyu
yanliş	‘wrong’	yas-yanliş	yap-yanliş
yeni	‘new’	yes-yeni	yep-yeni
cavlak	‘naked’	cap-cavlak	cas-cavlak
beyaz	‘white’	bes-beyaz	bem-beyaz
bok	‘shit’	bos-bok	bom-bok
buruşuk	‘wrinkled’	bus-buruşuk	bum-buruşuk
dik	‘straight’	dis-dik	dim-dik
sıcacık	‘warm’	sıp-sıcacık	sım-sıcacık
sıcak	‘hot’	sıp-sıcak	sım-sıcak
siyah	‘black’	sip-siyah	sim-siyah

Even in writing, attempting to write most if not all of these forms in an Internet search engine will yield some results, though not as many as the lexicalized form. Eastern Turkish dialects, which would have historically been the dialects more in use in WA- and Cappodocian Greek-speaking communities, exhibit some degree of optionality in these forms[10].

In Turkish too, there is an absolute prohibition on using emphatic reduplication for grammaticalized words serving as conjunctions, postpositions, or certain kinds of adverbs, likely due to their semantic type (Kılıç & Bozşahin, 2013), i.e. *ama* ‘but’ → **ap-ama*, *göre* ¨ ‘according to’→ **göp-göre.*

Demircan (1987) states that native Turkish speakers can be shown to have knowledge of restrictions when they are asked to reduplicate adjectives they have never reduplicated beforehand. Demircan (1987) and Wedel (1999, 2000) describe the restrictions in phonological terms (these include both the linker selection constraints (the rules regulating which linker will be selected) and the reduplicant constraint rules) as follows:

10 Via personal correspondence, Uğurcan’s wife’s rural dialect in Eastern Turkey supports /-ps-/ as well, generally in the phonetic form [pVs], such as in *kıpıskırmızı* ‘crimson red’ (this form is found in colloquial writing on the Internet as well), *zepiszengin* ‘very rich’, and *güpüsgüzel* ‘very pretty’. WA’s version of /-ps-/ does not involve an epenthetic vowel, though this is likely due to the greater number of consonant onsets and codas that WA can tolerate compared to Turkish.

i) avoidance of full reduplication – the linker is selected in a way that it can establish an optimization or balance among the features contributing to the featural contrast with respect to base;
ii) no gemination between linker and initial consonant of base;
iii) avoidance of a linker that is identical to any consonant in the base, thus the linker with the most contrasting features is selected for perceptual salience.; and,
iv) avoidance of a linker that shares any features such as [labial], [strident], and [approximant] with any segment in the base (Kaufman 2014:15-16).

Thus, the linker from the set {p, s, m, r} cannot be identical with the initial consonant of the base C_1: *pembe* 'pink' → **peppembe*, and the linker cannot be identical to the second consonant C_2 of the base: *pembe* → **pempembe*/*pespembe* 'intensely pink', although non-standard dialects of Turkish may also accept /-r-/[11]. However, not all the aforementioned constraints are obeyed by Şendoğan's sample of Turkish native speakers in her experiment, as the fourth restriction was "prone to be violated" (Şendoğan 2017:181), which is in line with what Kılıç & Bozşahin (2013) suggest – that although this is an apparently a phonological operation, Turkish emphatic reduplication depends on global lexical knowledge (accessed consciously) for selecting an appropriate linker whose co-occurrence with the initial consonant of the reduplicated word is infrequent, therefore they conclude that this phenomenon must be morpholexical, rather than phonological.

Turkologists and Altaicists have been unable to satisfactorily reconstruct SAWSR in an older proto-language, though we have plenty of evidence that SAWSR is at least reconstructible to the Proto-Common Turkic stage (that is, Proto-Turkic minus the Oghuric languages such as Chuvash, †Bulgar and †Sabir) since members as geographically and culturally isolated as Sakha exhibit it.

Sakha, a northern Turkic language in Far Eastern Siberia, spoken by approximately 450,000 people, has a similar system to Turkish, with the addition of a /-pIs-/ or /-bIs-/ linking infix in 11 words, and considerable optionality; /-p-/ is overwhelmingly the commonest type, since out of out of 111 elicited roots, 92 have /-p-/ as a possible linker, but there are at least 10 adjectives that could take /-s-/, a handful

11 Azeri Turkish, for example, has 12 examples that take /-r-/, such as *bäzäkli* 'decorated, fancy, chic' → *bär-bäzäkli* 'luxurious' and *joχsul* 'poor, destitute' → *jor-joχsul* 'the poor, the squalid, beggars' (Stachowski 2014:48-49).

that can take /-r-/, one with /-n-/, one with /-rü-/, and one with /-jIs-/ (data from elicitations in Vurgun 2021):

Vowel-initial bases:

araʁas	'(light) yellow'	→	ap-araʁas
aranǰevai	'orange (color)'	→	ap-aranǰevai
acčɨk	'hungry'	→	ap-acčɨk
aɦɨ	'bitter'	→	ap-aɦɨ ~ as-aɦɨ
emis	'plump'	→	ep-emis
eder	'young'	→	ep-eder
iti:	'hot'	→	ip-iti:
ɨra:s	'clean'	→	ɨp-ɨra:s
ɨra:χ	'far'	→	ɨp-ɨra:χ
ɨaraχan	'heavy'	→	ɨbɨs-ɨaraχan ~ ɨp-ɨaraχan
ɨksarɨ	'tight'	→	ɨp-ɨksarɨ
öjdö:χ	'smart'	→	öp-öjdö:χ
uɦun	'long'	→	up-uɦun
utarɨ	'across'	→	u:n-utarɨ
u:llaʁas	'thawed'	→	up-u:llaʁas
ürüŋ	'white'	→	üp-ürüŋ
ürüŋŋük	'whiteness'	→	üp-ürüŋŋük
ürdük	'high'	→	üp-ürdük
üčügej	'good'	→	übüs-čügej ~ üp-üčügej

Consonant-initial bases:

saŋa	'new'	→	sabɨs-saŋa
soʁotoχ	'lonely'	→	sos-soʁotoχ ~ sobus-soʁotoχ
ǰikti	'poor'	→	ǰip-ǰikti
kɨhɨl	'red'	→	kɨp-kɨhɨl
tatɨm	'insufficient'	→	tap-tatɨm
tastɨŋ	'outsider'	→	tas-tastɨŋ
delej	'plentiful'	→	dep-delej
kiligir	'smooth'	→	kip-kiligir ~ kibis-kiligir

Sakha does not appear to have any monosyllabic vowel-initial roots that can be used with SAWSR. Stachowski (2014) reports that the adjective *ak* 'white' appears with

SAWSR in several Turkic languages such as Bashkir, Tatar, Uighur, and Uzbek. However, this adjective is not attested in the Sakha data, probably related to the fact that there are two other adjectives with the same meaning (*ürüŋ* and *maŋan*)." (Vurgun 2021). Thus, most words in Sakha that can accept SAWSR are bi- or trisyllabic.

The existence of a similar syllable form /-pIs-/ (or /-bIs/ based on nearby voicing assimilation) in Turkish dialects and WA (/-ps-/ without the I, which in Turkic present any high vowel with the necessary vowel harmony alternations) may be explained with the presence of a common form in Old Turkic, though we do not have direct evidence. We also have no evidence on whether the infix morphemes /-p-/ and /-s-/ originate from these syllable forms (/-bIs-/ and /-pIs-/) through suppletion or clipping. This would make /-pIs-/ the diachronic parent of /-p-/ and /-s-/ but would likely not explain how /-r-/ came to be (/-m-/ could perhaps be derived from /-bIs-/ and /-pIs-/ through regular sound change). It could also be that there was once a phenomenon that was uniquely phonological that became opaque due to sound change, similar to multiple diachronic developments in Latin (Sen 2015). Additionally, Vurgun (2021) notes that a perspective based on suppletion also needs to explain why there are several roots that can appear with both /-p-/ and /-s-/ if suppletion is a uniform process that would derive one specific form at the end. Therefore, he considers both consonants and the full /-pIs/ (or /-bIs/) in Sakha as distinct forms till we find counter-evidence.

Tuvan, a Turkic language in Siberia, creates emphatic forms via a process in which the initial (C)V is copied and followed with only the infixal consonant /-p-/ and then the base. Unlike in Turkish and other nearby languages, Tuvan accepts SAWSR for verbs as well (data from Harrison & Raimy 2004), which shows us an interesting case of domain expansion of this particular phenomenon:

qara	'black'	→	qap-qara	'very black'
nogaan	'green'	→	nop-nogaan	'very green'
qɨzɨl	'red'	→	qɨp-qɨzɨl	'completely red'
uzun	'long'	→	up-uzun	'very long'
türgen	'quick(ly)'	→	tüp-türgen	'very quick(ly)'
čiŋge	'thin'	→	čip-čiŋge	'very thin'
borbaq	'spherical'	→	bop-borbaq	'completely spherical'
xalaan	'run'-PAST	→	xap-xalaan	'ran really fast'
körbeen	'see'-NEG-PAST	→	köp-körbeen	'did not see at all'
saar	'milk'-P/F	→	sap-saar	'will definitely milk'

saɣbas	'milk'-NEG-FUT→	sap-saɣbas	'will definitely not milk'

It has been observed that SAWSR also occurs in other groups of "Altaic", which is not a proven family, and seems likely to be a contact phenomenon there as well. Let us consider Oroqen, a Northern Tungusic spoken in Inner Mongolia and Heilongjiang, China, which employs SAWSR to create emphatic forms in which the (C)VC of a word-initial closed syllable of an adjective is copied and prefixed to the base. If the initial syllable is open, the initial (C)V is copied and followed by the affixal consonant /b/ and then the base (Dhillon 2009):

bagdarın	'white'	→	bag-bagdarın	'snow white'
šiŋarın	'yellow'	→	šib-šiŋarın	'golden yellow'
kara	'black'	→	kab-kara	'glossy black, very dark'
kɔŋɔrın	'black'	→	kɔb-kɔŋɔrın	'very black'

In contrast to the other languages surveyed in this section, SAWSR in Oroqen is semantically much more restricted – even for color adjectives, the emphatically reduplicated forms no longer refer to an intensified version of that color, but rather a narrowed semantic meaning, such as *kab-kara* 'glossy black, very dark' typically referring to the dark sheen of the fur of a horse or dog. SAWSR in Oroqen is disappearing from the language altogether, as is the case in a few other Tungusic languages, not under a natural process of morphological decay, but due to the attrition of the language as it becomes moribund (Li & Whaley 2000:360).

Much like Turkish, there is no effect on primary word stress, which is on the final syllable in all these forms given above. The reduplicative prefix receives secondary stress. For certain speakers, the postvocalic [b] in the last three forms has assimilated in voicing to the following obstruent, and so is pronounced [p] (Li & Whaley, 2000:357, see Beturay Meral 2020:106 for Turkish).

According to Li & Whaley (2000:363), if emphatic reduplication were an archaic Altaic feature, it need only be motivated in phonotactic terms for Proto-Altaic (though even here, it is not obvious that the phonotactics of Proto-Altaic are consistent with the facts of SAWSR). They partly base their statement on the anomalous Oroqen forms as remnants from a much earlier era, as today it is not productive. However, they would be remarkable forms indeed, having resisted change for such a lengthy period of time.

Essentially, Li & Whaley remain unsure if SAWSR in Mongolic, where the process is far more lexically restricted, and in Tungusic, where it is similarly restricted and only found in a few languages, is best regarded as a genetic attribute of Altaic, or if such a reconstruction is even ultimately possible, or whether its distribution might be better explained as the result of contact-induced borrowing[12].

At least so far as the circumstances in Anatolia are concerned, we can be certain that the incoming Seljuk dialects already exhibited SAWSR. Mahmud al-Kāšγarī' was an 11th c. Kara-Khanid scholar and lexicographer of the Turkic languages from Kashgar (modern day Western China); when he was stationed in Baghdad, which had been absorbed by the Seljuk Empire by 1055, he compiled the first comprehensive dictionary of Turkic languages, the Dīwān Lughāt al-Turk ('Compendium of the Languages of the Turks') in 1072–74. In addition to functioning as a Turkic-Arabic dictionary, the work offers numerous historical, folkloric and geographical details of the twenty-two Oghuz and other Turkic tribes surveyed. He was the first grammarian to note SAWRS, which he described as the "rule about colors and exaggerating the description of things is to take the first letter of the word and join it to *bā'*"[13] in most of the Turkic dialects, but to *mīm* in Oghuz" (Dankoff & Kelly 1982: 261). Four linking infixes are attested – /-p-/ shows up 26 times, /-m-/ thrice, /-pp-/[14] once, and /-s-/ once (Stachowski 2014:37).

Even in the earliest available SAWSR data, there does not seem to exist any systematic correlation between the meaning and the phonetic shape of the intensifying elements (Stachowski 2014:265).

Regarding the lack of evidence in Old Turkic inscriptions, Stachowski explains that because SAWRS forms were probably colloquial formations, reduplications were likely deemed unsuitable for the typically ceremonious inscriptions. In the 11th century,

12 They note that two basic scenarios for the genesis of this particular kind of reduplication present themselves; 1) that SAWSR may have been a property of Proto-Micro-Altaic that was maintained to some degree in each of its branches; the process has decayed most rapidly in Tungusic, such that it now exists only in a highly restricted, idiosyncratic form; or, 2) SAWSR was borrowed into Oroqen (or some ancestor of the language) as well as a number of other Tungusic languages from Turkic – either it was borrowed in a restricted form, or it was borrowed in a productive form and has since decayed. They favor a borrowing analysis, based on an areal analysis and due to phonological considerations in Proto-Tungusic. Dhillon (2009) argue that Oroqen SAWSR was borrowed into Tungusic, most likely from Turkic via Mongolic.

13 By which he must have meant [p] phonetically.

14 Several modern Turkic languages have /-pp-/ as a valid infix, such as in Oirot, a Southern Altai Turkic language spoken by about 55,720 people in Russia, and two examples in pre-16th century Ottoman Turkish. Explanations differ as to how this double-p intensifying infix may have arisen (e.g. contraction of a double reduplication, cluster simplification (CVp-kVC > CVp-pVC), doubly emphatic lengthening, among others (Stachowski 2014:202)).

most notably in al-Kāšγarī's dictionary, we do have evidence of more than ten adjectives with SAWSR. They are attributed to various Turkic tribes, not limited to colors, and can be closed with three different closing consonants which show a genealogical and geographical differentiation (/-m-/ in the Oghuz versus /-p-/ elsewhere; /-s-/ in *täs-tägirmä* 'very round' which al-Kāšγarī found puzzling). Combining these two pieces of information, it might be supposed that the 11th century is no more than the *terminus ante quem* of both, Turkic reduplication, and the diversification of closing consonants, and the phenomena had in reality begun earlier (*ibid.*:289).

This is indeed part of the evidence that this became a wider areal feature in eastern Central Asia and Siberia, though we are cautious not to claim a directly inherited morphological phenomenon further back than Proto-Turkic, as the Manchu and Tungusic languages (Baek 2016) could have undergone a similar borrowing process as did WA and Cappadocian. Korean is said to have emphatic reduplication, but there are numerous and considerable differences between the way it does SAWSR and the Turkic model – in Korean, only CV- or CVC- in a two-syllable base is usually reduplicated, the reduplicated part may come from the initial or final syllable (e.g. *asasak* < *asak* 'crunching, crisping', *ccilulung* < *ccilung*, 'ringing'), and in three-syllable bases, the last two syllables are reduplicated (*elssikwussikwu* < *elssikwu*, 'hurray, whoopie'). (Sohn 1999:258) The Turkic infix is only taken from the fixed set of four consonants, whereas the inserted C in Korean is not taken from a fixed set of consonants; rather it is chosen by making reference to the features of neighboring consonants (An 2009). Also, in a production experiment with nonce base forms, it was found that Korean speakers have a wider range of choices for epenthetic consonants (*ibid.*, Kang 2013), with no clear preference unlike the Turkic model, whereas Turkic speakers have a more limited choice in epenthetic consonants (Kılıç & Bozşahin (2013) and Köylü (2020) for Turkish, and Vurgun (2021) for Sakha).

D. Interim Conclusion

We essentially worked backwards, by giving an overview of SAWSR in WA, Cappadocian Greek, and some Turkic languages (the main emphasis being on Turkish), and we are left with no choice but to say that this morphological phenomenon which became integrated into the Indo-European languages of Anatolia originated from contact with early Seljuk Turkic dialects and eventually (mainly) Ottoman Turkish.

Whatever changes occurred after it was borrowed into WA and Greek are innovations, the details of which are expounded in the section below.

Since the time of Anatolian beyliks[15], there likely was some level of bilingualism in the upper echelons of Christian populations living in Anatolia and the southern Caucasus. We can be more certain of pervasive bilingualism during and after the second, more intensive period of Anatolian beylik domination that took place as a result of the decline of the Seljuk Sultanate of Rûm, which had used Persian (Grousset 2002:157) and Greek (Peacock & Yildiz 2012:132), depending on area, as their language of administration in the second half of the 13th century. These post-Sultanate of Rûm beyliks used Oghuz Turkic as their everyday and administrative language (Ágoston & Masters 2008:40) – one of the northwestern beyliks eventually became the Osmanli (Ottoman) Turks, and they ended up assimilating all other beyliks.

We have now seen several variations on the same theme in many Central Asian Turkic and non-Turkic languages. Thus, we can conclusively state that SAWSR was inherited in Turkish but not in Armenian or Anatolian Greek; therefore in the latter two languages it must be a contact phenomenon.

III – Development

Here, we first compare SAWSR in Turkish and WA, show how it differs in those two languages, and analyze the differences phonologically as development within WA. and secondly, we compare SAWSR in Turkish and Cappadocian Greek, show how it differs in those two languages, and analyze the differences phonologically as development within Anatolian Greek.

A. Comparison of SAWSR in Turkish and WA

The implementation of emphatic reduplication in WA differs markedly from that of Turkic languages. We argue that emphatic reduplication is marginally productive and that there are mismatches between the WA and Turkic emphatic reduplication strategies which reveal that the reduplicant in the latter is a CV-skeleton, and a σ-skeleton in the former (Bağrıaçık & Janse 2016). Moreover, there is evidence for selective copying of

15 Small principalities (or petty kingdoms) in Anatolia governed by beys, the first of which were founded at the end of the 11th century.

morphological items moderated by phonological conditioning, not by the morphology and lexicon like in Turkic and that selective copying has been divorced from certain constraints found in the donor language while adding new constraints in the receiver language; and lastly, we very briefly explore how emphatic reduplication does not interact with the typical concatenative morphology of the language in the same way as other forms of reduplication.

The descriptive account is complicated by the fact that, unlike in standard Turkish (for experimentally-motivated accounts, see Kılıç & Bozşahin (2013) and Köylü (2020)), there is some optionality involved in the choice of reduplicated affixed consonant, such as *tep-teʁin* which can also take the linking morpheme /-s-/ or /-ps-/ as in *tes-/-ps-teʁin* 'extremely yellow'. /-r-/ and /-m-/ are not available in WA as they are in Turkish, and more importantly, this contact-induced phenomenon appears to interact with pre-existing reduplicative patterns of varying productiveness (with some types of reduplication already fossilized by the pre-Classical era, Leroy & Mawet (1986), Balabanian (2022)) as we have seen in the WA descriptive section above.

Since emphatic reduplication has only cursorily been remarked upon for WA (though not comprehensive studies, see Donabedian-Demopoulos 2017, 2018), we need to look at the literature for Turkish for a reasonably complete picture. Earlier studies of Turkish emphatic reduplication generally fall into three basic approaches: 1) lexical analyses, which advocate that the choice of linker is lexically determined and therefore cannot be predicted based on any property of the base (Foster 1969, Dobrovolsky 1987, and Lewis 2000); 2) phonological analyses which suggest the choice of linker is based on certain phonological constraints (Demircan 1987, Taneri 1990, and Kelepir 2001); and 3) a mixture of the two, which argue that the linker /-r-/ is lexicalized but the choice of linkers /-p-/, /-s-/, and /-m-/ is determined by phonological constraints (Wedel 1999, Abbasi & Moradkhani 2012).

Kılıç & Bozşahin (2013) conducted a lexical prompting experiment with Turkish words and concluded that this phenomenon is codetermined by the morphology and the lexicon. They also proved that the pattern cannot be repeated (*mas-mavi* 'deep blue'→ **mas-mas-mavi* and *ap-açık* 'blatant' → **ap-ap-açık*, the same holds true for WA and, extremely likely, Cappadocian as well).

Another experiment was conducted by Köylü (2020), in which native speakers were exposed to 48 nonwords respecting the standard rules of Turkish phonology, and

asked to generate or guess emphatically reduplicated forms. What the research found was that there seemed to be a clear preference for [p] > [m] > [s] in VCV contexts, and [p] > [s] > [m] in CVC contexts. Thus the discussion section concludes by saying that Turkish speakers appear to have abstract knowledge of emphatic reduplication and respected Yip (1998)'s identity avoidance principle, given that many languages avoid sequences of homophonous elements, be they phonemes or morphemes, thus it could be argued that a single principle underlies all such cases of avoidance, and that this principle can interact with the rest of the grammar resulting in the omission of one morpheme, or forcing a choice between different otherwise valid outputs.

i) Emphatic reduplication is marginally productive

Even within an unproductive (or marginally productive) process, regularities available in the input are exploited by the learner. Experimentally, we know that speakers of Turkish are found here to not only make use of phonological information to determine which linker segment appears, but also to use semantic class regularities to decide whether or not a given adjective will undergo emphatic reduplication (Şendoğan, 2017). In other words, knowledge of restricted or quasi-productive morphological processes have been shown to give rise to weak generalizations ("stochastically conditioned"), since speakers employ them on novel stimuli (Kaufman 2014, Köylü 2020).

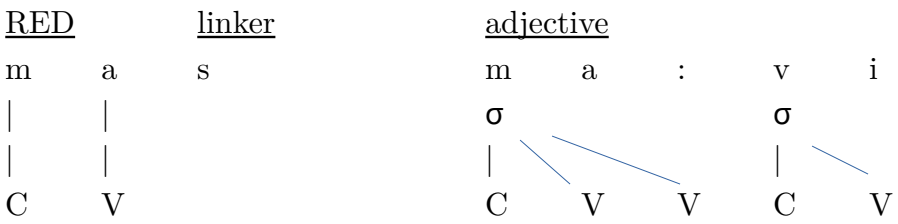
For WA, given that one can be coerced into producing forms which are phonologically regular but infelicitous due to other reasons (see pp. 5-6 above), we can tentatively conclude that emphatic reduplication is a marginally productive process, though this is not directly mediated by the lexicon in the same manner as say, English velar softening is (Pierrehumbert 2006:94 claims that asymmetries in productivity is "a reflex of statistical learning over patterns of the lexicon").

ii) WA's reduplicant is a σ-skeleton, Turkish's is a CV-skeleton

In Turkish, the reduplicant is a strict (C)V- prefix[16], which duplicates the onset and nucleus of the root and chooses its coda, i.e. linking infix from the set {p, s, m, r}, based various lexical and morphological factors as explored below. Following Marantz (1982:446-447, 1987) and Steriade (1988), four general principles[17] are at work when

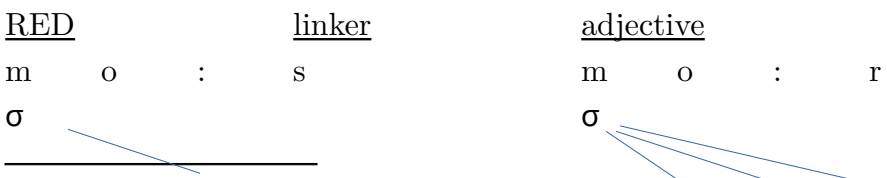
16 The C is in parentheses because vowel-initial bases are possible.

linking phonemic melodies with CV-skeleta. Let us take *mas-ma:vi* 'deep blue' (vowel length is not shown in the modern Turkish script) as an example:



If Turkish were to work like WA, we would expect **ma:s-ma:vi* and **la:p-la:civert* 'deep navy blue' instead of *lap-la:civert*. In WA, since the RED is a syllabic skeletal affix (σ-skeleton), which means that it targets the first entire syllable of the base, the internal structure of this syllabic skeletal affix retains features such as vowel length and, optionally, off-glides. This is to say that the RED in WA and its dialects is a σ-skeleton and cannot be a CV-skeleton since what is copied and associated to the RED from the base is the phonemic melody of the initial syllable of the base.

The mismatches between the WA and Turkish emphatic reduplication strategies reveal that the reduplicant in the latter is a CV-skeleton, and a σ-skeleton in the former (see Bağrıaçık & Janse 2016 for a more detailed analysis of this claim). This is a very minor point, as it is difficult to gauge this in most dialects of WA because vowel quantity is not a phonemic feature, but in the moribund dialects which do phonemically distinguish vowel quantity (such as in Arabkir or Shabin-Karahisar, Vaux (1998:244)), we see that the features of the first two CV/VC are copied onto the RED[18] affix, such as in the word *mo:s-mo:r* 'deep violet':



17 Marantz called these "conditions". First, only [+syllabic] phonemes are linked with V slots and only [-syllabic] phonemes are linked with C slots. Second, there must be a one-to-one linking of phonemes with the available slots. Third, when there are insufficient CV slots in the RED to which melody from the base can be linked, discard that CV slot. Fourth, the slots in a CV-skeleton may be preattached to distinctive features and these features take precedence over the features of any phonemes from a phonemic melody which may link to these slot.

18 For various types of reduplication, all segments on the base have correspondents in the reduplicant, but in the case of full reduplication, the segment is repeatedly wholly – the first and second string within a reduplicated word are instantiated by two free-standing, phonologically related outputs (this is output-output-correspondence (Kager 1999:263)), and in the case of SAWSR, the grammar generates a reduplicant which is a copy of the first σ- of the base, then deletes the final coda consonant and replaces it with [s] for [LAB] and [p] elsewhere.

Comparing this with Turkish, where the [±long] feature of the initial V of the base is ignored in the reduplicant and the V slot in the reduplicant is invariably [-long], we see that in some WA dialects, the [±long] feature of the initial V of the base seems to be reflected on the reduplicant as well. The Arabkir and Shabin-Karahisar dialects also have examples like *k'op-k'or* 'very itchy' where [-long] gets copied. Though for the standard WA dialect in question here, outside of vowel quantity, perhaps the only piece of evidence in support of this point is that the post-nuclear glides can optionally be reduplicated, as in *lajn* → *la(j)p-lajn*.

iii) WA selective copying of morphological items is moderated by phonological conditioning

There is evidence for selective copying of morphological items moderated by phonological conditioning, not by the morphology and lexicon like in Turkish. In WA, contrary to what we find in Turkic languages, we see that there are some words squarely within the "size" or "dimension" semantic category (such as *me͡dz* 'big' and *hsgah* 'gigantic, huge') which cannot acceptably receive SAWRS.

There is also a fairly wide range of words of questionable soundness in their emphatically reduplicated forms – the general tendencies are that multisyllabic words appear to strongly disfavor emphatic reduplication, words with an already existing reduplicated form via other means will generally cause interference with trying to produce the SAWSR form, and words which are already root-reduplicated or already derived will never accept SAWSR. After a fairly exhaustive search (see Appendix) for which linker morphemes are used or preferred for all of the consonants used in WA[1920], we can schematize our findings as follows:

19 Grayed out letters represent consonants which very few words use initially, such as [ʁ], which is rare with only about 25 words, none of which are adjectives, and [ɾ] which is also very rare word-initially, that has only about 50 words, none of which are commonly known adjectives, [r] too is rare word-initially though common elsewhere. Although note that, in theory, these word-initial consonants would not block SAWSR if we were to come up with nonce words.

20 Word-initial /e/ ⟨ե⟩, but not /ē/ ⟨Ե⟩, always surfaces as [je], except in conjugated forms of the verb *əllal* 'to be'.

RED-C	Base-C or Base-V
p	a, č, d, (j)e, š, ž, d͡z, t͡s, x, i, o, y, ə, u, h, r, ṙ, ʁ
s	p, b, f, v, m
s or ps	-
p or ps	s, z, t͡ʃ, d͡ʒ, n, l
p or ps or s	k, g, t, d

The WA reduplicative C appears to be purely phonologically conditioned, at least so far as the clear choice of /-s-/, which is the only choice for {p, b} for dissimilatory purposes, and {f, v, m} which all carry the feature LABIAL. There may thus be a dual motivation, or one motivation which trumps the other. Nevertheless, taken together as a single set, {p, b, f, m, v} are all [LAB] (notice that [n] does not tolerate the /-s-/ linker, even though it is featurally close to [m]). The only [LAR] consonant [h] is almost entirely blocked from participating in this process. The reduplicative C overwrites the coda, and since there is a very large selection of consonants and vowels which select for /-p-/, we can safely presume it to be the "elsewhere" linking infix. A base vowel, whatever its features, only selects for /-p-/.

At least so far as /-s-/ is concerned, there appears to be strict adherence to the Obligatory Contour Principle ("OCP", Vaux, 1998, Southern 2005:68, 70, 84, 86, from Williams 1995) which prohibits identical feature specifications on adjacent autosegments; in other words, adjacent segments having the identical place of articulation are prohibited, at least at morpheme boundaries (Odden 1986). The OCP is held by some to be a universal and thus inviolable principle which restricts phonological derivation (Zimmerman 2015, McCarthy 1986, though Odden (1988) disagrees). The general prediction is that violations of the OCP can be repaired in three different ways (Yip 1988, Fukazawa 1999): a feature change, outright deletion, or the insertion of a segment with the opposite value. The OCP also explains why dissimilation is obligatory for {p, b}, as mentioned above.

Thus, /-s-/ does not occur with roots with the initial coronal consonants. What is telling is that there are no examples of reduplicant consonants tolerating either /-s-/ or /-ps-/, but not /-p-/. Judging from what we see, {k} is only a marginal member of the RED-C class on our list above – it may be due to a lack of suitable words starting with {k} or a violation of a euphony constraint (for example, *ker* 'fat' → *kep-ker* and *keps-ker* 'obese' sound fine, but *? kes-ker* sounds degraded). {t, d} are the coronal consonants with the fewest distinctive features, therefore it is less surprising that they

show the greatest optionality here. There are no base consonants which support both /-s-/ and /-ps-/ to the exclusion of /-p-/, which is likely because the more complex infix marker /-ps-/ already contains all the features of both its components, hence the increased probability of having incompatible features. Lastly, though we have not yet investigated this, there is bound to be some speaker variation in the multiple-choice categories.

Dum-Tragut (2009:677) also finds that the OCP is the best explanation of the choice of infix morpheme, and explains that this constraint also means that there is no "rule" for dorsal consonants such as {k, g}, i.e. they can, in principle, freely combine with either /-s-/ or /-p-/, or both in many cases.

iv) The constraints of the receiver language and donor language do not match

We have established that the processes underlying selective copying have been divorced from certain constraints found in the donor language while adding new constraints in the receiver language (analogous processes have happened in all variants of Armenian from borrowed Persian elements in other areas of morphophonology, such as the first and the second components of synthetic iterative compound words in Armenian bearing vowel alternation, whereas in Persian only the second component undergoes alternation (Ayvazyan-Terzyan 2009:184)).

Another point to mention is that SAWSR also has a decidedly colloquial flavor, unlike in Turkish where one can see many examples in writing of different registers – in WA, one would avoid ever using it in writing or in any kind of formal setting. Turkish dictionaries typically carry many entries with SAWSR, whereas almost no WA dictionary include such entries.

The constraints below come from one of the best-cited phonological analyses on Turkish partial reduplication (Kelepir 2001, based on Wedel 1999), where she suggests a classic Optimality Theory (OT) analysis with seven markedness constraints to account for the attested partially reduplicated forms in Turkish. These constraints are a formalized restatement of the general principles given on p. 14 mentioned by Demircan (1987) – they penalize segments which share similar features in place (LAB, COR) and/or manner (continuant, strident, sonorant) (Demir 2018); the entire system breaks down if we apply the Turkish OT solution to WA wholesale as in the *d͡ʒermag* 'white' example below:

*REPEAT [strident]:	Don't have the strident linker [s] if there is a strident in the whole base.
*-pb-:	Don't have the linker [p] with [b]-initial bases.
*lab-lab (adjacent):	Don't have a [labial][labial] sequence at the reduplication boundary.
*αCONT~ αCONT:	Don't have a linker that corresponds with the 2nd consonant of the base in terms of continuancy.
*COR ~ COR:	Don't have the coronal linker [r] and [s] if the 2nd consonant of the base is coronal.
*LAB ~ LAB:	Don't have the labial linker [p] and [m] if the 2nd consonant of the base is labial.
*αSON ~ αSON:	Don't have a linker that corresponds with the 2nd consonant of the base in terms of sonority.

/RED-d͡ʒermag/ 'white'	*REPEAT [strid]	*-pb-	*lab-lab(adj)	*αCONT~ αCONT	*COR~ COR	*LAB~ LAB	*αSON~ αSON
💣 a. d͡ʒem-d͡ʒermag							
b. d͡ʒes-d͡ʒermag	!*						*
☹ c. d͡ʒep-d͡ʒermag				!*			*
☹ d. d͡ʒeps-d͡ʒermag	!*						**

Though a full OT-based analysis is outside the scope of this paper (see Balabanian (2020) for an OT-based co-phonological approach), for WA we would need to come up with a factorial typology with just four constraints, none of which are present in Turkish in this exact form[21], that will help us generate a grammar that will correct the optimal candidate[22]:

*SHAREDPLACE:	Don't have the coda of the reduplicant (the linker) and the first consonant of the following syllable share the same place of articulation.

21 This is an instructive exercise as it shows us that superficially similar phenomena may have very different constraints.

22 Note that this simplified analysis will correctly predict a valid candidate, the optimal one, just not all possible correct candidates to account for the /-ps-/ and /-s-/ options for the set of consonants {k, g, t, d} which support multiple linker infixes.

*SHAREDMANNER:	Don't have the coda of the reduplicant (the linker) and the first consonant of the following syllable share the same manner of articulation.
*NON-[p]:	Don't have a non-[p] linker.
*DOUBLE:	Don't have a linker composed of a double consonant.

/RED-xisd/ 'strict'	*SHAREDPLACE	* SHAREDMANNER	*NON-[p]	*DOUBLE
☞ a. xip-xisd				
b. xis-xisd	*!	*	*	
c. xips-xisd				*!
d. xim-xisd			*!	

/RED-barz/ 'simple'	*SHAREDPLACE	* SHAREDMANNER	*NON-[p]	*DOUBLE
a. bap-barz	*!	*		
☞ b. bas-barz			*	
c. baps-barz	*!			*
d. bam-barz		*!		

v) Emphatic reduplication can't interact easily with concatenative morphology

Another important remark is that emphatic reduplication does not interact felicitously with the typical concatenative morphology of the language in the same way as other forms of reduplication, such as *? lep-le͡tsun-ner-ov-əs* 'with my very full ones'. Concatenation is a process which deals with the formation of new lexical items by putting at least two distinct morphemes together, examples of which include compounding, affixation and incorporation, and though nonconcatenative processes exist in WA (and Cappadocian), concatenation is by far the most productive.

Every example of "root reduplication" can be grammatically manipulated and made to accept a large number of morphological suffixes and a few prefixes (WA has both pre- and post-positions and has elements of both left- and right-headedness, though over time became increasingly more suffixing), but the emphatically reduplicated adjective does not lend itself well to bearing case or being pluralized in the same way as echoic reduplication can, such as *hod-i-mod-i* 'smell-DAT-smell$_{RED}$-DAT', *hivant-i-mivant-i* 'sick-DAT-sick$_{RED}$-DAT' (Der-Houssikian 1999:252-253), and note that this is obligatory--one cannot insert the dative case just once, such as **hod-mod-i* – not only structural

case, but also secondary (oblique) cases such as ablative or instrumental can also be used, e.g. *hod-e-mod-e*, *hod-ov-mod-ov*. Though not explored here, this would lend credence to the idea that SAWSR is perhaps a postlexical phonological operation in WA.

Below are some examples of some ill-formed words containing multiple suffixes, indicating maximally, in strict order, number, case (there are six cases in WA, but with universal syncretism of nominative and accusative, and genitive and dative, respectively, in nouns), possession number, possession person, and a postposed determiner. The presence of case, more than the other suffix types, severely degrades the felicity of these utterances. SAWSR-containing words with only a determiner, or a plural suffix and determiner, are felicitous. This mismatch in felicity may be partly explained in the fact that all suffixes carry the word stress[23] forward to the last suffix containing a vowel, with the exception of the definite and indefinite determiner which are enclitics.

?? bəs-bzdig-ner-e-ní-s	teps-teʁín-ə
RED-small-PL-ABL-POSS.PL-1	RED-yellow-DEF.DET
'From our minuscule ones.'	'The very yellow one.'
? bəs-bzdig-ner-ní-s	dəp-dxur-nér-ə
RED-small-PL-POSS.PL-1	RED-sad-PL-DEF.DET
'Our minuscule ones. (NOM or ACC)'	'The extremely sad ones'
? typ-tyrin-í-t	?? šip-šidag-ner-ov-ní-n
RED-easy-DAT-2	RED-straight-PL-INST-POSS.PL-3
'To your (sg.) great ease'	'With their completely straight ones.'

The remark above about WA m-reduplication works identically in Turkish – Kılıç & Bozşahin (2013:2) state that "the results of this process are two independent words, both phonologically and syntactically" and both elements can accept additional morphological suffixes:

Çocuklar-mocuklar	akıcı	konuşmazlar.
child-PL M-DUP	fluently	speak-NEG-AOR-3PL

23 Stress in WA is light, non-phonemic, and predictable, much like Modern French, and we have marked stress in the examples in this section with an acute accent.

‘Children (and the like) do not speak fluently’ (from Kılıç & Bozşahin 2013)

Čo͡ʤux-ner-ə-mo͡ʤux-ner-ə sahun čen xos-ir
child-PL-DEF.DET M-DUP fluently NEG 3PL-speak-PRS
(exact WA calque of above sentence)

ənger-ner-əs tadron-ner-ov-madron-ner-ov gə-spaʁ-vi-n
friend-PL-POSS.1SG theater-PL-INST-M-DUP-PL-INST IND.busy.RFL.PRS.3PL
‘My friends busy themselves with theater plays and other such things.’

vi) Other remarks

If we assume borrowing, we must almost assume that we have shrinkage (the commonest reflex or version of the mechanism gets borrowed), which we can see from the WA data, and we can be fairly certain that the differences should be innovations. Regarding the /-ps-/ infix, unless we can one day prove that at least one Seljuk Turkic dialect spoken in Anatolia had this same variant as does modern Sakha *and* find evidence that WA speakers acquired it, we should consider it to be a WA innovation. Crucially here, the linking infixes /-m-/ and especially /-r-/, which was already very marginal in Turkish, were discarded in WA, and all manner of lexical or morphological conditioning, which do play a role in Turkish linking infix selection, was removed in WA.

B. Comparison of SAWSR in Turkish and Cappadocian Greek

Bağriacık and Janse (2013) assert that, although SAWSR attested in Turkish and Cappadocian show a superficial similarity, several mismatches are observable, since firstly, while the reduplicative element is a CV-skeleton in Turkish, it seems to be an σ-skeleton in Cappadocian[24] as in WA dialects; secondly, even though the reduplicative consonant is an affix, the particular set members among which this affix is realized vary between the two systems (Turkish having a productive {p, m, s} set, along with a

24 Cappadocian tolerates heavier onsets than codas in its syllabification, hence *mávro* is syllabified as *má-vro*, and *áspro* as *á-spro*. Thus what is reduplicated is the first syllable of the base, similar to Armenian but unlike Turkish.

scattered remnant for {r}, whereas in Cappadocian it is {p, m, s, n}); and thirdly, there appears to be divergence between the conditions that trigger allomorphic and allophonic variation of the reduplicant in the two languages. Although in Turkish, lexicon and morphology co-trigger the variation, in Cappadocian, it is purely phonologically conditioned (Melissaropoulou 2016:fn21).

To add to the third point above, contrary to the case in Turkish, C_2 (second consonant) of the base in Cappadocian seems to play no crucial role in the selection of the reduplicative C. In the Turkish model, other than rare exceptions which are likely lexicalized, bases with C_1 (word-initial) /b/ choose {m} as the linking infix, as in *bom-boş*, *bom-bok*, and *bem-beyaz*; however, when the C_2 is /l/, we only get {s}, as in *bes-belli*, *bos-bol*. Bağriacık & Janse (2016:204) point out that this constraint is not operant in Cappadocian, since we have *póm-poli*, not **pós-poli*, even though C_1 = /b/ and C_2 = /l/.

Regarding the seemingly unusual /-n-/ linking infix in *mán-manaxo* which is not part of the Turkish set (nor, it seems, in any other extant or extinct Turkic language except for Sakha) – Bağriacık & Janse (2016)'s explanation is that this is not a loan element from Turkish, but is a Cappadocian-internal development, chiefly for the reason that in Turkish, bases with initial /-m-/[25], almost always select the /-s-/ linking infix (independent of the features of C_2 of the base), e.g. *mavi* 'blue', > *mas-mavi*, *merakli* 'curious' > *mes-merakli*, *ma:kul* 'reasonable' > *mas-ma:kul*. This innovation, according to them, can be at best explained by the scarcity of C_1=/-m-/, C_2=/-n-/-bases in Turkish, i.e. bases which could constitute models from which constrains could be abstracted. Thus they suspect that these speakers borrowed the "phonemic melody" of the reduplicative C from the base as well (*ibid.*:204).

We have several open questions which our limited data cannot answer: does the glide (either in CGV- or CVG- position) also get copied in the prespecified prefix? Does SAWSR apply for words which are bimorphemic/trimorphemic or more? We have no evidence for or against this. Does SAWSR apply for words that already contain derivational morphology or inflectional morphology? If Cappadocian behaves like WA, the answer should be yes in substantivized adjectives, otherwise no. And lastly, we

25 Crosslinguistically, a dissimilatory phenomenon has been proposed: "in those cases the difference between the two copies is a consequence of this ranking, but it is not uncommon to find cases of reduplication where it appears that the reduplicant is actually mandated by the grammar to be non-identical to the base along some dimension. Consider, for example, the case of melodic overwriting […] [i]n Abkhaz (NW Caucasian), reduplicated nominal constructions meaning "X etc.", *m-* replaces the onset of the second copy (or supplies an onset in case of vowel-initial stems) (Vaux 1998, Bruening 1997), and when the base itself is m-initial, however, the reduplicant begins with č"" (Inkelas & Zoll, 2000:28).

cannot know if SAWSR can be used for recent loanwords (this question would be answered in the negative for WA, and in the affirmative for Turkish).

What is perhaps surprising from a phonological perspective is that Cappadocian speakers went out of their way to get a -VC coda in the reduplicated segment, instead of the crosslinguistically expected -V coda. Speakers could have easily decided to discard the semantically empty infix, instead they innovated by adding another member to the linker infix set. In other words, it is unusual for speakers to have borrowed the unpredictable part of this system.

In both WA and Cappadocian (though less clearly since we have insufficient data to figure out the possible exceptions), the morphological system they borrowed from Turkish was regularized and the choice of infix marker was sorted out based on phonological features of the following consonant. As far as we can tell from the scant available data, the OCP is applied in the same way as WA, and the /-p-/ linking infix appears to be the elsewhere linking infix.

As for V-bases, all three languages appear to only use the elsewhere linking suffix /-p-/ – for Cappadocian we see *áp-aspro* 'snow white', for WA we have examples like ap-*aʁdod* 'excessively dirty', *ap-aʁu* 'very pleasant', dialectal *ep-ergan* 'really long' (data from Ačaŕean 1941:119ff), etc., and for Turkish, we have *up-uzun* 'very long', *ip-ince* 'paper thin', *ap-açık* 'wide open', etc., and we also have experimental data with nonce words *ep-eçek* and *öp-öyrü* (Demir 2018:12), spontaneously produced by 90% and 84% of 125 participants, respectively.

Melissaropoulou (2016) argues that an innovative pattern, namely SAWSR, entered the system of Cappadocian Greek in order to fill a gap in the morphological realization of augmentation. Thus this borrowing added to or disturbed the (semantic) meaning spaces. WA too did not have a reliable way of forming augmentatives or intensives. Perhaps more importantly from an areal perspective, SAWSR phenomena are extended over the whole of Anatolia, and thus may rather be a pan-Anatolian feature (Donabedian-Demopoulos & Sitaridou 2020:414); therefore, dividing isoglosses seem not to reflect contemporary distribution but rather correspond to previous generalizations about grammatical borrowing (Matras, 2011; Johanson, 2002, among others).

SAWSR was not the only morphophonological phenomenon that was borrowed – we even see, among others[26], the devoicing of auslaut consonants and revoicing when affixation occurs, according to the Turkish model, as in *kitab* > *kitap*> *kitabı*. (Kappler 2011:105, data from Dawkins 1916:90-91, 130-131, Greek orthography as used in original source), along with a secondary development in Ottoman Turkish loanwords (*deŋiz* 'sea' > deν́gíς̌, pl. deν́gíζια):

ροφ (< ρόβι) 'pease', pl. ρόβια
gρεφ (desire-PRES.3SG), gρέβω (desire-PRES.1SG)
παις (play-PRES.3SG), παίζώ (play-PRES.1SG)

Contact-induced changes are not without their detractors. Poplack and Levey (2009: 397–398) point out that the claim that linguistic differences which occur in bilingual contexts are necessarily contact-induced lacks foundation. Melissaropoulou (2016) employs Thomason's (2010:32) heuristic that a linguistic change is to be regarded as contact-induced, if it is less likely that it could have taken place outside a specific contact situation. There are obviously cases in which a linguistic change cannot be safely attributed either to language-internal developments or to the effect of contact; thus when substantial evidence is lacking either way, both parameters can be assumed to have influenced the outcome (cf. Hickey, 2010:15). Here, we find that there is sufficient evidence to support a contact-induced morphological change in Cappadocian, with the necessary caveat allowing for internal developments (shrinkage and modification of the subsystem borrowed).

26 We see numerous Anatolian dialects with the loss of gender distinctions with the generalization of the neuter gender (το ναίκα 'the woman', το βαβά 'the father', Dawkins 1916:87); in dialects where gender distinctions are maintained, there is generally no gender agreement with predicative adjectives (το καλό ο λόγος 'the good reason', Dawkins 1916:116); article drop in some dialects (αθρώπ 'the man', διάβολος 'the devil', Dawkins 1916 87); affixation according to the Turkic agglutinative principle in noun declension and distinction of morphologically unmarked indefinite accusative and marked definite accusative, such as nominative and accusative indefinite μύλος 'mill', but accusative definite μύλο, genitive μύλοζιου (Standard Greek μύλου), plural nominative and accusative μύλοζια (Standard Greek μύλοι), the (inconsistent) use of Turkish personal suffixes on Greek verb stems, the use of the enclitic copula, and copying the Turkish structure of having no morphological comparative marker for adjectival comparatives (Kappler 2011:105-106).

IV – Conclusion

We have first shown that the newer SAWSR patterns found in WA and Anatolian varieties of Greek are in fact the result of Turkish influence, since we can also show that SAWSR existed further back than early Ottoman Turkish. We have also shown that this contact phenomenon evolved in the languages that borrowed the device. Although the borrowing of linguistic structure into one's native dialect from a mutually unintelligible dialect or language is clearly much harder than borrowing from a readily intelligible dialect, and the circumstances in which it is possible at all remain a subject of debate (Ringe & Eska 2013:59), it is at least plausible to propose that such wholesale morphological borrowing could only occur in situations of long-standing, community-wide bilingualism, and likely only from the high-prestige speechform to the low-prestige speechform.

Since the rules for SAWSR differ between WA and Turkish (and in turn, the Cappadocian Greek model differs from both), we can conclude that this phenomenon has been copied into WA only selectively. As for the linker morpheme, the environments which characterize its shape in Turkish are far more enhanced than in WA (Bağrıaçık & Janse 2016), which means that the conditions have been relevelled in the recipient language – in Turkish it is the morphology-lexicon which determines the form of the suffix, whilst in WA it is the phonetic value of the adjacent C, in other words, the initial C of the base. We also hope that we have added another variant to the emphatic reduplication literature – one which interweaves with elements of borrowed morphophonology.

In Turkish and other Turkic languages, we saw that the choice of infix morpheme was determined by both the morphology and lexicon, while in WA and Cappadocian, it is determined by the phonetic value of the adjacent consonant, which suggests that this diffusion is a case of 'selective copying' (Johanson, 2002).

Furthermore, by demonstrating that WA has very likely borrowed emphatic reduplication from Turkish via prolonged periods of bilingualism, we hope to provide evidence for Johanson (2013)'s larger theoretical thesis, which explains that when foreign elements of a grammar are copied into another language, they merely serve as models and are never identical to the way the donor language has encoded the borrowing.

For future research, we would like to further examine how partial and full reduplication interferes and competes with emphatic reduplication in WA and other Armenian varieties and look for parallels in other languages.

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VI – Appendix

i. WA adjective list by frequency

The frequency rank numbers are not to be trusted as reliable, as it is based on an Eastern Armenian list from an unreliable only source[27], but the use of such data as a rough guide is acceptable for our purposes.

Freq. rank	**WA word**	**Gloss**	
19	տաք	hot	p
59	փոքր	small	s
66	մեծ	large	ps?
73	բոլոր	whole	s
74	բարձր	high	s
75	այդպիսի	such	
84	բարի	kind	s
96	մոտ	near	s
102	նոր	new	ps/p
113	պզտիկ	little	s?
114	միայն	only	p/s?
115	կլոր	round	p/ps
121	լաւ	good	p?/ps?
132	հսկայ	huge	p
136	ցած	low	p
147	հին	old	p
149	նոյն	same	p/ps
151	ամբողջ	all	
159	շատ	a lot	p
168	հեզօք	quiet	p
195	կարող	capable	p?

27 URL: https://1000mostcommonwords.com/1000-most-common-armenian-words/

203	սեփական	own	
220	պետական	official	
231	դժուար	hard	p
236	հեռու	far	p
240	ուշ	late	
245	մօտիկ	close	s?
247	իրական	real	
249	քիչ	few	p
256	խելացի	room	p?
257	ընկերային	friendly	
268	վստահ	sure	p?/s?
273	հիմնական	main	
274	բաց	open	s
278	ճերմակ	white	p/ps
284	հանգիստ	ease	
302	պարզ	simple	s
304	սովորական	usual	
305	երիտասարդ	young	
309	կարմիր	red	s/-p-/ps
319	ուղղակի	direct	
326	սեւ	black	p/ps
327	կարճ	short	s/-p-/ps
328	զանազան	diverse	
333	ամբողջական	complete	
336	կէս	half	
348	ամբողջ	whole	
357	լրիւ	full	p/s
359	կապոյտ	blue	s/-p-/ps
363	խոր	deep	p/ps
368	զբաղուած	busy	

372	ընդհանուր	common	
373	ոսկի	gold	p?
374	հնարավոր	possible	
377	չոր	dry	p
390	շոգ	heat	p
391	ձիւնոտ	snowy	p
395	հեռաւոր	distant	
396	լեցուն	full	p/ps
404	գեղեցիկ	pretty	p/s
405	որոշակի	certain	
410	մութ	dark	s
420	մնացած	rest	
421	ճիշտ	correct	p
422	կատարելի	doable	
432	եզրափակիչ	final	
434	կանաչ	green	s/-p-/ps
436	արագ	quick	
439	ջերմ	warm	p
440	ազատ	free	
442	ուժեղ	strong	
443	յատուկ	special	p
446	փայլուն	clear	s
452	լաւագոյն	best	
455	ճշմարիտ	honest	
461	վաղ	early	s
467	աշխոյժ	fast	
477	զուտ	pure	p
485	դանդաղ	slow	s/-p-/ps
498	ցուրտ	cold	p
503	հաւանական	probable	

512	յանկարծակի	sudden	
526	գլխաւոր	general	
527	սառուցեալ	icy	
535	հսկայ	gigantic	p
542	ներկայ	present	p
543	ծանր	heavy	p
548	լայն	wide	p/ps
550	նիւթական	material	
561	մինակ	lone	s
574	վայրենի	wild	
584	անցեալ	past	
585	փափուկ	soft	s
586	զուարթ	gleeful	
587	պայծառ	bright	s
594	ուրախ	happy	
595	յուսալի	hope	
598	տարօրինակ	strange	
607	ճշգրիտ	exact	
619	մաքուր	clean	s
624	վատ	bad	p?
627	արիւնոտ	blood	
636	սրճագոյն	brown	p?
639	հաւասար	equal	
645	արդար	fair	
650	տասնորդական	decimal	
653	բաւական	enough	
656	միջին	middle	s?
662	բարձրաձայն	loud	
666	ուղիղ	straight	

680	հանգիստ	quiet	p?
682	փոքրիկ	tiny	s
684	զով	cool	p/ps
686	աղքատ	poor	
687	բազմաթիւ	many	
692	միայն	only	s?
694	տափակ	flat	s/-p-/ps
725	ապահով	safe	
735	լուռ	silent	s/-p-/ps
736	բարձրահասակ	tall	
748	բնական	natural	
756	հարուստ	rich	p
757	հաստ	thick	p
769	ժամանակակից	modern	
787	մարդկային	human	
790	ելեկտրական	electric	
798	մեղմ	gentle	s
802	անհրաժեշտ	necessary	
803	սուր	sharp	p/ps
820	հայտնի	obvious	
825	բարակ	thin	s
829	գլխավոր	chief	
835	հիմնական	major	
836	թարմ	fresh	p
839	դեղին	yellow	s?/-p-/ps
843	մեռած	dead	
863	ճարպ	stubby	p/ps
864	գոհ	proud	p/ps
865	նախնական	original	

871	յատուկ	proper	p
882	սիրելի	dear	p?
904	ատակ	sufficient	
917	վախկոտ	scared	
918	ահագին	numerous	
923	նման	similar	s?
932	աշխոյժ	careful	p?
943	կատարեալ	total	
944	հիմնական	basic	
948	կրկնակի	double	
959	մասնաւոր	particular	
963	հակառակ	opposite	
989	սխալ	wrong	p
990	գորշ	gray	p
993	կոշտ	broad	p/ps
997	հոգնակի	plural	

155 tokens, 83 can accept SAWSR
p – 26, 8 maybe
p + s – 2, 1 is p/s?, 1 is p?/s?
p + ps – 13, 1 maybe
s – 17, 5 maybe
p + ps + s – 7, 2 is s?