

A DIACHRONIC ANALYSIS OF  
WESTERN ARMENIAN VERBAL MORPHOLOGY

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*For Emilia and Alexander.*

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# ABSTRACT

## A DIACHRONIC ANALYSIS OF WESTERN ARMENIAN VERBAL MORPHOLOGY

George Balabanian

Donald Ringe

This dissertation aims to analyze the Western Armenian (WA) verbal morphology from a diachronic perspective and perform an internal reconstruction to trace the modern Western dialects back to Classical Armenian (CA) or an older, unattested variant of Armenian. The dissertation's methodology (Chapter 1) is based on comparative dialectology (Chapter 2), theoretical diachronic morphology, and computational modeling. This project delves into classifications based on geography, morphology, and phonetics, elucidating the diverse criteria employed to differentiate and categorize the dialects into various classification schemes (Chapter 3). It acknowledges the challenges involved in analyzing the data, such as the paucity of data in many dialects and incomplete understanding of many WA dialects. The first part synchronically and diachronically compares the verbal systems in CA, Standard Western Armenian (SWA), and around six dozen WA dialects, including extinct or moribund dialects (Chapter 4). The second part discusses shared innovations, historical changes, the complexities of tense/aspect marker shifts, the development of particles and participles, and the interplay between synthetic and analytical forms. The historical development of WA dialects is framed in the context of

the two Sprachbünde (Byzantine and Ottoman) and their typological realignment of the verbal structure (Chapter 5). The third part involves a cladistic analysis of all WA dialects based on verbal morphology, using both binary and multistate characters in Chapter 6. It includes a discussion regarding the algorithmically generated trees indicating a large number of proposed clades, culminating in a tree that summarizes the findings of this project and suggests that there likely were sister dialects to CA during and before the 5<sup>th</sup> century that left their mark in some of the modern dialects. Many dialectal innovations can better be understood as wave-like, and at least a part of the Asia Minor dialects appear to have network-like traits. Data collection, methodological, and theoretical implications are also discussed, along with findings and directions for future research.

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## LIST OF ABBREVIATIONS

1	first person
2	second person
3	third person
ABL	ablative
ACT	active voice
ACC	accusative
ADV	adverb
ADJ	adjective
AGR	agreement
AOR	aurist
ASP	aspect
AUX	auxiliary
CA	Classical Armenian
CAUS	causative
CivA	Civil Armenian
CL	classifier
CmA	Common Armenian
CNEG	connegative
COH	cohortative
COMPL	complementizer
COND	conditional
CONJ	conjunctive
CONT	continuative
CVB	converb
DAT	dative
DEB	debitive
DEF	definite
DEM	demonstrative
DET	determiner
DOM	differential object marking
DU	dual
EA	Eastern Armenian
EMPH	emphatic
EVD	evidential
FUT	future

GEN	genitive
IE	Indo-European
IMP	imperative
IMPF	imperfect
INCH	inchoative
IND	indicative
INDF	indefinite
INF	infinitive
INST	instrumental
INTR	intransitive
LIN	linker
LOC	locative
MA	Middle Armenian
MP	mediopassive
NEC	necessitative
NEG	negative
NOM	nominative
OBL	obligatory
OPT	optative
PASS	passive
PERF	perfect
PFV	perfective
PIE	Proto-Indo-European
PL	plural
PLPF	pluperfect
POST	postposition
PRES	present
PROG	progressive
PROH	prohibitive
PROS	prospective
PST	past
PTCP	participle
REL	relativizer
RES	resultative
SBJ	subject
SEA	Standard Eastern Armenian
SG	singular
SGV	singulative
SUBJ	subjunctive

SUF	suffix
SBRD	subordinator
SWA	Standard Western Armenian
TR	transitive
V	verb
WA	Western Armenian

# CHAPTER 1: INTRODUCTION

In this opening chapter, I introduce the basics of Armenian dialectology. I begin by giving an overview of the Armenian language family and delineating the scope of this study (Section 1.1), where I define the boundaries of my investigation and highlight the intriguing research questions I seek to unravel. Methodological considerations (Section 1.2) are pivotal as I navigate the complexities of analyzing historical and dialectal data. To properly frame this dissertation, I examine the fundamental question “What is a dialect?” (Section 1.3). As I explore the contours of dialects and linguistic variations in the Armenian context, I address the Wave Theory and related concepts (Section 1.3.1) that have shaped our understanding of the dynamic evolution of languages. Through these preliminary discussions, I hope to lay the groundwork for a comprehensive voyage into the rich tapestry of Armenian verbal morphology and historical dialectology, setting the stage for the chapters that follow.

## 1.1 Overview and scope of study

This thesis is a diachronic analysis of Western Armenian (WA) verbal morphology, along with an internal reconstruction with the secondary aim of discovering whether the modern Western dialects can trace back their verbal systems directly to Classical Armenian (CA), the putative ancestor of all modern dialects, or to an unattested, plausibly older dialect of Armenian. Kortlandt (1985a) refers to the common ancestor of the modern dialects as “Common Armenian” (CmA); an unattested stage, older than CA, partially reconstructible based on comparison of the modern dialects and comparative evidence from other branches of Indo-European (Sayeed & Vaux 2017).

Armenian is a distinct branch in the Indo-European language family, spoken by roughly six million people, though estimates vary widely for the number of Western dialect speakers, from 60,000 to 1.6 million<sup>1</sup>. Other than the 5<sup>th</sup>-century CA variant which is relatively well-studied in historical linguistics, there are two main modern standardized varieties of Armenian: Standard WA (SWA), commonly believed to be based on the spoken dialect of modern-day Istanbul and spoken today by diaspora descendants across small communities in Europe, the Americas, and Australia, and Standard Eastern Armenian (SEA), based on the spoken dialect in Yerevan, which is today the official language of the Republic of Armenia. Without significant exposure to the other standard variant, mutual intelligibility is limited but asymmetrical between the two, as there are considerable differences in the lexicon, morphosyntax, and phonology.

---

1 Official censuses typically do not distinguish between dialects, though as I expound in Chapter 3.3, the vast majority of Western speakers today use SWA. In 2010, UNESCO estimated that the number of (S)WA speakers worldwide was 200,000, but the competencies of these speakers were left undefined (Manoukian 2017:205).



Today’s Armenian and non-Armenian layperson is typically only familiar with the three variants mentioned above – CA, SWA, and SEA. Most do not know of the great dialectal diversity that existed a mere century ago, nor are they aware of the dwindling remnants today. Apart from describing and comparing various aspects of dialectal verbal morphology which will be of general use to linguists, Armenologists, and dialectologists, the goal of this project is to internally reconstruct the family of WA dialects by positing cladistic trees and justifying the various results obtained.

Compared to the Classical and Eastern dialects which are generally in better shape, relatively little work has gone into diachronically studying the verbal morphology of SWA or its dialects such as Hamshen and Mush, even less so for dialects like Moks, Ordu, or Nor Nakhichevan (a.k.a. New Nakhichevan, a WA dialect spoken in Crimea). There are prominent phonological and morphological differences between the CA (5<sup>th</sup> c. CE) verb and its modern counterparts:

Tense	CA	SWA	Hamshen <sup>2</sup>	Mush	cf. SEA
a. ind. pres.	ber-e-m	gə p <sup>h</sup> er-e-m	b <sup>h</sup> er-i-m ku	kə b <sup>h</sup> er-i-m	ber-um e-m
b. ind. fut.	ber-i-ts <sup>h</sup>	bidi p <sup>h</sup> er-e-m	b <sup>h</sup> er-i-m idi	piti b <sup>h</sup> er-i-m	ber-e-lu e-m

Table 1: Comparison of indicative present and future in various dialects

The indicative present and future (or necessitative in some dialects) have undergone considerable changes since CA, and some details can be elucidated by some Middle Armenian (11<sup>th</sup> – 15<sup>th</sup> c., “MA”) texts. I provide a map<sup>3</sup> below in Figure 1, of the geolinguistic situation on the eve of World War I before the near-complete annihilation of ethnic Armenians from the Ottoman Empire. Modern WA verbs have shed most CA fusional elements and become more agglutinative (equally true for EA dialects to a great extent). Modern dialects have innovated by constructing new analytic verb forms. The aorist occupies a very specific and asymmetrical position in relation to each of the parameters of the morphological structure (i.e. it is a perfective past, synthetic, and not exhibiting a pair opposition of non-past/past) (Donabédian 2016), though the details have not remained static historically.

The thesis has three main parts divided into six chapters. The first part is a detailed comparative description of the verbal systems in CA, SWA, and comparative notes from over six dozen

2 Christian variety (Ačārean 1947).

3 URL: <https://bit.ly/3te9vTx>. These dialects are color-coded based on what form the indicative particle or the participial suffix takes (for the Western dialects: blue = *gə/g’/kə/k’/gi/gu/etc.*; dark blue = *ka/ga*; violet = *ha*; yellow = Khodorjur, which has a Classical pattern of using bare present tense; for the Eastern dialects: green = *-um*; red = *-s*; gray = *-l*). Except where otherwise stated, all maps were created by the author using the tools built into Google Maps. The only dialects not shown due to space limitations are the Jolfa and Livasian belonging to the *-um* group, in Isfahan and Borujen, Iran (Chaharmahal and Bakhtiari province), respectively, the Artial subdialects in Poland, Hungary, and Romania, the dialect of Jerusalem in Israel/Palestine, the dialect of Gorgan in Iran, all belonging to the *gə* group. There are also various subdialects of New Julfa once spoken in India belonging to the *-um* group.

Western dialects, defined here as the *gə*-dialects in Ačarean’s (1909, 1911, see additional maps in Appendix B and figures and tables in Chapter 3) classification, the vast majority of which are extinct, moribund, or endangered today as seen in Table 7. The second part involves discussing the chief diachronic morphological changes, along with the intricacies of tense/aspect marker shifts, the development of particles (pre-verbal or post-verbal elements) and participles, along with contact effects in the context of the development of agglutination, new forms of negation, tense syncretism, and the interplay between synthetic and analytical forms. The third part is an internal reconstruction of key elements of the verbal system, using several computational models to come up with plausible cladistics, for which I give well-justified and plausible results in this dissertation.

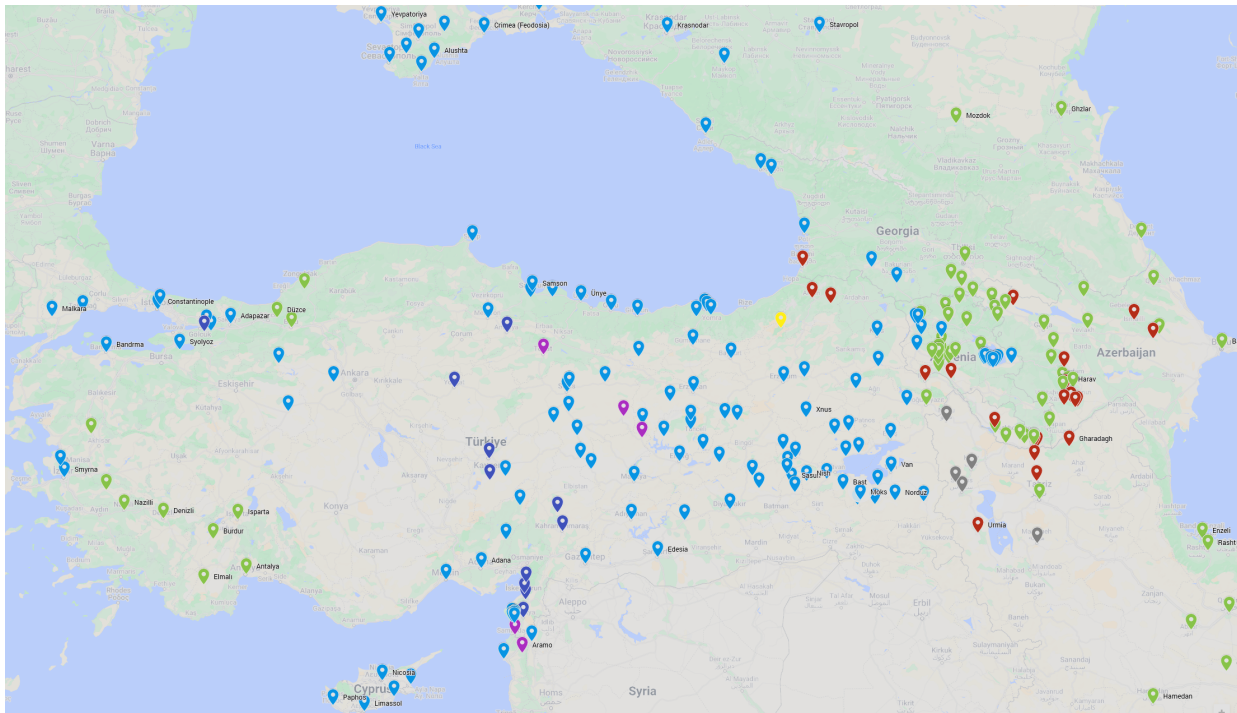


Figure 1: Map of Armenian dialects showing a seven-way division based on the form of either the indicative particle or participle (Balabanian 2024b)

In whichever case (e.g. whatever my finding – direct descent from CA or descent from CmA), I will have to contend with contact effects owing to the two Sprachbünde (Byzantine and Ottoman) that WA dialects were a part of, which resulted in a typological realignment of the verbal structure. Furthermore, methodological and theoretical implications are discussed throughout as necessary, and I conclude with a restatement of my findings along with directions for future research.

## 1.2 Methodological considerations

Since this is a project involving comparative dialectology and theoretical diachronic morphology, as well as having a reconstructive/computational component, it is important to discuss any problems or challenges that may arise in the analysis of the data. This includes issues related to the paucity of data in many dialects, and our incomplete (and unfortunately now unrecoverable) understanding of many of these WA dialects, as well as challenges in identifying and interpreting shared innovations and independent developments. In Chapter 5, which delves into morphological analysis, I consider alternative explanations for any similarities or differences that are observed and evaluate the explanatory power of competing morphological frameworks. Wherever relevant, my data is broken down by morpheme. Additionally, wherever possible, I acknowledge the limitations of the data and the methods used, and I hope that future research can address these limitations.

One particular weakness is the lack of diachronic data for virtually all dialects except New Julfa<sup>4</sup> – essentially, other than the two standard variants SWA and SEA, we only have a frozen image in time (overwhelmingly from the late 19<sup>th</sup> and early 20<sup>th</sup> centuries) for most WA dialects, fragments of Civil Armenian (“CivA”) in the pre-modern era<sup>5</sup>, a fairly small corpus for MA, a few inscriptions<sup>6</sup> (Manučaryan 1977, Stone 1982, and Greenwood 2004), and a large corpus for CA. Linguists were able to analyze some of the WA dialect speakers who later resettled in Soviet-controlled Armenia, though inconsistencies in the data remind us of problems relating to dialect leveling and language attrition.

The bibliographic sources listed in Appendix A generally do not apply a morpheme segmentation, and they transcribe dialectal words using various versions of modified phonemic forms of the Armenian script. I converted their Armenian transcriptions to a more systematic phonetically faithful transliteration and wherever relevant, I provide a morphemic segmentation with short dashes (-) with a Leipzig gloss wherever necessary, such as *gə sir-e-s* IND √love-TH-2SG ‘you love’. I follow the general methodology of phylogenetic systematics as it applies to problems in historical linguistics, as applied and elaborated in Swofford et al. (1996), Swofford (1998, 2017), Ringe, Warnow & Taylor (2002), Nichols & Warnow (2008), Skelton (2008, 2014, 2015), Dunn (2015), and DeLisi (2018).

Given the large number of modern and historical dialects this project deals with, I am using a simplified transliteration system loosely based on the Hübschmann-Meillet transliteration system

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4 An EA dialect for which we have excellent records, with thousands of documents spanning nearly every year from 1641 to the present day, though I will not be dealing with EA dialects in detail.

5 CivA never reached a high level of development as it was a practical written medium mostly used for administrative, accounting, and commercial affairs, and it was also not anyone’s native dialect as it was an artificial and unstable mixture of many Eastern and Western dialectal traits. It was also used in judicial proceedings in certain cases.

6 See the 10-volume Corpus Inscriptionum Armenicarum, Barxudaryan & Ğafadaryan (eds.) (1965-2017), for the full set of published sources, and a general linguistic evaluation thereof in Avagyan (1973).

(similar to the ISO 9985 standard except for schwas, for which I use ə, not ě, and affricates). The CA values correspond to different reflexes in different dialects (see Table 5) and many nonstandard dialects have additional sounds not captured by the traditional script. In cases where phonetic information is emphasized, IPA is used. For a complete list of Ačarean’s dialectological notation which includes the many diphthongs and triphthongs used in his writings, see Dolatian (2024a:31-33).

Traditional CA alphabet	Ačarean’s dialectological notation	IPA transcription	Hübschmann-Meillet transliteration	Simplified notation
բ	բ	b	b	b
	բ՛	b <sup>h</sup> ~ ɸ		b <sup>c</sup>
դ	դ	d	d	d
	դ՛	d <sup>h</sup> ~ ɖ		d <sup>c</sup>
ձ	ձ	ɖz	j	j
	ձ՛	ɖz <sup>h</sup> ~ ɖʒ		j <sup>c</sup>
ջ	ջ	ɖʒ	ǰ	ǰ
	ջ՛	ɖʒ <sup>h</sup> ~ ɖʒʒ		ǰ <sup>c</sup>
ֆ	ֆ	f	f	f
գ	գ	g	g	g
	գ՛	g <sup>h</sup> ~ ɣ		g <sup>c</sup>
	գյ	g <sup>j</sup>		g <sup>y</sup>
	հ՛	h		h̃
հ	հ	h	h	h
	հյ	h <sup>j</sup> ~ ç		h <sup>y</sup>
	՛, յ, յ	ɦ		ɦ
յ	յ	j	y	y
կ	կ	k	k	k
ք	ք	k <sup>h</sup>	ḳ, ḳ	k <sup>c</sup>
	քյ	k <sup>hj</sup>		k <sup>cy</sup>
	կյ	k <sup>j</sup>		k <sup>y</sup>

Լ	Լ	l	l	l
	լ´	ɺ		ɺʸ
Մ	Մ	m	m	m
Ն	Ն	n	n	n
Ա	Ա	p	p	p
Փ	Փ	p <sup>h</sup>	փ, փ	p <sup>c</sup>
	ղ´/ղˆ	q		q
ռ	ռ	r	ṙ	ṙ
ր	ր	r	r	r
ղ	ղ	ʁ	ł	ʁ
ս	ս	s	s	s
շ	շ	ʃ	š	š
տ	տ	t	t	t
թ	թ	t <sup>h</sup>	տ, տ	t <sup>c</sup>
ծ	ծ	ts̄	c	c
ց	ց	ts <sup>h</sup>	ճ, ճ	c <sup>c</sup>
ճ	ճ	tʃ̄	չ	չ
ջ	ջ	tʃ <sup>h</sup>	ճ, ճ	չ <sup>c</sup>
վ	վ	v	v	v
Լ	Լ	w	w	w
զ	զ	z	z	z
ժ	ժ	ʒ	ž	ž
	՛	ɣ		ɣ
	ʔ	ʔ		ʔ
խ	խ	χ, x	x	x
ա	ա	a	a	a
	ա <sup>o7</sup>	ɒ		ɒ

7 Diacritics over Armenian vowels are still largely unsupported by operating systems, word processors, and character maps, and are usually rendered next to the letter, not above it as intended.

	ւ̄	ã		ã
	ւ̄ <sup>8</sup>	æ		ä
Է	Է	e	ê	ē
ե	ե	ɛ	e	e
	Է`	ɛ̣		ɛ̣
ը	ը	ə	ə	ə
	ը`	ɜ ~ ɛ		ə̀
	ը´	ɞ ~ ɵ		ə́
	ը^	i		î
	ըԷ	ɘ		ɘ
	ը°	ɘ		ɘ
ի	ի	i	i	i
	Էօ ~ օ̇	œ		ö
	օ̇			ò
n		o, (v)o-	o	o, (v)o-
օ	օ	o	ô	ō
իԼ	իԼ	y	iw	ÿ
nԼ	nԼ	u	ow	u
	n̄Լ	ʏ ~ ʘ		ʉ

Table 2: Concordance table of various transliterations

### 1.3 What is a dialect?

For this project, I am using the term “dialect” as traditional Armenian dialectologists have used it – a blanket term for any sufficiently different language variety. With a few exceptions due to historical circumstances, dialects from contiguous areas tend to be mutually intelligible, whereas dialects spoken in regions far from one another tend to be borderline mutually unintelligible. Today, speakers of SEA and SWA tend to have considerable difficulty understanding one another orally without sufficiently long exposure to the other standard variant, though the written language remains

8 Formerly written as m (not Latin <m>, but an upside-down Armenian ւ). Heard in dialects or dialect groups of Syunik, Artsakh, Hadrut, Agulis, Akhaltsikhe, and Van.

somewhat intercomprehensible; however, the Soviet spelling reforms for SEA have made the written medium less transparent for SWA readers. Most historically Armenian-populated areas in the Armenian Highlands, eastern Anatolia, Cilicia, and later elsewhere (Iran, Romania, Poland, Hungary, Russia, etc.), eventually developed their own dialects.

Thus, “dialect” is any variety of Armenian that has been at least minimally described in a grammatical sketch, or, failing that, attested in some form such as poems, folklore (see Avakian 1995 for a bibliography), or incidental written remarks<sup>9</sup>. I have a comprehensive reference guide in Appendix A for data sources, which includes grammars, sketches, samples in dialect, poetry, ethnographic writings, and other works.

An important point made by Vaux (n.d.) is that traditional Armenian dialectology fails to identify synchronic phonological processes at work in the minds of individual speakers. Due to the prevailing methods of their place and time, dialectological sketches of various dialects are depicted as a static slice of a frozen language. Isolated scholars such as Pisowicz (1976a, 1976b, 1997, 1998), T<sup>o</sup>khmakhyan, Khach<sup>o</sup>atryan, Weitenberg, and Ač<sup>o</sup>arean occasionally identify synchronic processes in their work, but most linguistic generalizations in the Armenian dialectological literature contain only historical generalizations. For these linguists (as for many historical linguists in the West prior to the variationist framework developed by Labov and early work on generative phonology collected in Kiparsky 1982, and virtually all pre-structuralists and Soviet linguists) languages are viewed as sets of forms, rather than sets of rules and constraints operating on a lexicon; in this model, historical changes must occur at one specific point in time, and cannot remain active over time, since there are no rules to be passed on from one generation to the next. There is clear evidence that linguistic rules can and do remain active from one generation to the next – witness the alternations produced by the vowel shift in Zok (e.g. *tsor* ‘tree’ ~ *tsárar* ‘trees’) that were still active in Ač<sup>o</sup>arean’s time (he published his Agulis grammar in 1935), though they had already first taken place by Schröder’s<sup>10</sup> time (1711). A theory that ignores linguistic rules of this sort misses most of what is interesting and important about a dialect, both synchronically and diachronically.

Armenian dialectologists typically do not distinguish between phonetics and phonology either, which is probably because this distinction had not yet been clearly drawn in European linguistics by the time Ač<sup>o</sup>arean finished his training in Paris (late 1890s). The dialectological works we have (Appendix A) do not mention, for the most part, any parameters of variation<sup>11</sup>. What dialect speakers actually say is conditioned by a range of social and linguistic factors (Labov 1965, 1990). Pre-Labovian

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9 Weitenberg (2017) mentions that, in fact, stray dialect material is found in all authors of the Early Modern Armenian period (1600–1800), before the codification of the modern literary languages (such authors are listed in Bardakjian 2000).

10 He was a Dutch linguist from Amsterdam and may have been the first modern author to explicitly point out some of the various dialects, such as Agulis, Jugha (Julfa, Jolfa), Tbilisi, Artsakh (Karabakh), Little Armenia, and Van (Mkrtč<sup>o</sup>yan 2015:13). A still earlier figure is lexicographer Francisco Rivola (1570–1655), author of *Dictionarium armeno-latinum* (1633), which contains a significant number of dialectal words.

dialectology (and Armenian dialectology, as I already mentioned) recognizes the existence of linguistic variation conditioned by region and time, but no other variables. Dialectological work in the West since the mid-1960s has identified significant variation along numerous other axes, including class, age, gender, and register, though because the vast majority of WA under study are now dead, I will have to limit myself to the older, static model of what constitutes a dialect, though with the additional benefit of being informed by newer sociolinguistic models.

### 1.3.1 *Wave Theory and other innovations*

The idea that every linguistic innovation is independent of every other is central to the Wave Theory (usually attributed to Schmidt 1872, though it was actually developed slightly earlier by Schuchardt 1868), variants of which sociolinguists today generally prefer to the Tree Theory (*Stammbaumtheorie*; Schleicher 1853) that remains popular among philologists (see Garrett 1999 for a recent critique of applying the Tree Theory to the IE family). The basic idea of the Wave Theory is that a linguistic innovation starts from an individual and gradually propagates outward, sometimes even crossing language boundaries (creating Sprachbund phenomena). As explained by Hoenigswald (1990:443), after a period of more or less intuitive use of the tree model in the 19<sup>th</sup> century, certain difficulties began to be discovered, notably by Ebel (1852) and Pictet (1859), since it turned out that affinities among related languages do not necessarily occur in mutually exclusive ways, but also, for different features, in overlapping fashion, sometimes among known genetically different languages. This propagation often appears to move from major urban centers to increasingly less-populated areas, as with the spread of uvular *r* (IPA [ʁ]) in Europe (Trudgill 1974). There are models that attempt to blend the underlying assumptions of both the tree and wave metaphors – such as a *thicket*, an impenetrable maze of intertwined branches which attempts to show that instead of clear-cut migrations of population groups, one finds slow percolations or filtrations of small groups of people (Matisoff 2000:334-5).

The tree model, as a useful mode of presentation that had an earlier use in the biological sciences, reflects a traditional dependence on a particular “graph-theoretical device” (Hoenigswald 1990) which is employed in many fields of knowledge to depict either systematic relationships of some sort, or the sequence of events, often irreversible, in time (Platnick & Cameron 1977): the unstemmed, rooted tree (Hoenigswald 1973a, 1975, 1987). In such a tree, the vertices stand for languages that are

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11 Ačarean (1941), who did fieldwork in Constantinople (among other places) in the early 1900s, mentions several times that older speakers had another form or word for a particular construction from the younger speakers, which typically reflected something akin to SWA. Vaux (1999b) suggests that this reflects the state of the dialect near the time the standard language was being formed. He points out that even fairly basic words like three, eleventh (ordinal), twelve, thirteen, fourteen, nineteen, twenty-two, etc., differed quite significantly in Constantinople among the grammars written by Stepannos (1835), Riggs (1847), Aytənian (1866), Gulian (1911), and the numerous sketches, notes, and words mentioned by Ačarean (1902, 1911, 1941, 1971-79).



attested or inferred; the edges and paths for lines of descent; and their direction away from the root point for the passage of time (Stewart 1976). Trees are assumed to have only one root, so that there can only be divergence, never convergence (Fox 1995:125), yet pidgins, creoles, lateral transfers, contact, and areal effects are all valid counterpoints.

Though much discussion has been dedicated to contrasting the merits of various tree-based and wave-based models, Schleicher's genealogical tree theory and Schmidt's Wave Theory are actually not exclusive, but complement each other, reflecting different chronological stages according to Vaux (2008b, n.d.) – Wave Theory explains IE variants interacting with each other during the period of unity of dialects, and the genealogical tree theory the relationship between related languages and dialects that have already separated from each other. Thus chronologically, the wave theory characterizes the period of IE unity, and the genealogical tree theory characterizes the period of independent existence of related languages. The tree model imposes a particular interpretation of historical developments<sup>12</sup>, namely the progressive splitting of languages, and fails to accommodate external influences on a dialect (even from sister dialects), no matter how extensive such influences may be (Fox 1995:128), and since this model is implicit in the Comparative Method, the weaknesses of one can be attributed to the other. The two models also do not perform the same task – the Wave Model is essentially a theory of change, not a method for reconstruction.

Dialects and languages do not behave as monolithic isolated wholes, as they can affect each other (cf. spread of uvular-R in Western and Central Europe, see Chapter 5.2 for Sprachbund effects in WA) and individual parts of the grammar can do things independently of the rest (-*m* aorist in some dialects, or devoicing of voiced plosives and affricates; see Chapter 5.7.5 for chain shifts). Similar features in neighboring languages result from language innovations spreading from a single point out over surrounding dialects (Vansina 1995).

Although no work has been done attempting to group Armenian dialects in a wave model, Vaux (2008b) states that the Armenian facts are best accounted for in terms of waves of independent innovations, and that it does not make sense to speak of dialect groups except with respect to individual features, in cases where several waves align, as with the WA/EA divide, and perhaps other major innovations like the -*m*/*-ts* (CA *c'*) aorist or the spread of particular mood markers.

Though never mentioning Wave Theory by name, Djahukyan (1972) thought of gradient dialectal differentiation as one of the most natural features of language, as it is unimaginable in the historical development of language to think of a monolithic language independent of its spatial, social-functional, and individual variation (idiolects). Avetyan (2016) covers Djahukyan's linguistic worldview in greater detail.

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12 On the possible inappropriateness of the tree model for Sinitic languages as an example, see Hamed & Wang (2006).

Note, though, that some innovations can plausibly develop independently in isolated speech varieties and therefore are not good diagnostics. Examples of this type include the development of word-final devoicing (which occurred independently in languages as disparate as German, Turkish, Sanskrit, and Russian, Wetzels & Mascaró 2001), or (in the case of Armenian dialects) borrowing the Turkish ordinal suffix *-inci* (attested in Rodosto, Constantinople<sup>13</sup>, Nicomedia, Eudokia, Trebizond, Kharberd-Erzinka, Svedia, Tigranakert, Mush, and the EA dialects of Artsakh/Gharabagh/Karabakh and Astrakhan), or developing vowel harmony under Turkish influence some Cilician and Syrian<sup>14</sup> dialects, and many EA dialects such as Meghri, Agulis, Karabagh, Havarik, Shamakhi, Khoy, and Maragha (Ałayan 1954).

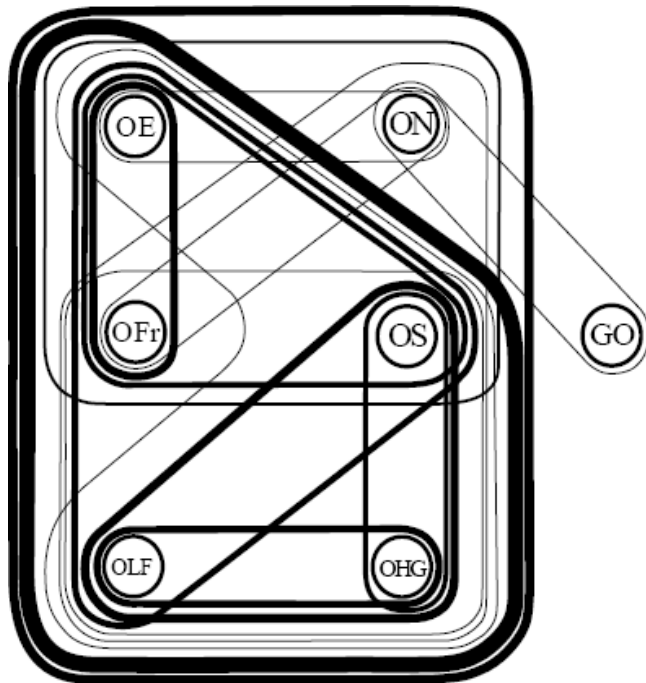


Figure 2: A glottometric diagram of Germanic<sup>15</sup>

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- 13 The Constantinople speech had far more Turkish elements than SWA – see Ačarean (1902) for a list of over 4000 Turkish loanwords in that dialect. Ačarean himself was a native speaker of this dialect and he was skeptical about the claims that SWA is merely descended from Constantinople.
- 14 Since the Sanjak of Alexandretta (renamed Hatay State then Hatay Province later on), was only transferred from the French Mandate for Syria to an independent state in 1937, and later annexed by Turkey in 1939, nearly all Armenian-speaking communities (approximately 24,000 people) except the village of Vakıflı in the district of Samandağ were relocated to French-controlled Lebanon. “Syrian dialects” as a term coined in the 19<sup>th</sup> century that linguists have continued using, denoting the southern-most grouping of dialects, some still spoken in a few communities in Syria proper: Aramo, Kesab, Jisr al-Shughur (al-Yacubiyeh village), and Latakia.
- 15 From Agee (2021:347): this depicts shared innovations (found in the appendix of Agee’s article) in the form of waves, where thicker lines represent higher subgroupiness values, which highlights the similarity of subgroup waves to the distributions of isoglosses and isogloss bundles in traditional dialectology, such as the map drawn by Keller (1961:382) for German dialects.

Related to this is the caution from Hoenigswald (1960:154) that while the effect of a replacement change suffered at the proto-stage (or sub-*proto-stage*) is “shared” by the daughter dialects, the reverse does not hold: a replacement shared may owe its recurrence from sister dialect to sister dialect to the accident of independent identical change, for example, to duplicate phonemic mergers (or in morphology, an identical syncretism of categories), i.e. the vowel merger of IE \*e with \*o belonged to the Indo-Iranian subancestor, while the merger of \*d and \*dh was merely duplicate, meaning it took place separately in Iranian and in Slavic. In some sense, a merger which is not compensated again via a split must lead to structural impoverishment by giving up one feature, also sometimes called a negative innovation (Hoenigswald 1966:7).

There have been times when dialectologists challenged the regularity (or exceptionless) hypothesis of the Neogrammarians, and a key example cited is the case of French dialects in Normandy. In the standard development of French, Latin [k] became [ʃ] before /a/ and front vowels through a series of regular sound changes (Loriot 1967). However, certain pockets in Normandy showcased a few words that seemed to defy this pattern by retaining [k], yet most words with original [k] had undergone the change to [ʃ] in the same phonetic context in that area (Campbell 1999:189-191). Dialectologists argued that these exceptional words had unique histories. For instance, words associated with rural life, like *cat* ‘cat’ and *can* ‘field’, cf. French *champ* (Joret 1881:64), might have better resisted the wave of sound change, while words linked to the Church, such as *chandelle* ‘candle’ and *chanter* ‘to sing’, underwent the change due to the influence of the prestigious Parisian pronunciations, which were favored by priests from the main center. Simply put, neither camp is wrong when we consider the above to be a case of dialect borrowing. The example underscores that neither the Neogrammarian model nor the dialectological approach alone can comprehensively explain all linguistic changes and the various relationships between dialects or related languages (Hazen 2011). Recognizing the significance of both sound change and dialectological findings is crucial. Accepting the regularity of sound change (or morphosyntactic change) is necessary to identify exceptions, while insights from dialectology contribute to our understanding of how specific changes are transmitted (Patriarca et al. 2020). This scenario prompts a deeper exploration of morphological change, which is reserved for Chapter 5. In essence, this example highlights the intricate interplay between sound change and dialectology in the broader understanding of language evolution.

When there is close cultural and linguistic contact between dialect groups over an extended period, it is often the case that several linguistic innovations propagate over the same geographic expanse, as with the numerous overlapping isoglosses that Kurath (1949) correlated with the three major dialect regions in the United States: the North, South, and Midlands. A typical example in the Armenian world is the EA dialect subgroup that contains some of the Artsakh dialects, many dialects around Lake Urmia, and Maragha, which share several non-trivial innovations (Vaux 2008b, 2015), including their consonant shifts, development of penultimate stress and a present tense formation in

-lis, change of *r* > *h* in pronominal forms like *srankh* > *s[ə]hankh*, and placement of negative elements after the verb.

Because of their grounding in historical and cultural contact, isogloss clusters of this type tell us much about the historical relations between the dialect communities involved. They can help us reconstruct the historical movements and subgroupings of dialect communities and establish times before which certain innovations must have occurred (Vaux n.d.); see Chapter 6 for exemplification and discussion. It could also be argued that both models are not necessarily incompatible with each other. The result of interacting waves, as in the above diagram in the case of Germanic, will be the fragmentation of languages or dialects, and this can easily be represented by the tree, especially over a long enough period. According to this view, the wave model simply provides how languages may split (especially if shared innovations or areal influences are spelled out explicitly), whereas the tree represents the results of the split (Fox 1995:129).

The standard interpretation of the Wave Theory (see Petyt 1980) also provides a means of defining dialects in synchronic terms: dialects are linguistic areas characterized by the overlap of a number of isoglosses, i.e. a bundle of isoglosses is taken to constitute the boundary of a dialect. Important dialect groupings are defined in the same manner. Djahukyan (1972) implements a classification of the Armenian dialects based on this principle, as I explain in Chapter 3.

Vaux (2008b) remarked that many features found in these dialects have spread in waves between geographically contiguous but not necessarily genetically closely related varieties. Some of the better known examples which are typically Eastern features include the non-future indicative formed with a present participle with an auxiliary, and the presence of locative case, the plural genitive and dative case ending in *-i*, not *-u* (SWA *nor-u-t'yun-ner-u* vs. SEA *nor-u-t'yun-ner-i* 'news'), the third person present auxiliary *a* (instead of *e*), the marking of animate direct objects with dative case (which we see in some WA dialects such as Karin and Van and even colloquial SWA), and first and third demonstratives with *t/d* following the typical *-s-* (1st) and *-n-* (3rd) (*estra*, *endra*, etc. corresponding to SEA *səra*, *nəra*, etc.) (also seen in WA dialects such as Mush, Diadin, and Erznka; Katvalyan 2016a:21). Typically Western features include, the non-future indicative tenses formed with a particle with the subjunctive verb which I discuss at length in Chapters 4 and 5, the past participle in *-r*, oblique pronouns in *-i* (*indz-i* vs. SEA *indz* 'to me 1SG-DAT'), ablative and instrumental case forms with *-m-* (e.g. *indz-m-e*, *indz-m-ov*, found in most WA dialects but not Mush), and postposed indefinite articles, which are found in every single WA dialect except Vardenis (an easternmost WA dialect) and Amasia, and not found in any EA dialect. Also present in most Western dialects and generally absent from most EA ones are pronominal forms in *-ik* (1SG-DAT *indz-ik* for *indz* in SEA, proximal demonstrative *es-ik* for SEA *ays*, etc.), also found in Tehran, Khoy, and Agulis. Thus, the dialects of Mush, Van (and their surrounding dialects), and to a lesser extent, Karin, being one of the easternmost of the Western dialects, occupy a somewhat intermediate position here. Interestingly, there are also some important features that

appear to have a ‘central’ distribution, i.e. they are found in the Mush, Van, and Ararat areas (more rarely in Karin, Gyumri, etc.), which are geographically contiguous but not closely related<sup>16</sup>, and not in the typical Western dialects or the far Eastern dialects like those found in Artsakh, Azerbaijan, and Iran (Hodgson 2019:94).

Labov’s work seeks to reconcile the regular changes in language with the few cases involving sound changes affecting only specific lexical items (Labov 1994:453, 542-3). He suggests that these irregular lexical reactions, implied in lexical diffusion, are less prevalent in earlier stages of change and are maintained by unconscious vernacular use, which he terms “change from below”, below the level of conscious awareness. In later stages, changes become socially recognized and acquire sociolinguistic significance, often tied to the social importance of certain words, a phase called “change from above”. Labov asserts that lexical diffusion primarily pertains to these later stages, characterized by dialect mixture, analogical change, heightened social awareness, or borrowing from other systems (see Ross 1997:230-232 for explanations of why social relevance matters in speech communities). To summarize, sound change remains regular within its own system, but factors like dialect borrowing and external influences can lead to deviations from the regular, exceptionless pattern of sound change<sup>17</sup> (Vaux n.d.).

Each of the linguistic features just discussed is interesting on its own merits, but does not tell us much about the relations between and subgrouping of the Armenian dialects. We need to focus on non-trivial linguistic innovations, such as the development of the *gu*-present in almost all WA dialects (chapter 5.1.1), or the development of various particles to mark the progressive (chapter 5.1.2), rather than archaisms (such as the preservation of the Classical Armenian stop series in Group 6 dialects and of the Classical *-ē* ablative in WA nominal morphology), because all dialects are equally likely to preserve a given feature of their linguistic ancestor, whereas the probability that two dialects would independently develop the same innovation is significantly lower than the probability that one dialect innovated and passed that innovation on to two or more descendants.

In Section 2.1 of Chapter 5, I investigate the intriguing linguistic phenomena observed in the Cilician and Syrian Armenian dialects, characterized by their significant divergence from one another

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16 It is instructive to see on a map where the historical capitals were in Armenia, and how they moved throughout history – Tushpa (832-590 BCE) on the southeastern shore of Lake Van, Armavir (331-210 BCE), Yervandashat (210-176 BCE), and Artashat (176-77 BCE & 69 BCE-120 CE) all on the Ararat Plains, Tigranakert (77-69 BCE) which was placed further southwest, Vagharshapat (120-330), Dvin (336-428), and Bagaran (885-890) on the Ararat Plains, Shirakavan (890-929), Kars (929-961), and Ani (961-1045) slightly northwest of the Ararat Plains, Sis (1080-1375) far further southwest in central Cilicia, and Yerevan (1918-1920 & 1991-today), back on the Ararat Plains.

17 “Sound change”, as traditionally understood, ultimately leads to reanalysis of underlying forms, so this ends up looking like a difference in lexicon between two nodes. At least in the old days, it was generally held that this reanalysis was not (typically) instantaneous, but was mediated by the addition of some phonological rule (i.e. a change in grammar), and then reanalysis happened. Relic alternations can sometimes serve as the model to remake a dead rule productive, later grammar is the result of reanalysis on the part of the learner, we must thus be dealing with periods of variation since the language is shared in a community, thus we can assume alternations in input.

and from the wider array of Armenian dialects. I propose a modified Wave Theory which posits these unique dialects as remnants of isolated pockets of Armenian speakers resulting from cycles of expansions and retractions throughout history. It complements the prevailing assumption that the linguistic disparities observed in these dialects are solely due to geographical isolation and long-term contact with neighboring languages. Instead, it posits that the observed divergence and variation are consequences of the ebb and flow of Armenian populations over time.

## CHAPTER 2: HISTORICAL DEVELOPMENTS

Chapter 2 provides an overview of historical developments in the Armenian language. The chapter is divided into several sections, each of which focuses on a specific phase in the linguistic evolution of Armenian. Section 2.1 examines the transition from Proto-Armenian (PA) to CA, highlighting the significant linguistic shifts that occurred during this period. The subsequent section (2.2) delves into the transformation from CA to Middle Armenian (MA, a forerunner of Cilician dialects), shedding light on the linguistic changes that characterized this transitional phase. The evolution from MA to SWA is explored in Section 2.3, offering insights into the linguistic developments that shaped the modern form of the language, especially its verbal morphology. In Section 2.4, attention is given to a central debate concerning the ancestral source of Armenian, questioning whether it can be traced back to CA or to an older unattested stage, putatively called Common Armenian (CmA). The final section (2.5) focuses on dialect splitting, examining the processes that led to the emergence of distinct dialectal variations within the Armenian linguistic landscape. By traversing these sections, readers gain a comprehensive understanding of the historical trajectory that has shaped the Armenian language over time.

### 2.1 PA to CA

The branch of Indo-European (IE) speakers who migrated into the Armenian highlands was strongly impacted by the local languages during the process of ethnogenesis before the seventh century BCE (van Lint 2010). These indigenous languages include Urartian<sup>18</sup>, Hurrian, Kartvelian<sup>19</sup>,

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18 The limited textual diversity further obscures our understanding of the morphology and existence of numerous tenses, aspects, and moods. As a result, most grammatical investigations have predominantly centered on the indicative past tense, with only cursory and *ad hoc* observations on other forms. Nevertheless, a comparative analysis of the Hurrian and Urartian verbal system conducted by Diakonoff and other scholars which can be summarized as follows: at the initial position following the root, a prefix may be introduced to render the verb causative, factative, inchoative, or reflexive. Subsequently, an infix can denote aspect—either imperfective (-ed-), perfective (-Ø-), or a potentially durative third alternative (-[a]t-). Following this is the "theme vowel" signifying transitivity/intransitivity, followed by infixes combined in various configurations to express distinct moods such as the optative and conditional. In theory, elements indicating tense and negation could also be incorporated within this infix sequence, although evidence for the former is absent, and Urartian employs a separate infix for the latter purpose. These morphemes convey number, person, and subject-object relationship, which may have allomorphs dictated by preceding elements. Notably, intransitive verbs adopt a distinct set of endings from those of transitive verbs (for an analysis reminiscent of French, Dutch, and Italian, which pits unaccusatives and passives (which select 'be') from transitives and unergatives (which select 'have'), see Vaux (2005)). While consensus now exists regarding the morphology of these intransitive endings, the transitive ones remain more contentious (Piotrovskii 1962).

19 For ancient linguistic connections with PA, see Ačařean 1940:205-217; Kapantsyan 1961:62-101; Djahukian 1987:586-599. In Proto-Kartvelian, one can find at least one borrowing from PA (\**gwel*- 'snake'), which can be dated to the 3<sup>rd</sup> millennium BCE (Petrosyan 1987:65; 2015:14-15; 2016:134, 137).

Hattic, Assyrian, and other non-IE Anatolian languages (Greppin 1996), which left a considerable impact, especially regarding phonology and morphology. According to Aslanov (2017), the raw material constituted by Proto-Armenian (PA), which is the intermediate stage between PIE and CA, was restructured according to the grammatical system of non-IE languages, possibly an example of creole formation (Bakker & Muysken 1995, Mallory & Adams 1997:30). This is evident in both the grammar, with features like the emergence of the use of postpositions instead of prepositions, the complete lack of grammatical gender, and a somewhat considerable portion of the lexicon, which contains words derived from Hurro-Urartian (Djahukyan 1961, Oswald 1970, Diakonoff 1992, Zimansky 1998, Ayvazyan 2008, Fournet 2010, Avetyan 2016) and other non-IE languages (Greppin 2011). Toponyms, plants, and animals are all examples of this influence, which likely dates back to the times of PA (roughly 2000 – 600 BCE<sup>20</sup>).

Since we are primarily focused on the diachronic development of the verbal system, we will focus on some key historical facts – namely the origins of the morphology of voice, intricacies of the theme vowel, and a note about stress.

The Armenian verb has undergone a number of morphological simplifications, such as the loss of the dual and the distinction between an optative and a subjunctive (which a few dialects brought back through novel means), while the original perfect only survives in synchronically opaque relics (Klein 2007, Olsen 2017a, 2017b, Klingenschmitt 1982). Between PIE and CA, without precisely being able to speak about the state of the verb during the PA period, cursorily the following major changes took place (Olsen & Thorsø 2022:207):

- 1) Generalization of *-e-* as thematic vowel, except the first-person plural subjunctive *-uk<sup>c</sup> < \*-omes* and the participle in *-own < \*-ont-/\*-omh<sub>1</sub>no-*;
- 2) Remodeling of the thematic *e*-stem endings and the verb ‘to be’ in the present active, thus *ber-e-m* ‘I carry’ like *e-m* ‘I am’;
- 3) Innovation of a mediopassive paradigm in *-i-* from statives in *\*-eh<sub>1</sub>-*, which is likely the origin of the *i*-theme verbs;
- 4) Innovation of a new imperfect preterite;
- 5) Merger of old aorist and imperfective stems for the formation of “root aorists”;
- 6) Creation of a “weak” aorist stem in *-c<sup>c</sup>-*, possibly a remodeling of the old *s*-aorist (cf. Klingenschmitt 1982:286–7; Olsen 2017b:443);
- 7) Formation of a subjunctive morpheme *-ic<sup>c</sup>-* of disputed origin<sup>21</sup>;

20 If the Armenians have essentially remained where the IE were originally located (as proposed by Tamaz Gramkredilze, Vyacheslav Ivanov, Eric Hamp, Lazaridis et al. (2022)), then one might expect toponyms, plant and animal names, etc. to have started being borrowed even earlier. But that there was prolonged bilingualism with non-IE speakers is hard to deny. Since I follow a framework that distinguishes between PA and CmA, my PA date ends earlier than what is presumed by some linguists (Godel 1975:62 dates PA from 1500 BCE – 400 CE).

21 See Ayvazyan (2008:130-131) for the Urartian case.



- 8) Formation of a causative in *-owc'anem*, and aorist *-owc'i*, also of disputed origin (explored in Subsection 4.2.1);
- 9) Formation of a voice-indifferent infinitive in *-l < \*-lo-*, inherited by all dialects;
- 10) Formation of a past participle in *-eal* (*o*-stem), similar to the Slavic *l*-participle; and,
- 11) Loss of all gender agreement throughout the grammar.

In CA, voice (diathesis) diverges from the IE type by not using special person endings to differentiate between active and mediopassive forms in the present, imperative, prohibitive, and subjunctive. Instead, the difference is expressed by the quality of the vowel preceding a shared set of endings (Klingenschmitt 1982). The way that CA alternates between the active *e*-theme verbs, passive *i*-theme verbs<sup>22</sup> (Greppin 1980), and stative/inchoative *a*-theme verbs is reminiscent of the Old Georgian alternation between active, passive, and stative verb forms, where the personal formants remain the same but the insertion of preformants or infixes indicates the person. Georgian's distinction between transitive and intransitive passive (stative) is echoed by the difference between Armenian's *i*-theme and *a*-theme verbs. Having a valency-changing theme vowel is typologically similar to what happens in Hurrian (Aslanov 2017), where the distinction between the intransitive and the transitive is expressed by an alternation between *-a-* and *-i-* for the intransitive and the transitive, respectively (Wegner 2000:77–78, 103, Vaux 2005 for a view seeing the distinction as being unaccusative vs. all else).

In earlier stages of Armenian, the phonological boundaries between the regular verb paradigms and the paradigm of the auxiliary *\*lēnil* (CmA) > *linil* (CA) > *linel* (post-CA) 'to be' appear to have shifted repeatedly (recall point (2) above). Meillet (1936:118–119) and Godel (1975:118) showed that the active present endings and the forms of *linel* exchanged their characteristics, meaning the first/second person singular and second/third person plural endings were borrowed from the *linel* paradigm while the third person singular and first person plural exhibited a reverse process<sup>23</sup>. This suggests that during the

22 The marker *-i-* in the present mediopassive is certainly derived from the PIE stative suffix *\*-eh<sub>1</sub>-* (cf. Latin *maneo*, *manēre* 'remain', or OCS *bъdѣti* 'be awake' < *\*b<sup>h</sup>ud<sup>h</sup>-eh<sub>1</sub>-* vs. the causative *buditi* < *\*b<sup>h</sup>owd<sup>h</sup>-eye-*) (Matasović 2007:33). Note that the *i*-theme often forms mediopassives to present tenses of the *e*-conjugation, that verbs with present stems in *-a-* and *-u-* cannot express the mediopassive (they cannot alternate with the *-i-* verbs), hence a transitive verb such as *kardam* (*\*g<sup>w</sup>(e)rH-* 'to praise, sing, shout, recite', Martirosyan 2010:354, Watkins 1995:117) is actually ambiguous: it can mean either 'I call' and 'I am called', with 'I read' being a secondary meaning that became dominant over time. Modern dialects have removed such ambiguities, e.g. SWA *gartam* 'I read' vs. *gartatsvetsa* 'I was read'. Semantically, Artsakh (Ačārean 1973:549b) and Artial (Ačārean 1953:272) have retained the meaning of 'I sing' for this verb, which likely means that this is a shared semantic archaism directly from PIE (Martirosyan 2010:354).

23 By the CA era (5<sup>th</sup> c.), the PIE distinction between thematic and athematic aorists becomes imperceptible except for some irregular aorists. Here is an illustration of the process described in the paragraph above (adapted from Godel 1975:118):

Athematic inflection		Thematic inflection
<i>em &lt; *es-mi</i>	→	<i>berem</i>
<i>es &lt; *es-si</i>	→	<i>beres</i>
<i>ē</i>	←	<i>berē &lt; *bher-e-ti</i>
<i>emk<sup>c</sup></i>	→	<i>beremk<sup>c</sup></i>

formation of PA, the copula was not seen as an independent word, but rather as a discontinuous morph or removable particle, as is evident in Urartian and Hurrian (Aslanov 2017, Djahukyan 1963, 1982, Greppin & Diakonoff 1991<sup>24</sup>). The imperfect was also created by adding the forms of the inherited imperfect of ‘to be’ to the root, and the forms of this auxiliary verb were eventually integrated into the verbal form, downgrading a fully-fledged paradigm to the status of a morph within a synthetic verbal form. However, it is worth noting that the influence of presumably numerous pre-IE agglutinative-type systems on the inherited inflectional type of Armenian did not lead to a full alignment of the language’s verbal system with an agglutinative structure. Instead, the conflict between the inherited inflectional type and the agglutinative one caused the language structure to be reshuffled into a more analytical system, which is a way to mediate between an inflectional and an agglutinative model (*ibid.*).

In the Eastern dialects, this blurring of the boundaries between the morph and the lexeme may be responsible for the further periphrastic development whereby the synthetic present has been reinterpreted as a combination of root + copula. Thus root + *-em, -es, -ē,* etc., which were personal endings perceived as copulas or movable particles, have been replaced by periphrasis combining a nominal form of the verb (the present participle) with the copula (CA *berem* ‘I bear’ > *berum em*). EA dialects around Lake Urmia tend to use the *-lis* construction (Vaux 2015), though there may also be an areal effect as Northeastern Neo-Aramaic dialects and perhaps some varieties of Kurdish in the same area also tend to have several locative present and/or progressive constructions (Khan 2013, 2024, Coghill 2010, Noorlander 2018).

It was always suspected that CA had to have word-final primary stress – DeLisi (2018) was able to conclusively establish that the hammock pattern ([ð ... ó]<sub>ω</sub>, *ànkáním* ‘I drop’) is reconstructible as a feature as far back as late PA (though it is generally agreed (Weitenberg 2002, Kortlandt 1980:103) that early PA must have penultimate stress, responsible for many instances of apocope), given that it was present in CA and almost all modern dialects, except a few Eastern ones (Vaux 1998:148) that have switched to a typologically much more common penult stress pattern. The hammock pattern is relevant for the diachronic morphology of Armenian given that unstressed medial vowels tended to either be reduced or disappear, e.g. (CA *atač'em* ‘I entreat’ > MA *alč'em*), and further details on DeLisi’s findings are provided in Chapter 3.2.

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<i>ēk<sup>c</sup></i>	←	<i>berēk<sup>c</sup></i> < * <i>bher-e-te</i> + <i>k<sup>c</sup></i> (by analogy to 1PL)
<i>en</i> < * <i>s-enti</i>	→	<i>beren</i>

24 According to scholars such as Igor M. Diakonoff, Giorgi Melikishvili, Mikhail Nikolsky, and Ivan Mestchaninov, there is a theory proposing that Urartian functioned exclusively as the written language of the state, while the spoken language of its inhabitants, including perhaps the royal family, was PA. This theory is mainly based on the observation that the cuneiform inscriptions in Urartian display a high degree of repetition and limited vocabulary, with as few as 350–400 root words. Moreover, despite being used for over 250 years, there is no evidence of linguistic change, leading to the conclusion that the language had already ceased to be spoken by the time of the inscriptions or was restricted to official contexts.

Apart from ancient sources describing dialectal variation, efforts to provide relative CmA to post-CA chronologies for any sort of change usually hinge upon single misspellings, or one particular variant of a word in an otherwise standard CA text (Weitenberg 1996, 1999). PIE to CA relative chronologies have been quite firmly established (Winter 1966, Kortlandt 1980, Ravnæs 2005).

## 2.2 CA to MA

As we will see in Sections 4.3.1. and 5.3.1., the most striking change is the repurposing of the indicative present as the subjunctive present. A likely incomplete explanation is that the indicative present form (CA *antrem* ‘I choose-IND’ > ‘I choose-SUBJ’ by the Middle Ages) of the verb came to be regarded by native speakers as the subjunctive form of the verb, since every modern dialect needs to add material before or after the subjunctive present to form many regular tenses, such as the indicative present, indicative past imperfective, and future tenses. A weaker piece of evidence is that the default form of the verb is seen in certain defective verbs, such as CA *gogel* ‘to say’ (< PIE *\*h<sub>1</sub>wog<sup>wh</sup>-eye-ti*, from *\*h<sub>1</sub>weg<sup>wh</sup>-*), which can only be used in the subjunctive present and two tenses of the imperative mood, imperative and cohortative 2SG and 2PL, albeit this is by no means a consistent pattern across defective verbs.

## 2.3 MA to SWA

The written use of MA continued until well after the fall of the last Armenian dynasty in Cilicia (1375) until the 16<sup>th</sup> century, though it was never one uniform dialect. Its geographic distribution was restricted to only certain areas of the Ottoman realms (Bardakjian 2000:27, Hacikyan 2002:524-533), and it always co-existed with CA (as such, it never had the same richness of lexical domains as many subject matters continued to be written in CA throughout this period). Starting from the 17<sup>th</sup> century, in the written form, CivA (a 17<sup>th</sup> to early-19<sup>th</sup> c. written pandialectal vernacular, discussed further above Figure 4 at the end of this chapter) bridged the gap between MA and SWA, though it was used in an even more restricted set of lexical domains – mainly those of business, record-keeping, and interurban letter writing for merchants who almost always natively spoke different dialects (Djahukyan 1992c:93). There are also a few examples of religious instructional materials with commentaries in CivA, such as Hovhannes Holov (Hagop Kostandnupolsetsi) (1687), an arithmetic manual (Levonian 1675), Aguletsi’s diary, Schröder’s 1711 thesaurus, among a few other examples.

In the 17<sup>th</sup> and 18<sup>th</sup> centuries, 40 books were published in the “worldly language”, 38 of which were in the immediate predecessor of SWA (including the first grammar to systematically describe this new secular language, Sebastac’i 1727), only two of which were in an Eastern dialect which was later to become SEA (Ačarean 1951:460). Their influence gradually spread outward from the printing houses

and associated organizations found in different cities around the world: Venice, Amsterdam, Vienna, Rome, Livorno, Smyrna, Trieste, Madras, New Julfa, St. Petersburg, Milan, etc. By the early 19<sup>th</sup> century, schools giving instruction in SWA (not primarily in CA as before) gained momentum. In 1803, the first school was opened in Constantinople by the assistance of the Mkhitarists<sup>25</sup>, an important monastic order, and already in 1834, there were 32 schools in Constantinople and 114 in the other Ottoman provinces. By 1858, the number of Armenian district schools in Constantinople reached 53, plus many private schools, and two or three secondary schools, and the Theater of Constantinople (*ibid.*:494).<sup>26</sup> At around the same time, dozens of periodicals and newspapers using SWA were printed from Constantinople, Smyrna, Venice, to other cities in Eastern Europe and the Ottoman Empire.

Some diachronic changes can be detected from the colloquial and dialectal “corruptions” that have crept into quite a number of CA books in the 18<sup>th</sup> and 19<sup>th</sup> centuries. For example, in a textbook printed in Smyrna designed to teach Armenians English grammar, the ostensibly “Classical” language used for the titles and subtitles then shifts to a more colloquial tone in the explanations and often contains clear verbal constructions that are found in the eastern Asia Minor WA dialects, such as double conditionals *yet’e yes allam-ne* ‘if I be’ (Stepannos 1835), Turkish interrogatives (along with dative possession) *t’un mezi aračnort’ g’allas mi* ‘will you be our guide?’, the *gor* progressive postverbal marker *menk’ gəsireink’gor* (written as one word) ‘we are loving’, among others. Balabanian (1859), himself a fellow of Armenian Studies at the Mesrobian College of Smyrna, contains a now strange-sounding mix of Smyrna dialect and CA, even often within the same sentence, e.g. *յորոս ննջեցեալը քաւքաւսնաց առարկայ կընէ, և պիտի ընէ ևս, եթէ չեսք սխալիր, օրօք ննջե՛ալը bambasanac’ ararkay kane, ev piti ane evs, et’e č’emk’ sxalir* ‘he who makes the deceased an object of gossip, and he will continue still, if we are not mistaken’ (Smyrna elements underlined).

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25 Starting from a century before, the Mkhitarian Order in Venice set out to “clean” the Armenian language of various sound changes and Turkish influence (Ačarean 1906, Vaux 1999b, Manoukian 2022, 2024); their attempts involved heavy classicization, a problem which will become apparent in the way that the cladistics turn out in Chapter 6. Vaux (1999b) also notes the post-1848 anti-aristocratic movements which further spurred the will to replace CA with SEA/SWA as the written medium. See also Chahinian (2023:17-20) for the politics and 20<sup>th</sup>-century history of SWA as a stateless language in exile.

26 A similar movement was shortly underway in Russian-occupied part of Armenia in the east, with the first ones being the Aghababyan College in Astrakhan (Russian Empire), which opened in 1810, the Lazaryan Seminary in Moscow in 1816, and the Nersisian School in Tiflis (Tbilisi, now Georgia, then part of the Russian Empire) in 1824. These schools used a Yerevan-based standardized language which was to become modern SEA (the Astrakhan dialect was also entertained as the possible basis for a new standardized language, but this idea was discarded in favor of the Yerevan dialect which already had more speakers and was more phonologically conservative, Ačarean 1909:34). For a summary of the political struggle of the different intellectual factions who held policy positions on SWA/SEA (from purist Grabarists who wanted to burn books written in secular language and reestablish CA as the sole written medium to those who wanted to suppress CA at any cost), see Mkrtč’yan & Xaç’atryan (2016:290-305) and Ghazaryan (1967). There were also unsuccessful attempts by various intellectuals to unify SWA and SEA (some even went as far as attempting to unify all dialects) into a single pan-Armenian literary language by mixing their features. See also Adontz (1904) for issues surrounding spelling and dialectal variation.

A few notes about the Constantinople dialect: analogous to London English, which was an urban area that conglomerated features from multiple nearby dialects, SWA may have developed as a form of dialect leveling across multiple dialects, and not as a simple descendant from only one dialect – this possibility is suggested by Ačarean (1911) himself, since we find elements of various nearby dialects in Constantinople such as Rodosto (to which I would add Aslanbeg)<sup>27</sup>. Some subtle differences between SWA and the Constantinople dialect can be summarized<sup>28</sup>:

- 1) Diphthongs in monosyllabic words are simplified, such as [har] ‘father’ instead of [hajr] (Ačarean 1911);
- 2) The reflex of the CA sound /d͡z/ ð in Constantinople is [d͡z], while its reflex in SWA is [t͡sʰ]. E.g. the word ‘snow’ ձիւն is [d͡ziun] in CA, [d͡zun] in Constantinople, but [t͡sʰyn] in SWA, and the same applies to all other plosives and affricates;
- 3) The reflex of the CA nominalizer -ուրիւն /-utʰiun/ ‘-ation’ is [utʰyn] ~ [utʰjun] in SWA, but [utʰin] in Constantinople;
- 4) The causative suffix is [t͡sʰənel] in SWA but [t͡sʰunel] in Constantinople. For example, ‘to make live, to cause to live’ is [abre-t͡sʰənel] ապրեցնել in SWA but [abre-t͡sʰunel] in Constantinople (Ačarean 1941:140);
- 5) Different constraints regarding syllabicity and extrametricality, as Constantinople speakers can tolerate<sup>29</sup> treating postconsonantal final rhotics as extrametrical, thus causing the speaker not to select for the plural-only allomorph *-ner* in *manr* – *manr-er* ‘little, the little ones’, cf. SWA *manr* – *manər-ner* (Vaux 1997c, 1998, 2003, Balabanian 2010, 2012).

Greppin & Khachaturian (1986) also mentions *m*-intensification (different from *m*-reduplication, such *banag-manag*, ‘plates and the like’, which most dialects have including the standard variants), for both verbs and adjectives, e.g. *hrammacʻekʻ* ‘please come forth, please do it (2PL)’, *ammen* ‘all’. Like many dialects, Constantinople has plenty of Turkish phrasal verbs like *veresiye arnel* ‘to buy on credit’ (*ibid.*). The auxiliary *allal* ‘to be’ is used with intransitives or neutral verbs while *ənel* ‘to do’ is used with causative verbs; see Vaux (2015) for an alternative analysis viewing this division as unaccusative vs. all else.

27 Numerous hypotheses regarding the origin of SWA have been proposed – see Vaux (1999b) for an overview of hypotheses based on Chmshgadzak, CA, CmA, MA, Sebastia, Constantinople proper, and CivA.

28 This is only a short list. For a comprehensive diachronic review of this dialect, see Vaux (1999b, 2006c), Ačarean (1906, 1911:249-257, 1941), and Kazanjian (1924) which purports to be a SWA grammar but has a few Constantinoplisms that sneaked in. Vaux distinguishes between the old Constantinople dialect, described by Ačarean, and today’s Istanbul community of Armenians who speak a rather different, more standardized version but with interesting innovations.

29 Today, some SWA and SEA native speakers can tolerate this too, thus there is common variation on whether final *-Cr* triggers epenthesis (Dolatian, p.c.).

Compared to SWA, the Constantinople verbal system is unremarkable as it is identical to it in every way except some verbs in the 2SG imperative, such as *nəsde* as opposed to SWA *nəsdir*<sup>30</sup> (Ačařean 1941:139, cf. Crimea *nist*<sup>31</sup>). Many other tenses are built off of the subjunctive. The indicative present and past imperfective are built by adding the prefix *gə* before the subjunctive present and subjunctive past. The progressive is formed by adding the enclitic *gor* after the indicative forms. The future and past future are formed also by adding the proclitic *bidi* before the appropriate subjunctive form (Dolatian 2023a). The present perfect and past perfect are formed by combining a special non-finite form with the present/past auxiliary (this non-finite verb can be either the resultative participle (verb with suffix *-ac*) or the evidential participle (verb with suffix *-er*, e.g. *sirer em*)). The 3SG uses covert tense and agreement suffixes, just as in SWA. Most imperatives and prohibitives are identical to SWA as well (Ačařean 1911:250-255) other than for monosyllabic verbs, and so are a host of complex tenses that use a combination of participles, converbs, auxiliaries, and particles. SWA is also not a static language, as its speakers have acquired different manifestations of voicing for its plosives, explored in Chapter 4. The small minority of SWA speakers left in Turkey today have [D, T<sup>h</sup>]<sup>32</sup> (Dolatian 2024a:6), speakers in Lebanon have [D, T] due to Arabic influence (Kelly & Keshishian 2019), English-French trilinguals in Québec have [D, T<sup>h</sup>] (Balabanian 2020), and speakers in the US have [T, T<sup>h</sup>] (Kelly & Keshishian 2021) due to English influence.

After a cursory study of nearly all known WA dialects, I have noticed a recurrent pattern – urban dialects very often have many features from nearby (and sometimes more distant) dialects, such as the Tbilisi interdialect, which contains both traditionally EA and WA traits. A good example is an archaism preserved in Moks, Shatakh, Ozmi, and others nearby, but lost in Van (which was always a large urban center) – the definitive accusative marker *z-*: *az-car kətric* ‘s/he cut the tree’, *az-lač höröxkic* ‘s/he sent the boy’ (Martirosyan 2019b:218).

## 2.4 The ancestor – CA or CmA?

Here, I briefly explore one of the main questions this project is attempting to answer: “**is CA the direct ancestor of modern dialects?**”, for which I pour over comparative WA verbal morphology in later chapters. Vaux, a proponent of the CmA<sup>33</sup> hypothesis, has suggested that Armenian must have

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30 Phonemically; phonetically, we often see *nəstir* due to the voicelessness of [s].

31 Sommer & Kainz (2014:149, but likely written sometime during the 1930s) has *nisd* for the imperative 2SG ‘sit’ for Constantinople, and *yegó* ‘come’ instead of SWA *yegúr*.

32 These uppercase IPA characters stand in for any plosive or affricate.

33 The first explicit use of CmA appears to have been made by Djahukyan (1961), though he uses it in a different manner than Vaux – Djahukyan uses the term CmA to describe the state of the language preceding the period of the Pre-Old-Armenian (which he dates as the 4<sup>th</sup> or 3<sup>rd</sup> century BCE to the 5<sup>th</sup> century CE), a period in which all the main processes which were completed, which serves as a common basis for the dialectal features of the literary period. Though Vaux generally uses CmA in this sense, he sometimes refers to CmA as the ancestor shared by all of the modern Armenian

started to break up into multiple dialects soon after the reign of Tigranes II, more commonly known as Tigranes the Great (Մեծն Տիգրան, Τιγράνης ὁ Μέγας), in 95–55 BCE, since that was when the Armenian state reached its greatest geographical expansion. This would roughly be the peak of the CmA period (CmA being the reconstructed ancestor of all the dialects of Armenian, including CA). He thus postulates that speech communities left behind after state contraction would have become increasingly isolated, leading to the development of different dialects. Though not framed the same way, authors in the Russian school of dialectology such as Patkanov (1869), Tomson (1887, 1890a, 1890b), Mseriants (1897, 1899, 1901), and Marr (1903) essentially agree that substantial dialect formation had already occurred before the invention of the Armenian script<sup>34</sup> (404~406 CE). Later linguists such as Weitenberg, Pisowicz, Vaux, etc. also subscribe to this view.

It is likely that CmA shared the same consonant system as CA, specifically {D T T<sup>h</sup>}, which is evident from an analysis of the consonant-shift isoglosses. This system only occurs in CA and isolated areas throughout the Armenian dialect continuum, which indicates it is an archaism (Vaux 1997a). Historical developments such as Ačārean’s Law<sup>35</sup> (Vaux 1992, Garrett 1998, Martirosyan 2010:747, Byrd 2015, Martirosyan 2017:1136-1137) and the change of IE \*w to CA \*g also suggest that CmA had the same consonant system as Group 6 (see Table 5 on page 53). Dialect divisions likely began to develop from CmA when Armenians expanded beyond their homeland in the Van area around the second century BCE, as described by Xenophon<sup>36</sup> (Gaggero 2016). Contra Vaux (1997a), based on the fact that CA and all modern dialects underwent apocope (PIE \*ebheret > \*ebere > CA eber), which occurred before the large

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dialects, which is not identical to CA, somewhat analogous to Vulgar Latin vis-à-vis Classical Latin.

- 34 For an overview on the existence of pre-Mashtots scripts (mainly of a pictographic nature or foreign sources that allude to a written culture extant in ancient Armenia), see Movsisyan (2006), Ayvazyan (2015), Mkrtč‘yan & Xaç‘atryan (2016:37-42), and Orengo (2022), who reviews three claims of pre-CA attestations – a note by Latin grammarian Varro on the connection between Latin *tigris* and an alleged Armenian word meaning ‘arrow’; some proposed (highly questionable and ultimately rejected by the author) “Armenian integrations to a mutilous Greek inscription found in Garni” (1<sup>st</sup>-4<sup>th</sup> c.); and an unusual passage by Greek physician Galen which certainly contains some Armenian words, which the author concludes could throw some light on some aspects of Armenian (or a variety of Armenian) of the 2<sup>nd</sup> century.
- 35 Typically romanized as Adjarian’s Law, this sound law describes initial-syllable vowels receiving [+ATR] in contexts where we see inherited PIE voiced aspirates, for example PIE \*b<sup>h</sup>eh<sub>2</sub>-ni- > PA \*b<sup>h</sup>an- ‘speech’ > CA *ban* > Karchevan *ben*, Artsakh pen; compare with PIE \*dóm- > CA *tun* ‘house’ > Karchevan *ton*, Karabagh *ton*. In other words, this law fronts back vowels (a o u) in stressed initial syllables when preceded by voiced obstruents, l and y, that is by initial b g d j j z ž l y v (in IPA: [b], [g], [d], [d̪], [d̪̥], [z], [ʒ], [l], [j], [v]) (Muradyan 1986, Vaux 1998:174-182, especially Hopkins 2021 for the most comprehensive and latest analysis). In Table 5 (next chapter) which describes the development of PIE stop phonation, dialects in Group 4 only have Ačārean’s Law for /ħa/ (see problematization of this in Sayeed & Vaux 2023), only Malatya from Group 5 preserves an intermediate stage with [+ATR] for vowels but with no fronting, Aresh, Meghri, and Karchevan have it from Group 6, and Group 7 dialects all have it. We can date Ačārean’s Law to roughly the mid-7<sup>th</sup> century because the earliest Arabic loans into Armenian are subject to this innovation (Weitenberg 2017:1137), e.g. Meghri [beˈkle] for *baklay* (Arabic *bāqilā* ‘bean’), and subsequently participate in the Armenian devoicing, as e.g. *pāglu* Svediya (Ałayan 1954:35-37; Pisowicz 1976a:93-102). Ačārean (1952b) is quite certain about the dating of the sound change to between the 7<sup>th</sup> and 10<sup>th</sup> centuries, based on the fact that Arabic loans (7<sup>th</sup> century) undergo the rule but Turkish loans (11<sup>th</sup> century and following for Seljuk terms) do not. See also Hopkins (2021). Muradyan (1962) dates this law at the 5<sup>th</sup> century, though Vaux (1998:11) sees this as unfounded.

influx of Parthian loans during the third century BCE – Weitenberg (2017:1136) finds no linguistic basis for dating the first dialect divisions to before this time. But whichever the case, the development of separate dialects would have taken place as soon as isolated communities formed, and the consonant shifts would have occurred between this date and the 8-9<sup>th</sup> c. CE, the time of the bilingual Latin-CA *Autun*<sup>37</sup> glossary (Weitenberg 1983, Muradyan 1985a), dated circa 800 CE. Ačarean’s Law is an important and fairly early dialectal isogloss that unites the Van-Urmia, and Artsakh/Krzen/Agulis areas, forming a WA-EA link in the southern arch of dialects.

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36 He mentions the province’s division into Eastern Armenia and Western Armenia, separated by the Teleboas (Kara-sū) river (*Anabasis* 4.4.3); the former was governed by Orontas (Persian Arvand, Armenian Ervand), regarded by many writers as the ancestor of the Orontid dynasty of Armenia (Schmitt et al. 1986).

37 Contains 90 Latin-Armenian entries of common words and provides a *terminus post quem* for the diphthongization of stressed *e* and *o* and for the devoicing of CA voiced obstruents (Weitenberg 2017:1133).



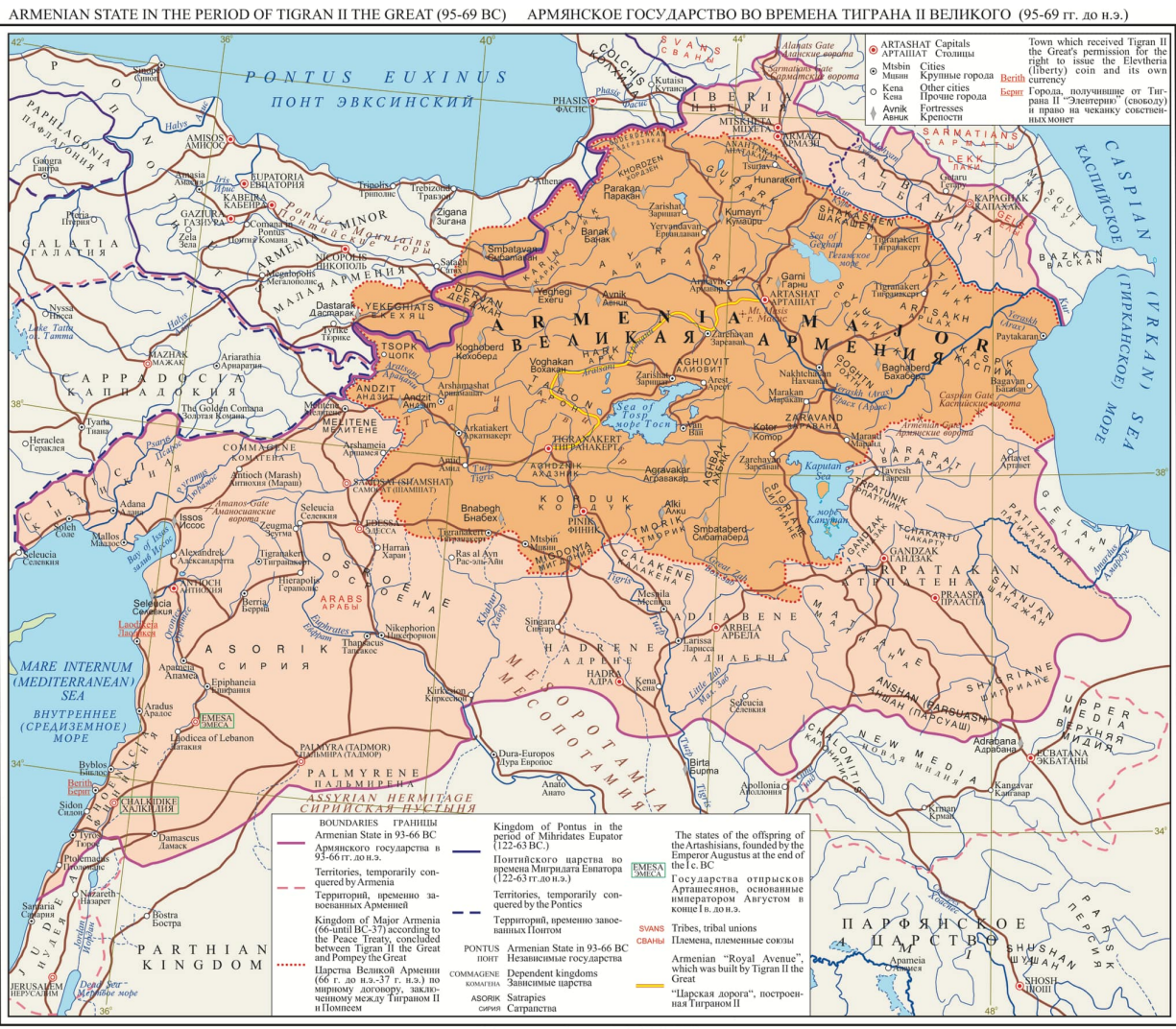


Figure 3: Maximum extent of the Armenian state under Tigranes the Great (created by Narek Gasparyan)

Minassian (1976:12) mentions that there probably existed several regional varieties of Armenian when CA was initially written down in the early fifth century, though these varieties likely did not differ as much as the modern dialects do from one another. I would necessarily have to agree with that reservation and I elaborate my findings in the sections below. Minassian echoes an earlier text by Sevak (1959) in which he proposed that CA was not the ancestor of all attested dialects.

Hübschmann (1901:50), in attempting to offer a satisfactory explanation for the difficulty of deriving certain problematic MA forms directly from CA, asserts that the features which that can be considered dialectal, so far as it can be judged etymologically at all, should be considered younger

than the corresponding classical forms<sup>38</sup>. He concludes by saying that Old Armenian was divided into different but only slightly different dialects, one of which was CA. On somewhat different grounds, the later writings of Djahukyan (1992c:100-107) agree with this point of view.

Regarding etymological data, Martirosyan (2010:691) suggests that at least a handful of words can be shown to be restricted to Eastern dialects since the 5<sup>th</sup> c. CE. This is partly in line with what has been remarked upon by Greppin (1982:147-48, see also Kocharov 2019:168) – that certain doublets (such as those either containing or missing an initial aspirate such as *(h)ogi*<sup>39</sup> ‘soul, spirit’, *(h)arōr*, ‘plow’, *(h)aganim* ‘I get dressed’) found in CA texts are corroborated by dialectal data which shows that early initial aspiration is of IE origin (*hag-* can go back to PA. *\*h<sub>2</sub>eu-e/o-* from PIE *\*h<sub>2</sub>eu-* ‘put on (shoes, clothes)’, cf. Av. *aθra-* ‘footwear’, Lith. *aūti* (pres. *aunū*), OCS *ob-uti* ‘put on footwear’, Lat. *ind-uō* ‘put on clothes’, Kocharov 2019:168, Djahukyan 2010:20), and the Group 7 dialects (which are a mix of Eastern and Western dialects and contain Van, Moks, Urmia, Ozmi, etc.) maintain such aspiration whereas CA does not consistently maintain it, where we see the preservation of *\*h* (likely voiced) in CA *hot* ‘odor’<sup>40</sup> but the loss of *\*h* from *\*p-*, presumably voiceless, in *otn* ‘foot’ (Kortlandt 1983<sup>41</sup>). Greppin (*ibid.*:150) concludes by suggesting that CA represents a *koine* literary dialect (also echoed by Hovsep‘yan 1976 and Ajello 1998:198), and was only one of many Armenian dialects extant in the early 5<sup>th</sup> century<sup>42</sup>. Martirosyan (2010), building upon Djahukyan (1972:277-330, 1985), also uses dialectal etymological data to come up with PIE-derived words found in the dialects, but not in the classical corpus.

Somewhat similar to other well-known diasporas (such as the Jewish one in Europe, the Middle East, and Asia in the Middle Ages), communities were not completely isolated from each other, but often maintained close ties across large distances. Some of these ties were based on shared kinship (Fridland 2003), and others were maintained as business connections, such as the Armenians in India (including Bangladesh) and their business associates in Persia and the Ottoman Empire (Aslanian 2014,

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38 Original text: “Ferner muss aber behauptet werden, dass alles, was als dialektisch gelten kann, soweit es sich überhaupt etymologisch beurteilen lässt, jünger ist als die entsprechenden klassischen Formen.”

39 See Weitenberg (2003) for an article-length discussion on this family of words.

40 Ravnæs (2005:194-195) interprets most cases of these *h*-initial words as most probably instances of unetymological *h* added as a counterreaction, though he does note that “any instances of *h-* before an *o* must have arisen posterior to the change *ho > o-*, unless we are willing to accept the existence of two kinds of *h*’s in a period in Armenian prehistory, one, from *s-*, *p-* and *k-*, that disappeared before *o*, one, from *H-* [the laryngeal series], that was preserved in this position.”

41 Beekes (2003:163) also points out that Kortlandt assumes the following sequence of events: PIE *\*y-* became a voiced glottal fricative *ɦ*, entirely lost in CA but retained in some dialects, except before *i*; so *\*yi-* became *\*fi*, hence *hing* ‘five’ vs. *yisun* ‘fifty’ (*\*yinsun > \*yingisun > \*hingisun > PIE \*penk<sup>w</sup>ēkomth<sub>2</sub>, \*pēnk<sup>w</sup>edkōmt*). See also Winter (1966:206).

42 This problem is somewhat similar to several other understudied problems in historical linguistics – such as the exact relationship between Young Avestan and Old Avestan (the former is suspected to be a later representative of some sister to the latter, not a direct descendant); Vedic Sanskrit and whether it’s the direct ancestor to all Indic languages; Pontic Greek and which Ancient Greek dialect that grouping descends from; and Roma (or Romani) how its dialects are interrelated (see Scala 2014 for an overview of the mixed Roma-Armenian language of Lomavren, especially its lexicon and morphology).

Tajiryan 2020). Minority communities often end up having such a function. Syriac Christians living in the Persian empire (and later in the Muslim period) also functioned as mediators with the Byzantines and were frequently employed as secretaries or as bureaucratic functionaries<sup>43</sup>, as were Armenians during most of the Ottoman reign (Pamuk 2004, Akçam 2012, Antaramian 2020).

In the Greek diaspora of the ancient world (8<sup>th</sup> to 6<sup>th</sup> centuries BCE), many communities in Sicily, Italy, North Africa, the Black Sea, etc., maintained ties to their “parent” cities, and identified strongly with them. The 13<sup>th</sup> century Armenian community in Crete, which likely came from regions around the Black Sea, maintained trade relations with those communities (Gasparis 2020:202). Many cities had myths relating to their founding that pointed (sometimes indirectly) to the parent city or place of origin (for the well-documented example of the Cyreneans, see Huang 2023). WA (and EA) communities often transmitted mythopoetic folklore to every generation which served a similar purpose (Smith 1992; see Selvelli 2015 for a case study on how the Armenian alphabet was used by the community in Plodiv, Bulgaria, for centuries as a means to preserve national identity). The fact that some WA communities in Eastern Europe, the earliest of which was founded after 1045 (though many of them were formed during the 14<sup>th</sup>-16<sup>th</sup> centuries) survived into the early 20<sup>th</sup> century is a testament to how effective these mythopoetic narratives can be.

Much work is yet to be completed on reconstructing what CmA would have looked like. Since all varieties of either WA or EA are likely to contain a host of different archaisms, it is thus important to look closely at all of the dialects if one is interested in elucidating the earlier stages of Armenian (list partly adapted and expanded from Vaux, n.d.), some examples of which are:

1. The *κ* in Zok, Agulis, and Meghri *kaκc'* or *kaxc'* ‘milk’ (cf. *katc'/gatc'* in all other forms of dialects, including CA), which may be the reflex of the original *l* that can be seen in Greek γάλακτος ‘milk-GEN’, Latin *lact-*. Vanc'ean (1899, 1901) assumed that Agulis *kaκc'* is older than CA *kat'n*. Ač'arean (1901:79-80, 1935:23, 1951:430-431, 1973:480-481) treats the *κ* (older *ł*) as an archaic relic of IE *\*-l-* (see also Djahukyan 1959a:187-188, 1972:272, 1982:73, 1985:157, 1987:126, 254; Simonyan 1979:232; Xač'atryan 1982:51). The best explanation for why *\*l* has been preserved in *\*katc'* but dropped in *kat'n* comes from Kortlandt (1987b:521, 2003:65) – *kat'n* would have lost *-ł-* before an aspirate; on this, Martirosyan proposes that PA had a NOM *\*głkt-s* > *\*kac'* and ACC *\*głkt-m* > *\*kattc'-n*. Thus in CA, the paradigm *\*kac'-\*kattc'n* was leveled into *\*kac'-\*kat'n*, and the accusative was generalized, whereas in the southeastern periphery, the opposite development had taken place: the paradigm was leveled to *\*katc'-\*kattc'n*, and the nominative was generalized (Martirosyan 2010:345-346). Another good example is dialectal *dalv* ‘sister-in-law’, but CA *dal*, which comes from PIE *\*ǵh<sub>2</sub>lōws* (which should have given *cal*, but the anlaut was modified by influence of early CA *taygr* ‘brother-in-law’, later CA *tagr*, dialectal *tegr*, *tagr*, etc., all from *\*dayh<sub>2</sub>wér*) yet this final *-v* appears in Mush, Alashkert, Gop, Tabriz, Moks, Salmast, Van, and Maragha with metathesis (Ač'arean 1979:357), which is the modern reflex of *\*ǵh<sub>2</sub>l-ōu-*.

43 This remark came from personal correspondence with Rolf Noyer.

2. The voiced aspirates in Group 1 and 2 dialects (see Table 5), which some scholars believe directly preserve the original IE voiced aspirates (cf. Garrett 1991, 1998 for discussion, and further details in Section 2.5 and its footnotes, and Sayeed & Vaux 2023 for problematization).

3. The Artsakh-region interrogative *hu* ‘who’, which according to Ačārean preserves the original *v*-less form found in CA *o* (all other dialects have added a *-v*, which is seen in CA but only before vowels). In an opposite scenario, CA and every dialect except one have *šun* ‘dog’, whereas Kurd-Palan (subdialect of Nicomedia) has *šəvən* (Ačārean 1977:535), MA *švin*, and Dersim and Mirak have *səvdi* and *səvni* (Bařramyan 1960:95b) in their nominative plurals; these are treated as archaisms by Djahukyan (1972:273, 1985:157, 1987:254); Martirosyan (2010:521) states that assuming a relic of an old intermediary form *\*šuwŋ-* is tempting.

4. *Xendac’nuš* ‘make someone rejoice’ in Hamshen, preserving the original semantics of CA *xndal* ‘to rejoice’ (in all other dialects, it now means ‘to laugh’), which can either be seen as a true archaism<sup>44</sup>, or as indirect evidence that in CmA, this verb actually meant ‘to laugh’. The direction of change in semantics is rarely easy to verify. In some cases, it appears as though CA is semantically between a group of dialects that underwent semantic extension or likely did not change since PIE, and another group that underwent semantic reduction, a good example being CA *haw*<sup>45</sup> (from *\*h<sub>2</sub>éwis* ‘bird’), which is a fairly small category for birds that are useful for humans (roosters, hens, chickens, etc.), whereas the same word designates either just chickens like in SWA, or any bird whatsoever like in PIE, usually in a reflex of the frozen plural *hawk’/havk’*, as in Tiflis, Trabzon, Mush and Alashkert *hafk’*, Van *xavfk’*, Ozmi *xavk’y*, etc. (Ačārean 1977:66). A similar, though perhaps not as archaic situation is found in the *het*<sup>46</sup> ‘foot (rarely), step, path, way, track’/*otn* ‘foot’ doublet (CmA *\*otan*, Ačārean 1951:372) – both ultimately from *\*pod-*, *\*ped-* (Martirosyan 2010:405, Ačārean 1977:82-84), with *het* deriving from *\*ped-óm* ‘step’, and *otn* from accusative singular of *\*póds*, *\*pódŋ* ‘foot’ – *het* has become grammaticalized as a dative-governing postposition meaning ‘with, together’ in most dialects, and only Hamshen (*hed*, *hid*, Ačārean 1947:241), Svedia (*hit’k’*, Ačārean 2003:576), and Tavush (Xemč’yan 2000:36b, 212a, 236a) kept the original ‘footprint, track’-type meaning, while a handful of dialects (Xuyt, Karin, Hamshen, Mush, Bardizag, Dersim) have the derivative *hetik* ‘snowshoe’ (Martirosyan 2010:405, Tēr-Yakobean 1960:472, Andranik 1900:114, Bdoyan 1980:214).

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44 The same can be said about the preservation of *haw* (< *\*h<sub>2</sub>éwis* ‘bird’) with the meaning ‘bird’ (all birds) in the dialects of Mush, Tiflis, and Van (in most other dialects, including SEA and SWA, its meaning has become limited to just ‘chicken’). CA represents an intermediate stage, where it has the semantic range which primarily includes birds that are useful to commerce and human consumption (Martirosyan 2010:399, Strohmeyer 1983, Sayeed & Vaux 2017:1161). For a comparison with Greek of the three reflexes of vocalized laryngeals, see Olsen & Thorsø (2022:210).

45 Contra Meillet 1892:162, 1936:38, and Ernout & Meillet 1959:58, initial *h-* can reflect the PIE laryngeal (Greppin 1973a:73, Polomé 1980:25, Kortlandt 1983:12, 1986:43, Schrijver 1991:30, 47, Lindeman 1997:39, and Beekes 2003:182). See Martirosyan (2010:399) for a discussion.

46 Also CmA *\*yhed*, CA *yet* ‘after, since-PREP; back-ADV’ and *et* ‘after’ (in SWA, ‘back, backward’).

5. The medial *-a-* in penultimate stress dialects such as Karabagh and Agulis (MA and the modern final stress dialects, which is to say most of them, normally delete medial *a*; contrast Agulis *hřsánik<sup>o</sup>* ‘wedding’ with CA *harsanik<sup>c</sup>*, cf. (classicized) SWA *harsanik<sup>c47</sup>* yet Alashkert, Akhaltskha, Goris, Mush, Constantinople, Aslanbeg, Tiflis, Rodosto, Artial (Suceava) have *harsni(k<sup>c</sup>)*, Ačarean:1977:62), thus the prosodically innovative dialects ended up preserving something that was lost in the others. Ačarean (1951:366-378) goes into some detail comparing Agulis with CA and PIE, though in the context of systematically proving that the hammock stress system is older than the penultimate stress system.

6. According to all CA reference grammars, there are no traces of the dual<sup>48</sup> left in CA (Thomson 1989), but scholars starting from Meillet (1912:46, 58-59, 66, 71-72) to more recent ones like Gevorgyan (2015) have noticed the bizarre behavior of the nominal morphology of common body parts (i.e. having a singulative-only form which differs from the plural). For example, *ač<sup>c</sup>-* ‘eye’ reflects the PIE dual form *\*h<sub>3</sub>(o)kw-ih<sub>1</sub>* ‘(both) eyes-DU’, thus it is reasonable to assume that *\*ač<sup>c</sup>-i-* (seen in a large number of dialects) directly continues the PIE dual in *\*-ih<sub>1</sub>-*, whereas classical *ač<sup>c</sup>-a-* (used as the stem in GEN, DAT, ABL, INST) reflects the neuter plural in *\*-(e)h<sub>2</sub>-* (Martirosyan 2010:99, Winter 1986, 1992:117). Otherwise, the CA singulative was *akn* ‘eye’, reflected in learned compound words such as *aknoc<sup>c</sup>* ‘eyeglasses’, *anaknal* ‘unforeseen’, *aknalbiwr* ‘fountainhead, source’, etc., which is not used in most dialects (except if used as learned loanwords from CA).

7. Weitenberg (1985) suggested that the additional *-n* we see in some dialects reflect the PIE accusative singular ending, such as a reflex of *astelnā* found in Goris and Lori (cf. CA *astl* ‘star’, Van kept *-an* for the genitive singular), likely from CmA *\*asteln* < *\*h<sub>2</sub>stelm* (Kortlandt 2003:65). The same can be said for *čiwł* ‘branch’, which has an additional *-n* in Meghri and Artsakh, and *-an* in the genitive singular in Mush. Conversely, as pointed out by Kortlandt, the coexistence of forms with and without the extra *-n*, sometimes within the same dialect, points to original doublets; French is instructive here, as Modern French has generally lost the original Proto-Romance nominative, which survives in *prêtre*, *ancêtre*, *peintre*, *traître*, *sœur* (cf. CA *k<sup>c</sup>uyr*), and in doublets such as *copain*, *gars*, *sire*, *on* beside *compagnon*, *garçon*, *seigneur*, *homme* (*ibid.*, Price 1971:98). The same logic applies to CA *jiwn* ‘snow’ and *siwn* ‘column’, which do not exactly match Greek *χιών* and *κίων* (otherwise, we would get *\*ji* and *\*siw*, Kortlandt 1985c:19-20), as the CA words derive from the IE accusative singular. Thus, the IE/PA nominative and

47 Meillet (1936:19-23) argued that there are many cases of vowel syncope in penult stress dialects that must have occurred at an earlier stage. These penult dialects are all EA – a contiguous area of dialects belonging to Group 6 (Agulis, Meghri, Karchevan, Kakavaberd), the easternmost dialects of Group 2 (parts of Ararat and Lori), and some of Group 7 (most Artsakh dialects, including Hadrut and Gori) (Weitenberg 2001:65-66).

48 The Hellenizing School, an Armenian intellectual movement of the 5<sup>th</sup> to 8<sup>th</sup> centuries characterized by significant attention to Greek texts and notable and very faithful translation work from Greek to Armenian, coined some Greek-inspired duals, such as the possessive *imēn*, *k<sup>c</sup>ovra*, *novra* (‘my’, ‘your (sg.)’, ‘his/her’, based on CA *im*, *k<sup>c</sup>o*, *nora*) (Adontz 1915:§67.2), and went so far as inventing duals for numerous verbal tenses that accord with their Greek counterparts (Adontz 1915:§45.9-17, Muradyan 2012:113), but I exclude them due to their clearly artificial nature.



accusative forms are both preserved in *astl* and *\*asteln*; *čiwł* and *\*čeln*; *\*asl* and *aseln*; and, *\*kalc* and *kat*<sup>n</sup> (*ibid.*:24), as well as dialectal forms which survive only in the accusative plural, e.g. *baɣnis* ‘bath’, *Agulis*, *Moks*, instead of *baɣanik*<sup>c</sup> (cf. SWA *paɣnik*<sup>c</sup>), *Agulik*<sup>c</sup>, and *Mokk*<sup>c</sup> (Vaux, p.c.). Djahukyan (1972:280-281) mentions many more remnants found in the dialects – Artsakh has *pcēznə* ‘flyspots, maggot droppings’, from CmA *\*bcin* ‘louse’ (Ačārean 1971:456) whilst CA had *bcic*, and *pōrnə* (PIE *\*b<sup>h</sup>or-* ‘to hum, buzz’ > CmA *\*boɾn* > CA *boɾ* ‘hornet, drone’); Artsakh *p’ərp’ēnš*, Shamakhi *pūrpōsn* ‘mold’ (CA *borbos*, CmA *\*borbosn*; verbal forms containing *-n-* found in Mush, Alaskhert, Akhaltskha, Karin, Tiflis, Crimea, Constantinople, Salmast, Van, Shamakhi, Agulis, and Artsakh, Ačārean 1971:477); Agulis *brášnə* and Artsakh *préšnə* ‘hackberry’ (CA *brinc*<sup>c</sup>, CmA *\*brinc*<sup>n</sup>); New Julfa *g’ort’anuk*, Goris *k’órt’anuk*, Shamakhi *kyortnink*<sup>c</sup>, Artsakh *kért’anuk*, Zeytun *g’ōydōnōg*, Гб.<sup>49</sup> *k’únt’ruk*, and Agulis *gyáɾnuk* ‘frog’ (CmA *\*gortn*, CA *gort*, though the diminutive *gortnuk* ‘wart’ kept the *-n-*); Tiflis *t’zan*-GEN, Agulis and Artsakh, *t’óznə*, Lori *t’z-(e)n-k-i* ‘fig-tree’ (CmA *\*t’uzn*, CA *tuz*, Mediterranean substrate loan, cf. Attic οὔκον, Boeotian τῦκον, Ačārean 1973:202-203, Martirosyan 2010:295-296); Shamakhi *xəžnə* (CmA *\*xeyžn*, CA *xěž*, ‘resin, gum’, Ačārean 1973:363); Artsakh and Shamakhi *xléžnə* ‘lizard’ (CmA *\*xleyzn*, perhaps an old loan from Aramaic, Ačārean 1973:373, Djahukyan 2010:333, Martirosyan 2010:762-763); Tiflis, New Julfa, and Yerevan *cuɾn* (CA *cuɾ*, Ačārean 1973:747); Agulis *kraznə* (CmA *\*krēyzn*, CA *křez* ‘tree resin’, *ibid.*:669); Artsakh *háknə*, Agulis *hókənə* ‘one button of a sack’ (CmA *\*hakn*, CA *hak* ‘one side of the load (borne by an animal)’); and Artsakh *séznə*, Shamakhi *sáznə*, Agulis *sáznə* ‘goatsbeard’ (Ačārean 1979:217, CmA *\*sincn*).

8. The dialects sometimes have another grade of the same PIE source. The CA word *arawr* ‘plough’, cognate with Ancient Greek ἄροτρον, derives from *\*h<sub>2</sub>érh<sub>3</sub>+trom*, with zero grade before the thematic suffix (Kortlandt 2003:55); the *e*-grade survives in *harawunk*<sup>c</sup> ‘field’, identified with Old Irish *arbor* ‘corn’ < *\*h<sub>2</sub>érh<sub>3</sub>-wr*, genitive *arbar* < *\*h<sub>2</sub>rh<sub>3</sub>-wens*; the dialectal variant *harōr* (Kortlandt 1983:9-16) seems to have adopted the *e*-grade of the verb in a manner similar to Lithuanian *árklas* (Latin *arātrum* adopted the verbal stem) vis-à-vis *irklas* ‘oar’ (*\*h<sub>1</sub>rh<sub>1</sub>-tlom*, cf. Greek ἑρετόν, Derksen 2015:60) from the zero-grade. Another noteworthy example is CA *duɾn* ‘door’, which yields *təɾ* in Edesia and *t’əɾ* in Tigranakert (their *u* remain unchanged, cf. *cuɾ* ‘crooked’ > *juɾ*, *nuɾn* ‘pomegranate’ > *nuɾ*, etc. (Martirosyan 2019b:207), which likely reflect *o*-vocalism of PIE *\*d<sup>h</sup>uor-*. Djahukyan (1992c:109) mentions CA *meɽu* ‘bee’ against dialectal *moɽik*, *peɽel* ‘to dig, hollow, excavate’ against *poɽel*, *haɽ* ‘time, -fold-SUF’ against *heɽ*. Another example cited by Djahukyan (1972:162) is the unexpected *-a-* in the CA word for ‘sixty’ *vat’sun* (< *\*swéks(d)komt*), compare with *vec*<sup>c</sup> ‘six’, which could be explained by a zero-grade form taken from the ordinal. This approach must be exercised with caution, as there are plenty of examples of two IE grades producing a doublet or triplet used within the same dialect and ought not to be taken as evidence of crossdialectal interference either, such as CA *k’orel* (< *\*(s)kor-eye-* ‘to scratch’, *k’erel* (< *\*(s)ker-* ‘to scrape, grate, graze, erase’, *k’ert’el* ‘to flay, skin, excoriate, take off the skin’ (same root but with a *-t’-* suffix), and even *k’ercel* (< *\*(s)ker-* + *-d-*, cognate with Lithuanian *skeřsti* and Latvian *šķērst*). Related to this is the fact that certain dialects have multiple reflexes of CA *\*iw* in identical

49 Perhaps a typo, as the shortened form Գղ. is not listed in Ačārean’s legend (1971:67-68), but judging from the phonetic structure, likely Goris.

environments, which should not occur given the regularity of sound change, such as Van *alür* ‘flour’, *xarir* ‘hundred’, and *kʷεk* ‘village’ and Yerevan *alir*, *axpur* and *gʷεk*, corresponding to CA *aliwr*, *hariwr*, and *giwł*, respectively (Ałayan 1958a:79).

9. In CA, beside *ur* ‘where’, there was an older by-form *\*yur* (preserved in the CA allative/directive *yo* ‘where’, Martirosyan 2010:644), which is seen in a number of dialects, such as Zeytun *yoy* and Hajin *yuy* (Ačarean 1977:613b, 2003:113-114), as well as an initial *h-* or *h̄-* derived from *y-* in Alashkert, Mush, Moks, Jugha (Ačarean 1940a:125-127), and perhaps Artsakh. This *y-* element derives from PIE *\*h<sub>2</sub>en-* ‘in’ (another reflex may have survived in the Hamshen subdialectal forms *nir*, *ner*, *neɾ*, *nür*, and *nur* (Ačarean 1940b:250)), and *-ur* from PIE *\*k<sup>w</sup>ur* (cognate with Lithuanian *kur̃*).

10. The complicated way in which the PIE accentual system<sup>50</sup> changed to become, at first, the heavily stressed system of early PA (with accompanying pervasive apocope), then the aforementioned hammock pattern, may not have been uniform in PA, as we are left with traces of otherwise difficult-to-explain doublets<sup>51</sup> in CA, a good example being that of *arew* ‘(light of the) sun’ (< PA *\*arew-u(y)* < *\*h<sub>2</sub>rew-i-* ‘sun, sunshine’) and *areg* ‘sun’s, solar’ (from PA *\*areg-i* < *\*h<sub>2</sub>r(e)w-y-ós*, the genitive of *\*h<sub>2</sub>réw-ōy-* ‘sun, sunshine’, sacrally marked<sup>52</sup> replacing *\*seh<sub>2</sub>ul-/sólh<sub>2</sub>wł-*, see Martirosyan 2010:135), both used very productively in compounds.

11. The phonemic status of both [a] and [æ] in Tigranakert and a subsequent thorough comparative analysis of its vowel harmony system has led Hopkins (2022:59-60) to strongly suspect that the ancestor of Tigranakert, unlike CA, possessed both [a] and [æ] as phonemes, given that *æ* occurs freely in all environments, if we were to posit that at some stage it developed from *a* via sound change, then this would entail an unconditioned split – a diachronically and synchronically unusual event according to our understanding of historical phonology. A borrowing-based explanation also seems unlikely, since *æ* is not restricted to loanwords; it surfaces frequently in native lexical items (e.g. *æmæn* ‘bowl’, cf. Sanskrit *ámatra*, ‘large drinking vessel’, Ancient Greek *ἀμίς* ‘chamber-pot’, *ἄμη* ‘water-bucket’, and *pʷeræn* ‘mouth’, cf. Lithuanian *burnà*). She concludes by stating that there could have been at least three separate ancestors contemporaneous with CA (*ibid.*:111) – looking only at harmonic dialects (Figure 51 on page 259), she proposes Proto-Tigranakert on its own branch, Proto-Cilician (Marash and

50 Since the expected suffix alternations in late PIE depend on the accent type of the original stem (Frazier 2006), we can assume that as long as the learner has a grammar in which the accent-grade alternation system is maintained, then any given stem will be classified into one of the known patterns, but as these types become more phonologically opaque, the learner no longer has sufficient evidence to postulate the accent-grade classes, and alternate patterns are extracted from the data. Thus, perhaps these relic forms found in CA and dialects give us a clue that various speakers’ accent-grade alternation system had broken down unevenly within the population.

51 Word-medial PIE *\*-w-* > CA *g* before an old accented syllable and > *w* elsewhere, though with some irregularities, as *-w* is regular only word-finally (Matasović 2009:9).

52 For evidence supporting folkloric veneration of the sun, also seen in Indo-Aryan, see Abeghian 1899:43, Grigoryan-Spandaryan 1971:165, and Łaziyan 1983:165b, for the Artsakh dialect, Gabriëlean 1912:242 for Akn, Vardumyan & Tʰoxatʰyan 2004:90 in general.

Zeytun being the modern daughters), and a third large group covering dialects in the southern group (Moks, Van as sisters, and Ozmi as a cousin), the southeastern group (Salmast and Maragha), the northeastern group (with the ancestor of Agulis and Meghri branching off first, then the extreme northeastern group with Artsakh (Karabagh) branching off first, and the immediate ancestor of Goris and Shamakhi as a sister to Artsakh).

12. IE-derived dialect words not attested in CA which can (usually uncontroversially) fit into known sound change laws (Djahukyan 1972:283-309 has over one hundred examples): *bbuk* ‘crest, comb of a cock or hen’ (Nor Bayazet, Xlat, Surmalu) or ‘feather’ (Kabusiyé) (< \*b<sup>h</sup>u-b<sup>h</sup>u- < \*b<sup>h</sup>(e)w- ‘to swell, puff’, cf. βουβών ‘groin, (swollen) glands near genitals, Lith. *bubsù, bubsėti* ‘throw up bubbles’); related *bdek* ‘fatty, plump’ (Kharberd) (< \*b<sup>h</sup>u-d<sup>h</sup>-), *bt’ikel* ‘to swell, fatten, stuff oneself’ (Charsanchak) (< \*b<sup>h</sup>u-d-) and *blud* (Sebastia) ‘earthenware jar’ (< \*b<sup>h</sup>l-d<sup>h</sup>-?), *bltik* ‘a kind of earthen pot’ (Kiği) (\*b<sup>h</sup>l-ōd-, cf. Sanskrit भण्ड bhāṇḍa ‘pot, vessel’); *dmboc* ‘sound of a drum’ (Arstakh) or ‘beating, thrashing’ (Ghazakh), *dmbuz* ‘punch’ (Yerevan), *dmbik* (Van), *dmblik* ‘drum’ (Akhaltskha) (< \*dhem-b<sup>h</sup>- or \*dhem-p- < \*d<sup>h</sup>en- ‘to strike’), *glp’el* (Nor Bayazet) ‘to usurp, extort, purloin’ (< \*wel<sub>3</sub>- ‘to hit, strike’); *trak’el* ‘to burst, tear apart, explode’ (Astapat, Akhaltskha, Tiflis, Karin, Lori, Ghazakh, Artsakh) (\*der(-ek)- ‘to split, separate, tear, crack, shatter’, cf. Avestan *daradar* ‘to tear to pieces’, Skjaervo 2018:165); *kašvel* ‘to freeze’ (Charsanchak) (< \*gel- ‘to freeze’); *kavař* ‘narrow stream, arch’ (Akn, Arabkir, Kharberd, Gyurin), ‘estuary’ (Yerevan, Zeytun, Sebastia, Baberd) (< \*gew ‘to bend, curve’); *klor* ‘ball-shaped, rotund’ (Crimea) or *kolor* (Artial, Suceava), ‘melon’ (Aslanbeg, Manisa, Mush, Charsanchak, Van), *klurik* ‘a type of bowl’ (Mush), *klök* ‘coil’ (Khian), *křak* ‘discarded thick rectal beef meat’ (Yerevan), *křan* ‘a thick leathery seal to yoke a plow or cart’ (Artsakh) (< \*glew ‘to ball up, clump together’, cf. ग्लौ glaú ‘a round lump’ Monier-Williams 1899:374); *lav* ‘torrent, flood’ (Shulaver/Shaumiani post-1925) (< \*plew- ‘to flow, run, fly, swim’); *t’al* (Tabriz, Artsakh), *t’eluk* (Yerevan) ‘a wild edible plant or vegetable’ (Djahukyan 1972:290 connects it with Lith. *atólas* ‘after-grass, autumn grass’); and *řiv* ‘curly tree branch’ (Yerevan, Artsakh), ‘twig’ (Xnut), ‘grape branch’ (Maragha), *řif* (Hajin, Tigranakert), *řib* Kharberd, Rodosto) and *řiv* ‘empty grape stem’ (Akn, Adana), along with many other dialectal reflexes (< \*skey-p- ‘to cut, separate, split, dissect’).

13. One category of possibly IE-derived words which dialects have (unattested in CA) that cannot be easily reconciled with known PIE > PA > CmA > CA sound changes but that have clear parallels in other IE languages yet seriously deviated semantics (Djahukyan 1972:301-309), such as *k’t’vel* ‘to clean by separating one by one’, reflexes of which are found in Akn, Arabkir, Tiflis, Kharberd, Constantinople, Artial (Suceava), Svedia, Van, connected with Proto-Germanic \*skainijanq ‘to scratch, wound’ < \*skey- ‘to split, dissect’) and *čpel* ‘to tope, drink’ in Constantinople and Akn, expectedly from \*g<sup>eb</sup> but actually reconstructed as \*g<sup>h</sup>ew- ‘to pour’, yet \*g<sup>h</sup>- typically yields CmA/CA j-, as in *jew* ‘manner, style, way’, *joyl* ‘molten, solid, cast’, *jor* ‘valley, ravine’, etc.). Another category of dialectal words (unattested in CA as well) with semantics that appropriately parallel other IE languages but with no definite phonetic correspondences, and in some cases these dialectal words have unexpected voicing (*ibid.*:309-330), such as *bdkel* ‘to burst, explode’ (Mush) (< \*b<sup>h</sup>id-, an ablaut grade of \*b<sup>h</sup>eyd-,



extended with *-k-*, giving CmA or CA *\*btkel*, Djahukyan 1991:37, Malxaseanc<sup>c</sup> 1944:357c), *hal* or *hel* ‘threshing floor shovel’ (Lori, Shirvan) (< *\*peh<sub>2</sub>ǵ-* ‘to attach, fix, fasten’, *\*p(e)h<sub>2</sub>ǵ-sleh<sub>2</sub>*, cf. Proto-Italic *\*pākslā* > Latin *pāla* ‘shovel, spade’, de Vaan 2008:443), and many more.

14. For a small number of early loaned lexical items, dialectal evidence points to an earlier form – CmA *\*paturhan*, which is borrowed from a Middle Iranian word meaning ‘opening for ventilation’, composed of the preverb *\*pati-* and *\*frāna-* (‘breath’, cf. Sogdian *βr<sup>n</sup>* /*frān*/) and Sanskrit *प्राण* *prāṇa* < PIE *\*pro-h<sub>2</sub>enh<sub>1</sub>-o*). The attested CA form is *patuhan*, from which we cannot derive Yerevan *pədrhan*, Goris and Artsakh *ptrhan*, Agulis *ptórhan* (Ačārean 1979:50). There was also likely a CmA form *\*sinamarg* (CA *siramarg*<sup>53</sup> ‘peacock’, Ačārean 1979:219) from an Iranian source (Middle Persian *synmwłw*, *saēna-* ‘bird of prey’, Sanskrit *śyená-*, Proto-Iranian *\*mṛgáh* ‘bird, hen’, Gippert 1993:190-196, 349), which survives in Mush *sinamark<sup>c</sup>*, Alashkert *sinamahafk<sup>c</sup>*, Van *sinamaxafk<sup>c</sup>*, and Baghesh *simamon xafk<sup>c</sup>*.

Unfortunately, with the superficial exception of Kortlandt (1996), no one has attempted even a partial reconstruction of CmA verbal morphology, or any other type of morphology. Godel (1975:62) warns that this enormous gap will never be filled, though he was only working with CA data and not any dialectal data which may at least fill in some gaps. In this dissertation, wherever secure, I occasionally mention a CmA form.

## 2.5 Dialect splitting

Over the past 130 years, linguists have suggested, sometimes indirectly (Godel 1970, Weitenberg 2002) and sometimes explicitly (Vaux 1995, 2017), that what we call the Classical variety<sup>54</sup> of Armenian may have been just one standardized form of one dialect spoken in the early 5<sup>th</sup> c. CE. CA is the oldest attested Armenian variety. Though it is often repeated that the CA corpus is remarkably uniform (and it is, at least compared to Greek, Latin, or Old Church Slavonic), the work of J. Weitenberg (1986, 1992, 1993, 1996, 2001) highlights dialect divisions that securely go back to the 7<sup>th</sup> century at the latest, some of which may have been in existence in pre-literary times (Hodgson 2020). We also know from the rendition of placenames in the early 8<sup>th</sup> c. text *Narratio de Rebus Armeniae* (Garitte 1952) that some of the “western” consonant shifts had already taken place (Sayeed & Vaux 2023).

53 Djahukyan (2010:681) notes, that the word was reshaped in Armenian by folk etymology under the influence of *sir-* ‘love’, if we ignore this explanation, we are left with an inexplicable *n > r* sound change.

54 Often called *Grabar* in Armenian, based on the spoken language of the time (Minassian 1976), CA was a literary language, as is seen in its designation: *grabar* ‘written (language), book (language) / Schriftsprache’, composed of *gir* ‘letter, writing, book’ and the adverbial suffix *-abar*. In the adverbial meaning ‘in a written manner, by way of writing’, *grabar* is attested in a translation from Socrates. Next to *grabar*, one also finds a variant *grabar̄* (e.g. in Mxit‘ar Sebastac‘i, 1730 CE), which contains the word *bar̄* ‘word, speech’. This form is recorded in a number of dialects, such as Łarabal (*kərapār*), Hadrut<sup>c</sup> and Šaṭax / Xcaberd (*kiráp‘ar̄*) ‘book language’, and Moks *kyrāpār* ‘literary’ (Martirosyan 2020).

Furthermore, Armenian authors were aware of dialectal variation long before it was documented by linguists (Poghosyan 2011, DeLisi 2015, ancient attestations to follow). Eznik Kolbac'i of the 5<sup>th</sup> century noted one example of lexical variation: “When we say *sik*<sup>55</sup> (wind) blows, the lowers<sup>56</sup> say *ays* (demon, evil spirit) blows” (Djahukyan 1986:9, Karamanlian 1932). An example of phonetic variation is preserved in the Armenian translation *K'erakanakan Aruest* [The Art of Grammar] of Dionysius Thrax (2<sup>nd</sup> or 1<sup>st</sup> c. BCE) from the 5<sup>th</sup> or 6<sup>th</sup> century CE (Adontz 1970, Clackson 1995 [1998]:121-133, Meyer 2019a), which notes that speakers of the dialect of Gordayk' (Gordian, or Corduene), use the form *Manayč* instead of *Manēč* (an Iranian personal name), which is likely the more archaic version.

Dawit' the Grammarian (a.k.a. Dawit' P'ilisop'ay, lived between the late 5<sup>th</sup> c. and the first half of the 6<sup>th</sup> c.), the earliest commentator of *K'erakanakan Aruest* whose commentaries were generally appended to this work<sup>57</sup>, made some remarks on the dialectal provenance of certain commented words, such as noting that *nayac'uc'anel* ‘to irrigate’ is “Albanian”<sup>58</sup>, by which he likely meant Albania Minor, i.e. of princedoms Artsakh and Utik', or of some Armenian population of Albania Major (a northeastern Caucasian region) on the left bank of the river Kura, or of both regions (Vardazaryan 2020:82). He also mentions that “*alawri* (water mill) he says for *žuripat*, as in Ałuanian (Albanian) they say *šotripat*”, and he occasionally refers to a word as “provincial”, e.g. “*cařan*: this is a provincial word, which means ‘tail’” (Σ<sub>2</sub><sup>QGI-III</sup>; M 1053, f. 208r<sup>59</sup>). He also mentions that the palatalized (iotacized) *gyam*, *gyas*, *gyay*, etc. forms of *gam*, *gas*, *gay* (conjugated forms of ‘to come, to arrive’), etc. respectively, and variants *lows* (cf. CA *loys*, ‘light’), *gorn* (instead of CA *gařn* ‘lamb’) and *goyl* (instead of CA *gayl* ‘wolf’), can be attributed to the dialectal particularities of Korčayk'<sup>60</sup> (the southernmost historical province of Armenia, considerably south of Lake Van), Bargushat (an area between the Kashatagh province of Artsakh and Syunik), and Goroz (located not far from Gtich, near present-day Togh and Tumi (Azer. Bina) villages in Artsakh) (Adontz 1970:LX, CLXI); Adontz (1915) deduces that the latter two must be the ancestors of the Artsakh and Zok dialects.

55 This word is also written as *siwk'* (սիւկ) in certain sources (Ačarean 1951:116).

56 By “lowers (n.)”, he means inhabitants of Lower or Inner Gordik Ստորին կամ Ներքին Կորիքսերի (in Kortchayk' Կորճայք, which is one of the lowermost provinces of historical Armenia during Antiquity, more commonly known under its Hellenistic name Corduene from Κορδουηνή).

57 See Adontz (1970:XI-CXI) for a thorough overview of manuscript sources, classifications of various editions, scholia, and fragments, and the reconstitution of lost texts.

58 This cannot be referring to the actual northeastern Caucasian language, as *nay-* is the root for humid or moist, and we can clearly parse this verb as the aorist stem of *nay* along with a causative *-uc'* infix, an inchoative *-an-* infix, an *e*-theme, and the infinitival *-l* suffix.

59 Quaestiones et Solutiones in Genesim, III, Corpus Philoneum Armeniacum, M2059 manuscript of the Mesrop Mashtots Matenadaran (Yerevan). The sigma refers to the work in abbreviated form adopted in *Studia Philonica Annual* and the subscript number is the scholion.

60 The 13<sup>th</sup> century scholar and philosopher Hovhannes Erznac'i (a.k.a. John of Erznka or Erzincan) mentions that this dialect was “a little slurred and disturbed, as well as bastardized (likely with Assyrian or an early Kurdish dialect, since this province had a large percentage of non-Armenians) and uncultivated” (Erznkatsi, n.d.); Malxasyanc' (1944:461) describes a variant for the word for this dialect as խեղաթիւրուած *xečatürvadz* ‘bent out of shape, ill-fashioned, or perverted’.

An anonymous successor to Dawit<sup>c</sup> wrote about a distinction seen in the dialect spoken in Korčayk<sup>c</sup> (south of Lake Van) which does not use the inchoative *-an-* infix, as seen in *orog-em* ‘I water, sprinkle, wet’) where the written standard in CA requires an extended form in the present system, *orog-an-em* (Adontz 1970:147, Cowe 2021:476). Martirosyan (2010:113) and Beekes (2003:160-161) discuss this unusual word, as it seems to have up to three reflexes in the dialects which differ also by their choice of prothetic vowel (where *\*erog-* is reconstructed and *orog-* attested). This anonymous writer also notes two alternate pronunciations for the word *bazuk* ‘arm, later “chard” by ellipsis of *čakndli bazuk* ‘beet arm, beet leafstalk’, namely *pazuk* and *p<sup>c</sup>azuk* (Adontz 1970:149, Djahukyan 1992c:105), foreshadowing *b<sup>c</sup>azuk* (Akhaltsikhe, Karin, Ozmi ‘wrist’ (Ačarean 1971a:377)), *b<sup>c</sup>azug* (Alashkert, Ararat, Mush, Sivas), *b<sup>c</sup>azuk<sup>c</sup>* (New Julfa), *päzüik* (Moks, Van), *päzüik<sup>o</sup>* – (Salmas), *p<sup>c</sup>äzüg* (Tigranakert ‘lettuce stalk, arm’).

This same anonymous author also added some phonetic details which should raise eyebrows – although he classified the alveolar affricates *ḍ* [d͡z], *g* [t͡s<sup>h</sup>], and *ḍ* [t͡s], as voiced, voiceless aspirated, and voiceless, respectively, as one would predict, he then classified *ḍ* [t͡j] as voiced, *ḡ* [d͡ʒ] and *ḣ* [t͡ʃ<sup>h</sup>] as voiceless aspirated (Adontz 1970:CXLVII), reminiscent of many WA dialects. This may be a clue that the famous WA/EA sound split first affected postalveolar affricates before being generalized to all affricates.

A later manuscript of Dawit<sup>c</sup>’s treatise (ms 5596 stored in Astvatsatur, Armenia, likely from the 12<sup>th</sup> or 13<sup>th</sup> century) contains a host of mistakes which again could be attributed to a speaker of a dialect quite different from CA: some words which ought to be separate are not, *ḗ* *ē* is replaced everywhere with *ḗ* *e*, final *-y* is written even in cases where there is not supposed to be one, *i*-class declensions omit the expected *-w-* (*teḷoy* instead of *teḷwoy* ‘that place (GEN)’, *baroyñ* instead of *barwoyñ* ‘that good one (GEN)’, etc.), after *n<sup>61</sup>* and sometimes *l*, voiceless consonants are often replaced with voiced ones (*vayeljowt<sup>c</sup>iwn* instead of *vayelč<sup>c</sup>owt<sup>c</sup>iwn* instead of ‘decorum, decency’, *manganc<sup>c</sup>* instead of *mankanc<sup>c</sup>* ‘baby-GEN’), *s* before voiced consonants does not change to *z* as expected (*skisbn* instead of *skizbn* ‘start, beginning’, and *sbawsank<sup>c</sup>* instead of *zbawsank<sup>c</sup>* ‘diversion, relaxation, pastime’), voiced consonants become devoiced or voiceless-aspirated in certain positions (*baḷawt* instead of *baḷawd* ‘this reason’, *awktakar* instead of *awgtakar* ‘helpful’), certain vowel shifts like *owḷit* instead of *owḷet* ‘brain’, mistakes regarding certain fricatives like *ḣal* [s<sup>h</sup>ʒal] for *sxal* ‘wrong’, and *aḣtičan* for *astičan* ‘degree, stair, extent’ (Adontz 1970:310, relying on Djahukyan 1954).

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61 Post-nasal voicing is found in most or perhaps even all modern varieties, suggesting that it may have been a feature of CmA (Vaux, p.c.).

Another historian of the fifth century, Koriwn<sup>62</sup>, speaking about the work done by his teacher Mesrop Mashtots (361 – 440 CE), notes that the speech of the Armenians who settled not far from Vagharshapat, on the Median side, was incomprehensible<sup>63</sup>. Movsēs Xorenac’i, colloquially sometimes referred to as the Armenian Herodotus, uses the terms “speech,” “idioms,” and “tongues” in his *Patmut’yun Hayots* [History of the Armenians] (dated 482<sup>64</sup>) when referring to various speech forms found in Armenia, which has been taken as a direct testament to the existence of Armenian dialects in the fifth century. The 7<sup>th</sup>- and 8<sup>th</sup>-century author Step’annos Siwnec’i mentions seven regional varieties of Armenian: “[bearing in mind] different lands along your frontiers, and the knowledge of their languages, because they are very useful for etymology. Further you should know all words of marginal areas of your own language, those of Korčayk<sup>65</sup>, Tayk<sup>66</sup>, Xut<sup>67</sup>, the Fourth Armenia<sup>68</sup>, Sperk<sup>69</sup>, Siwnik<sup>70</sup> and Arc’ax<sup>71</sup> and not only the central ones and those of royal domain, because they are suitable for poetry, but also useful in the narrative” (composite of my translation, Djahukyan 1986:9, and Vardazaryan 2020:84).

Jacques Chahan de Cirbied<sup>72</sup> mentions that in ancient times, there were already six recognizable dialects, which he names *Ararac’i* (Araratian), *Kordowac’i* (Gordian, or Corduene), *Ałowanec’i* (Aghovanian), *Kowkarac’i* (Koukarian), *P’ok’r Hayac’i* (Little Armenian), and *Parskahayac’i* (Persarmenian). He speaks of the Ararat dialect as being the prestige dialect on which written CA is based, and he makes a higher-level distinction between the central dialects (*dialectes des terres intermédiaires*, Araratian and Gordian) and the borderland dialects (*dialectes des provinces limitrophes*, the four other ones named above) (Cirbied 1823:xi-xvi). He claims that the grammars of the central dialects were very similar

62 His main work, likely completed in 451 CE, *Life of Mashtots* contains many details about the evangelization of Armenia and the invention of the Armenian alphabet by Mesrop Mashtots (Winkler 1994). Mashtots was a native of the Taron region just north and northwest of Lake Van, which has long led linguists to suspect that the Taron speech may have been the basis for CA (Lockwood 1972:176).

63 “He undertook to teach in the savage regions of the Medians... not only because of the demonic devil-carrying character, but also because of their most gibberish, coarse, badly pronounced language, their speech is hard to grasp. Undertaking to refine them, across several generations, they made their offspring intelligible, eloquent, educated, and informed of godly wisdom, and in time, they thus became immersed in the laws and commandments, as to remove traits external to their naturalness [my translation]”. Here, the “Medians” do not refer to the Mesopotamian people, but to the inhabitants of a region northeast of Ararat along the Araxes river.

64 Or 466 (Samuel of Ani 1876), or far later according to R. W. Thomson (1978:1-12), who places the writing of this history at some time during the eighth century (*ibid.*:60). If Thomson, who represents the minority view, is correct, then Movsēs’s statements about the existence of multiple speech forms present in Armenia is pushed forward to the eighth century.

65 Generally taken to correspond to the Moks and nearby dialects, south of Lake Van.

66 Likely the ancestor of the Artvin dialect was spoken there (Mkrtč’yan & Xaç’atryan 2016:108).

67 Likely the ancestor of Sasun and surrounding dialects (*ibidem*).

68 Likely the ancestor of Malatya and surrounding dialects (*ibidem*).

69 Likely the ancestor of Karin (*ibidem*).

70 Syunik is still used as the same name for this region of present-day southern Armenia.

71 Referring to the dialects spoken in Artsakh/Nagorno Karabagh with a smaller territory till 2023, now refuged in Armenia.

72 Real name Yakob Shahan Jrpetean, born in Edessa, Ottoman Empire, chairperson of the *École des langues orientales* in Paris from 1812-1827. I would advise great caution when reading his historical claims.

except that Gordian would suppress the *-an-* inchoative and *-uc<sup>c</sup>an-* causative infixes, along with minor phonological differences. He further claims that it was in Gordian speech that the *ga/gu* particle first appeared. As was typical for his time, Cirbied does not cite sources so I have been unable to verify his claims; one of his Armenian contemporaries living in France at the time lambasted him publicly in an open letter (Zohrabian 1823:5-20) in which he accuses Cirbied of having made up the names and existence of these dialects, and that no ancient Armenian author had ever mentioned these purported facts in the way described by Cirbied. Hübschmann (1901) also casts doubt on many of the claims made by Cirbied.

The state of dialectal diversity in the Classical period is still debated<sup>73</sup>. Some authors have pointed out archaisms or inconsistencies in the CA corpus (Ałayan 1958a; Winter 1966<sup>74</sup>:205; Kortlandt 1980:105, 2003:32; Beekes 2003:142–143; Clackson 2005:154). Two examples which are often cited are *\*lizu* vs. CA *lezu* ‘tongue’ (Meillet 1936:11; Viredaz 2003:76, Kortlandt 2003:76) and *\*anumn<sup>75</sup>*, *\*anum*, and *\*anúw(a)n* (< PA<sup>76</sup> *\*onōmn* (Beekes 2003:186) < *\*h<sub>3</sub>neh<sub>3</sub>-mn*, Martirosyan 2014:20) vs. CA *anun*, after which as *anun* in WA and as *anum* in EA dialects. Language change is entropic, in the sense that via sound change, information can be lost but not gained within the same morphemes, which strengthens the case for a CmA origin of some elements of modern dialects. It is clear that the modern dialects preserve important data for the reconstruction of the older, pre-attested stages of the language. As mentioned by Martirosyan (2008, 2010:689), relying on Beekes (2003:142) and Kortlandt (1980:105, 2003:32), there are multiple features, such as word-final *-n* in some nouns, which cannot have been taken from the Classical dialect but rather an earlier stage.

73 For a recent lengthy discussion on this issue, see Mkrččyan (2015b).

74 After reviewing inconsistent outcomes from PIE sound changes to CA, he concludes that if we insist on viewing CA as one uniform corpus, we are faced with rather numerous unexplainable, haphazard changes. In *abstractio*, he tentatively proposes that CA incorporated elements of at least four dialects (dialect I had PIE *\*p-*, *\*t-*, *\*k<sup>w</sup>-* > *p<sup>c</sup>-*, *t<sup>c</sup>-*, *k<sup>c</sup>-*, and *\*-e-a-* and *\*-e-u-* > *-e-a-* and *-e-u-*; dialect II had *\*p-*, *\*t-*, *\*k<sup>w</sup>-* > *h-* and *\*-e-a-* and *\*-e-u-* > *-e-a-* and *-e-u-*; dialect III had *\*p-*, *\*t-*, *\*k<sup>w</sup>-* > *h-* and *\*-e-a-* and *\*-e-u-* > *-a-a-* and *-a-ə-*; and dialect IV had *\*p-*, *\*t-*, *\*k<sup>w</sup>-* > *y-* and *\*-e-a-* and *\*-e-u-* > *-e-a-* and *-e-u-*; additional details and ancient isoglosses omitted). He derives all plosive-initial dialectal variants from CmA/PA *\*f*, *\*θ*, *\*χ* (Winter 1992:121-123), thus the post-pausal and postconsonantal fortition was a change not shared by all dialects forming the basis of CA. For potential problems of this derivation, see Gamkrelidze (1990:62) who states that an intermediate stage *\*p<sup>h</sup>*, *\*t<sup>h</sup>*, and *\*k<sup>hw</sup>* is required for this to work.

75 Martirosyan (2020) says that it is methodologically more cogent to explain the preservation of *-m-* through generalization of the prehistoric oblique *\*anVman-*, cf. CA *paštawn* vs. gen. CA *paštaman* ‘service’, CA *mṛjiwn* vs. nom.pl. CA *mṛjmun-k<sup>c</sup>* ‘ant’. The prehistoric sequence *\*wn* in *mṛjiwn* ‘ant’ seems to appear as *m* in many dialects (Weitenberg 2017:1135), e.g. Krzen *mṛč<sup>c</sup>un*, Rodosto *mṛč<sup>c</sup>un*, Kharberd *mṛč<sup>c</sup>um*, Hamshen *mēyč<sup>c</sup>um*, Aslanbeg *mārč<sup>c</sup>üm*, Svedia *mṛč<sup>c</sup>om*, Hajin *mārj<sup>c</sup>im*, Yerevan and Tiflis *mṛč<sup>c</sup>im*, Agulis *mṛj<sup>c</sup>im*, Moks *mṛč<sup>c</sup>im*, Ozmi *mṛč<sup>c</sup>im*, Akn *mārč<sup>c</sup>öm*, New Julfa *mṛč<sup>c</sup>em*, Alashkert, Mush, Salmast, and Van *mṛč<sup>c</sup>em*, Artsakh *mṛč<sup>c</sup>émna*, *vṛč<sup>c</sup>émna*, Maragha *mārč<sup>c</sup>em*, Astapar (within Turkish-dominant speakers) *mārj<sup>c</sup>əm*, Zeytun *mōrč<sup>c</sup>ōm*, *mōrj<sup>c</sup>ōm*, Akhaltskha *mṛj<sup>c</sup>əmuk*, Lori *mórmōnj*, *mórmonj*, Ghazakh *mórmōnj*, Shamakhi reduplicated *mōrmōrj*, Hungarian subdialect of Artial *mṛj<sup>c</sup>b<sup>c</sup>un* (Ačarean 1977:371).

76 At some point during the development of PA, it is clear that, taken separately, final *-m* and *-n* merged (Kortlandt 1985c:19), but it is not clear what happened to final *-mn*. CA *atamn* does not count, as it derives from PA *\*ataman*, in turn from PIE *\*h<sub>3</sub>dónts*.

A similar example to \*lizu is CA *mawruk* (< PIE o-grade \**smokr-u-*) ‘beard’ versus dialectal *meruk* or *miruk* (Artial, Akhalksxa, Hamshen, Karin, Jugha, Tiflis), derived from the e-grade \**smekr-u-* (Martirosyan 2010:455), from which Weitenberg (1997) suggests that CA may have been spoken in a Western area, perhaps somewhere in the Mush or Van regions; the derivation of Agulis *yans*<sup>77</sup> ‘shoulder’ (Patkanov 1869:27) in southern Nakhichevan from PIE \**Homsos*<sup>78</sup> (vs. CA *us*, PA \**ums*, the *-m-* being an important relic of PIE \**-m-*, Ačārean 1977:609b) strengthens this claim. Winter (1992:121) also adds that this nasal loss did not affect all pre-CA dialects, as even within CA, there are cases where we have *-nd* such as in *drand(i)* ‘door post, space before a door, threshold’ alongside *arcac* (< \**h<sub>2</sub>rǵntóm*<sup>79</sup> > PA \**arcant* > *arcac* under the influence of *erkac* ‘metal’) ‘silver’, which are under identical environments, hence telltale signs of dialect interference. Moreover, though this is difficult to ascertain, as CA stands one against all dialects in the variant *aganim* against dialectal *haganim*<sup>80</sup> ‘I clothe’ (Kortlandt 1983) and in the color of the prothetic vowel, where CA has *e-* (*elbayr* ‘brother’) and all modern dialects inherit an *a-* reflex *axbar*, *axpar*, *aɤbar*, *axper*, *aper*, etc., all seemingly deriving from CmA \**albayr* (Eichner 1978, Martirosyan 2010:252, Schmitt 1972:32-34). There are more words that have this same CA *e-/CmA a-* alternation, such as *elič* (\**atič*) ‘nettle’, *eljiwr* (\**ałjewr*) ‘horn’ and a few others (Ałayan 1958a:67-68, Ačārean 1951:362-439), though the dialects typically show more differentiation and some of these reflexes can clearly be derived from CA. More rarely, we may find a MA form that appears to derive from a different PIE grade not attested in CA, such as the above *mawruk* ‘beard’ appearing as *miruk* (Ačārean 1977:1768, Martirosyan 2010:454).

Djahukyan emphasizes that soon after its separation from IE, partial dialectal differences should have already existed, and that the language of all parts of the Armenian homeland could not be completely identical from the very beginning (Djahukyan 1972:161-162) to which he adds that it is possible that some differences of this kind were preserved in dialects and even sneaked into CA written records (Djahukyan 1967, 1969). Ačārean (1951:117-140) goes over some of the lexical and

77 One can easily point to a potential problem: there are many dialectal forms where *n* is inserted before strident fricatives and affricates (*mendz* ‘big’, *kananch* ‘green’, etc.).

78 Various reconstructible as \**h<sub>1</sub>om(e)so-* or \**h<sub>4</sub>om(e)so-* (Mallory & Adams 2006:179), \**h<sub>1</sub>ōm(e)so-* or \**h<sub>4</sub>ōm(e)so-* (Douglas 2013:46), \**h<sub>2</sub>óm-s-s* ~ \**h<sub>2</sub>m-és-ṃ* ~ \**h<sub>2</sub>ṃ-s-ós* (Martirosyan 2010:643), \**h<sub>3</sub>emeso-* (Sihler 1995:43), \**h<sub>3</sub>ém-ōs* ~ \**h<sub>3</sub>ṃ-s-ós* (Kroonen 2013), and \**h<sub>3</sub>ems-o-* (Beekes 2010:1679-1680, Lubotsky 2011).

79 This is assuming that this is an inherited word – otherwise, the arguments in favor of either a very old Indo-Aryan (3<sup>rd</sup> - 2<sup>nd</sup> millennium BCE) or Iranian (first half of 1<sup>st</sup> millennium BCE) borrowing are equally strong (Martirosyan 2010:139, de Lamberterie 1978:245-246, Clackson 1994:229, Olsen 1999:868).

80 There exists a complicated relationship with the cognates CA *awt* ‘passing the night, sleeping place, evening’ (with dialectal remnants with varying meanings such as the verb Akn *ət’il* ‘to spend the night’ (Ačārean 1979:610), Meghri *ət’ek* ‘yesterday’s food’ (Ałayan 1954:291, 336; Weitenberg 1996:99), Ghazakh *ət’ánal* ‘to become stale, old’ (Ačārean 1979:610)), derivatives of *ag-* ‘to spend the night’, *aragast* ‘curtain, veil, nuptial canopy, bridal chamber’, *awt’oc* ‘sleeping place, blanket, cover, garment’, and *awd* ‘footwear’. At least for *awd* and *awt*, Winter (1992:120) ascribes these differential postconsonantal environment outcomes by claiming different rule mechanisms for two pre-CA dialects in question, both of which CA inherited.

morphosyntactic variation found in various CA authors, and he mentions 26 PIE-derived words (*ibid.*:119-126) which are found in dialects but not CA.

Scholars have also considered several traces of early diversity, e.g. *t'aršamim* vs. *t'aramim* 'I wither', including their adjectival forms *t'aršam* vs. *t'aram*<sup>81</sup> 'withered, shriveled' (Clackson 1994:54), where no dialect preserves the variant with *rš* (Weitenberg 2017:1135, Beekes 2003:142); *p'axnum* vs. *p'axč'im*<sup>82</sup>, both meaning 'I flee' in the Bible translation; the semantic doublets of *ays* 'wind' and '(evil) spirit'. A morphological variant is the presence of the verbal suffix *-num* next to *-č'im*, *-anim*, e.g. *sksanim* ~ *sksnum* 'I begin', (Weitenberg 1996:111-113, Ačařean 1979:2260). The 8<sup>th</sup>-century author Step'annos Siwnec'i mentions the seven marginal dialects (*zbařsn zezerekans*) as opposed to the central ones (*zmiřerkreaysn ew zostaniksn*), which has sometimes been interpreted to mean that seven non-Armenian languages were contemporaneously spoken then, though Martirosyan (2020) does not subscribe to the view that these seven *bařk' ezerakank'* refer to foreign languages which were spoken in the corresponding parts of Armenia rather than to Armenian dialects.

As theorized by previous linguists (Djahukyan 1959b:151-152; Ařabekyan 1998:123-124) and demonstrated by Meillet (1903:1-11) and DeLisi (2018) by modern quantitative methods, all modern dialects have fully participated in the fixation of the PA accent on the (prehistoric) penultimate syllable (Vaux 1998:132-150) and the subsequent apocope (Weitenberg 2001). The formation of the Armenian dialects cannot thus be pushed back beyond the date of apocope (loss of some sounds of the final unaccented syllable). At a later stage, the accent was retracted back to the penultimate syllable in a cluster of innovative EA dialects (Weitenberg 1996, 1999, Martirosyan 2023a). It is certain, however, that Armenian dialect diversity existed in the prewritten period (i.e. before the 5<sup>th</sup> century CE), and the modern dialects have preserved features that are not present in CA. WA dialects all preserved the hammock stress system.

Others such as Dum-Tragut (2011) take different dates for when the Western-Eastern split could have occurred – from a political perspective, some have taken the dates 384, 387, or 389<sup>83</sup> as the origin of the west-east breakup, as the west was occupied by the Romans and the east by the Persians. One major issue with this date is that the west-east split could have occurred at various times before the late 4<sup>th</sup> century, as various chunks of Armenia were repeatedly handed over or split between these two

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81 There have been several explanations for the existence of such a pair – Pedersen (1906:413) suggested that these were from different stem formations (*\*třsy-*, compare Sanskrit *तृष्यति* (*třsyati*) vs. *\*třs-*, the zero-grade of *\*ters-* 'dry'); Martirosyan (2010:281) suggests that it was due to the influence of the Iranian cognate (compare Proto-Iranian *\*třřnah* 'thirst' and CA *t'ařkinak* 'handkerchief' or the operation of the *ruki*-rule; for Kolligan (2020:75), the *-am* ending may be identical with CA *am* 'year', whose cognates show the meaning 'summer'; the compound would then mean 'having a dry summer', applied to plants 'exposed to a dry summer' whence 'dried, withered'.

82 Earlier *\*p'axič'im* (Godel 1975:122).

83 As explained by Blockley (1987), scholars have failed to establish an exact date due to the conflicting nature of the primary historiographical sources.

warring empires during the Roman–Persian Wars from 66 BCE to the 2<sup>nd</sup> century CE. By 114 CE, all of Armenia became a Roman province under the emperor Trajan, but Roman Armenia was soon after abandoned by the legions in 118 CE and became a vassal kingdom, yet Lesser Armenia (the territory south of Pontus and west of the traditional Armenian homeland) remained controlled by Rome, and later the Byzantine Empire.

If the above is correct (389 or so), this would essentially mean that dialect-forming started to occur a mere half-generation before the invention of the Armenian writing system, which would be a plausible explanation for the standardized 5–7<sup>th</sup> century writing we see in CA<sup>84</sup>. I do not subscribe to this view given the reasons in the previous section. The fact that early modern European linguists such as Heinrich Hübschmann<sup>85</sup> (1898) and Meillet<sup>86</sup> (1896, 1908, 1913) maintained that in the 5<sup>th</sup> century, there was no substantial dialectal differentiation has also contributed to this being seen as the standard view. Meillet (1904), in response to Karst’s (1901) work on MA, expressed his opinion against Karst (who derived Cilician MA from a vulgar 5<sup>th</sup> century idiom that had remained outside of the formation of CA), saying that the Armenian dialects contain nothing that cannot be found in or reduced to 5<sup>th</sup> century CA and that, secondly, 5<sup>th</sup> century CA itself contained extremely little dialectal variation. A more cautious modern sociolinguistic approach would be to treat such apparent uniformity with a certain level of skepticism since, after all, most of the surviving documents we have from this era are religious or scholarly endeavors<sup>87</sup>.

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84 One would need to first consider where the 5<sup>th</sup>–7<sup>th</sup> century authors were from – our records are spotty for many otherwise well-known early CA writers and this question would require much additional research; Mesrop was from Taron (modern-day Mush province, roughly), Eznik was from Kołb (modern-day Tuzluca, Turkey, in the middle of the traditional West-East divide), Yeghishe is associated with Taron but his hometown is unclear.

85 After the publication of Karst (1901)’s magnum opus on MA, Hübschmann seemed to have changed his mind: “But I concede that part of these double forms can only find a satisfactory explanation by assuming an ancient dialect besides the classical one” (my translation, Hübschmann 1901:50). Original text: “Aber ich räume ein, dass ein Teil dieser Doppelformen nur durch Annahme eines alten Dialektes neben dem klassischen eine befriedigende Erklärung findet”.

86 In the 1890s, Meillet took under his wing Ačarean, who would become the founder of modern Armenian dialectology, and in 1902, Meillet took a chair in *Armenian at the Institut national des langues et civilisations orientales*.

87 “Presumably the Bible was the first text to be translated [see my note below], followed by a number of other Greek and Syriac texts. Secular material, too, was translated, including many works by Aristotle and Neoplatonists such as Porphyry [of Tyre], Probus, and Diodorus. There was even an Armenian translation of the grammatical treatise of Dionysius Thrax. Some works have survived only through their Armenian translations, such as the Commentaries on the Benediction of Moses by Hippolytus, the first part of the Chronicle of Eusebius, and the Romance of Alexander the Great by Pseudo-Callisthenes. Soon native texts were composed, chiefly on historical and religious matters, such as the History of the Conversion of Armenia by Gregory the Illuminator, by Agat’angelos, a biography of Maštoc’ by Koriwn, and Against the Sects, by Eznik of Kołb” (Krause & Slocum 2022, Meyer 2019b). Although to be fair to Meillet (1904:24), he does not deny the possibility that other dialects could have existed in the 5<sup>th</sup> century, but he does stress that none of them left any trace in the modern dialects. According to Koriwn, Mesrop began translating the Bible into Armenian in about 397, beginning with the Proverbs of Solomon (Conybeare 1905:152).



Ačarean, being a student of Meillet, initially adopted his point of view and regarded all modern dialects to be derived from CA. Modern dialects do not represent forms which, according to him, “could not phonetically arise from CA and be older than CA forms [my translation, quoted from Mkrtčyan 2015b:22, original Ačarean quote not found]”. Taking into account the testimonies of Armenian chroniclers of the 5<sup>th</sup> century, Ačarean later writes that although not all Armenians spoke exactly the same dialect, there may have been local varieties that amounted to little more than very close subdialects. Opposing this view was Łaribyan (1958b), who believed that there was significant dialectal variation even in the first millennium BCE, and that dialects must have branched out and spawned new variants up to the modern era. Łaribyan justifies his point of view primarily by emphasizing the relationship between the consonantal inventories of the dialects and PIE. After breaking down dialects by grouping them by according to 2-, 3-, and 4-way [±voice, ±aspiration] plosive distinctions, he claims that group Type II.d (see Figure 10 on page 52) must have preserved the original voiced aspirates<sup>88</sup> reconstructed in PIE. In his main work and subsequent articles (Łaribyan 1953, 1955, 1958b), he distinguishes 4 stages of emergence of dialectal differences:

1. PIE voiceless consonants turn into breathy consonants, while breathy vowels and consonants are preserved (15<sup>th</sup> – 8<sup>th</sup> c. BCE);
2. Voiced consonants become voiceless, and the so-called dialects with a four-level consonant system (Ararat, Mush, Karin, etc.) appear between the 7<sup>th</sup> – 2<sup>nd</sup> c. BCE;
3. Breathly consonants become voiced, and thus the system of CA is formed; this is followed further by the devoicing of voiced stops and aspirates and the emergence of dialects with a two-stage voiceless system; and,
4. Finally, another group of dialects (dialects of the Arzanene<sup>89</sup> and Fourth Armenia<sup>90</sup> regions) transforms the voiceless series into breathy or aspirated voiceless consonants, and keeps the original PIE voiced consonants.

This view came under severe criticism by subsequent researchers such as Sevak (1959), Ałayan (1958a, 1958b), and Djahukyan (1959b), who believed that Łaribyan’s rigid categorization is shallow, pays insufficient consideration of historical conditions, and takes on a too singularly one-sided,

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88 There is disagreement among researchers – Weitenberg (2017:1138), Khachaturian (1983, sometimes cited as 1984), Pisowicz (1997:216), Kortlandt (1978, 1998a), Pisowicz (1998), Schmitt (1972:7–8), with some differences in detail, hold that phonetically the so-called voiced aspirates are not comparable to the PIE voiced aspirates because they are not a combination of voiced obstruent and aspiration, rather they originate from CmA or CA plain voiced *b* (and other series) by the loss of voice and the presence of a breathy onset in the following vowel, thus phonation-wise, they are murmured, or as possessing the features [-stiff] and [+spread] (Vaux 1998:238–241). For a discussion on how this interacts with various glottalic theories, see Kortlandt (1978, 1998a), Gamkrelidze (1992), de Lamberterie 1998, Clackson (2007:45–48), and Vaux (2022), who proposes that the latter are misguided with respect to murmur and glottalization.

89 English name from Ἀρζανηνή, or Աղձնիք, Ałjnik<sup>ç</sup> in CA, Aghdznik<sup>ç</sup> in SEA, and Aghtsni<sup>ç</sup> in SWA, southwest of Lake Van.

90 Fourth Armenia, Ծոփք Tsopk<sup>ç</sup> or Σωφηνή Sōphēnē, was a province of the ancient kingdom of Armenia, located in the south-west of the kingdom, and was sometimes incorporated into the Roman Empire. The region lies in what is now southeastern Turkey.

oversimplistic view of the features of the consonant system. Their view was closer to the classic Meillet position, though Djahukyan would later explore a much more moderate version of Łaribyan’s thesis. Łazaryan (1960), who also participated in this debate, proposed that the modern dialects have innovated in manners that make it too difficult for us to track down changes directly from CA, though he did not exclude the hypothesis that other dialects existed in the fifth century.

Muradyan (1982:429) maintains that a careful examination of the CA written records right after the adoption of the Mesropian script leads one to notice very minor phonetic, morphological (such as doublets or very rarely triplets verb forms, the confusion of declensional classes in nouns, particularly those of the *i-a* and *o-a* class, Mkrtč’yan 2015b:27), and lexical differences, but that in later centuries (during the Middle Ages and beyond), under the influence of individual dialects, even the formal written language underwent considerable differences and territorial differentiation. There are also instances of the same word being written with different voicing or aspiration such as the 887 Moscow Gospel manuscript, which likely indicates interference from an author’s native dialect. Ałayan (1958a) also reasons along these lines; Łaribyan (1941) goes further by suggesting that CA was only one dialect of many which must have existed since prehistoric times that happened to have been selected, then regulated and normalized as a standard or prestige language.

Alongside region-specific varieties of Armenian, the early modern period (17<sup>th</sup> and 18<sup>th</sup> centuries) showed the rise of an Armenian lingua franca among Armenians (Parnassian 1985; Donabédian 2018). This lingua franca or koine was CivA (Ashkharhabar<sup>91</sup> or Աշխարհաբար [aʃxar(h)abar, aʃxar(h)ap<sup>h</sup>ar], referring to the worldly or secular tongue, or more precisely *k’agak’ac’iakan* բարձրաբարձրաբար [k<sup>h</sup>aʒak<sup>h</sup>aʒ<sup>h</sup>i(j)a’kan, k<sup>h</sup>aʒak<sup>h</sup>aʒ<sup>h</sup>i(j)a’gan, meaning civil or civilian]). It is often seen as some sort of amalgamation of various linguistic features from different regions (Parnassian 1985, Dolatian 2023a) given that it has both WA and EA features<sup>92</sup> (Lassiter 2016). This lingua franca developed in two sets of cultural centers: Constantinople (Bolis, Polis, Istanbul) in the West, and Yerevan and Tbilisi (Tiflis) in the East (Tomson 1890a). After CivA, two separate standardized Armenian varieties were established: SWA and SEA. The two dialects are often treated as

91 In contrast to the “written/book” language *Grabar*, *ašxarhabar* literally means ‘wordly/speech or regional language’. This word is attested in the meaning ‘secularly, vulgarly, lay’ and is composed of the word *ašxarh* ‘world, country, region’, a Middle Persian loan (Balabanian 2019), and the suffix *-abar* (seen in *Grabar*); compare derivatives of another adverbial suffix, *-ōrēn*: *ašxarhōrēn* ‘secularly, vulgarly (said of speaking)’ attested in Nersēs Šnorhali (12<sup>th</sup> century), and a later term *ramkōrēn* ‘vulgarly, popularly, commonly’. Typologically, compare the Polish-Armenian subdialect of Artial *erkrc’nak* ‘Armenian language’, derived from *erkir* ‘land, country’ and meaning thus ‘language of the fatherland’. In MA we find *ašxarhabar* ‘in the colloquial language, non-Grabar’ (e.g. in Amirdovlat’ Amasiac’i’s texts, 15<sup>th</sup> century) or *ašxarhi bar*, literally ‘word/speech of world/region’ (Alēk’sianos). Note, e.g., the dialect of Zeytun *ašxarə* < \**ašxarhi* ‘lay, non-religious’ as opposed to *krōnawor* ‘religious’ (Martirosyan 2020).

92 For example, CivA constructed the indicative present tense with forms of *ku*, the perfect tense with forms of the *-er* participle, and the ablative case with *-e* (all Western); but it tended to employ the locative *-um* (Eastern) and the genitive plural in *-i* (WA would be *-u*). Nichanian (1989:273-277) adds that Kostandnupōlsets’i uses *piti* as a future (WA) rather than an obligatory (EA) marker in his version of CivA (Sayeed & Vaux 2017:1148).

having developed from Constantinople Armenian and Yerevan Armenian via a process of standardizing and greatly archaizing the lexicon (Ačařean 1909:5), removing recent Turkic borrowings, and incorporating common dialectal features. For example, Manoukian (2022) tracks the development of SWA within publishing houses in the Ottoman Empire in the 19<sup>th</sup> century. She describes how the translators developed a ‘purified vernacular’ language that removed Turkish words<sup>93</sup>, and replaced them with CA words or calques. The actual dialects of Constantinople and Yerevan<sup>94</sup>, were in reality quite different from SWA and SEA respectively, especially lexically but even on finer points of phonology and morphology. In the Figure below, the bars using medium height “---” indicate widespread use, and the low height “\_\_\_” represents limited use (in relative terms).

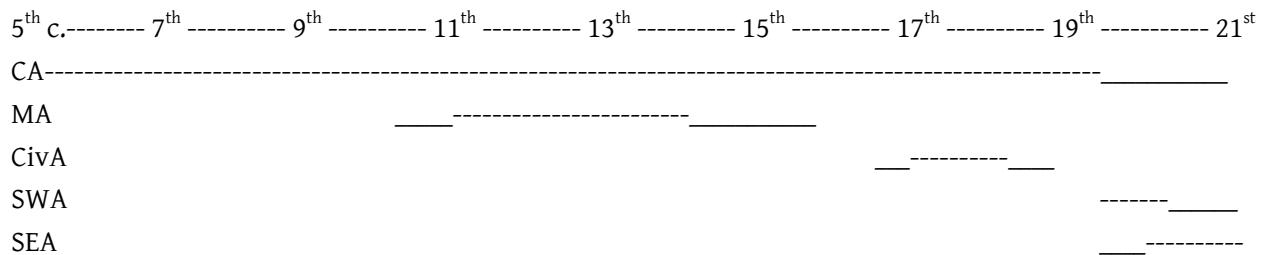


Figure 4: Timeline showing how widespread the standardized written variants of Armenian were

Thus there are two main interrelated questions here: **1) when did Armenian begin to break up into different dialects?** And, **2) how can we group the various dialects as to show their correct position within the Armenian language family?** The plan is that by focusing on the development of verbal morphology, other than being an interesting comparative and diachronic study *per se*, I can provide a useful body of data that would better inform us on the taxonomic question.

93 Ačařean (1911:19) mentions that the number of common words borrowed from Ottoman Turkish in the Constantinople dialect was 4200, and that the various Turkic branches (Ottoman, Azerbaijani Turkish, Tatar, etc.) have had a tremendous influence on “all dialects without exception”. For EA dialects in and around the territory of modern-day Armenia, the number was roughly half of that (Ačařean 1902), and more so from Azerbaijani Turkish than Ottoman Turkish proper. Phonologically too, we have “anachronisms” that were reintroduced into the high registers of various dialects, including SWA – for example, the dialects in group 6 (referring only to a straightforward set of sound changes from PIE D, D<sup>h</sup>, T > T, D, T<sup>h</sup>; see Table 5) are often thought to be the only dialects in which the CɔyC (uppercase C standing in for any consonant) pattern has been preserved in monosyllables, as in *mayr* ‘mother’ (Weitenberg 2001, Muradyan 1982:121-124), yet in both standardized dialects, due to the deliberate classicization of the lexicon, these CɔyC-type monosyllables have been reintroduced.

94 Note that it belongs to Group 2 (like New Julfa, see Table 5) whereas SEA belongs to Group 6 (like Tiflis); demographically, Yerevan was relatively unimportant until the 20<sup>th</sup> century – the main intellectual centers before then were New Julfa and then Tiflis; furthermore, the first influential modern Eastern writers (Abovian, Patkanean, Sundukian, Babakhanian, etc.) were not even from Yerevan and did not speak in that dialect. Even Abraham Erevantsi (“from Yerevan”) wrote in a mix of CivA and New Julfa dialect, which were the two most prestigious varieties of modern Armenian in the 18<sup>th</sup> century (Vaux, p.c.).

In brief, there are at least five possibilities for how dialect-splitting could have occurred (note that MA is attested only for the Western branch, see Sections 5.2.1 and 6.1.2):

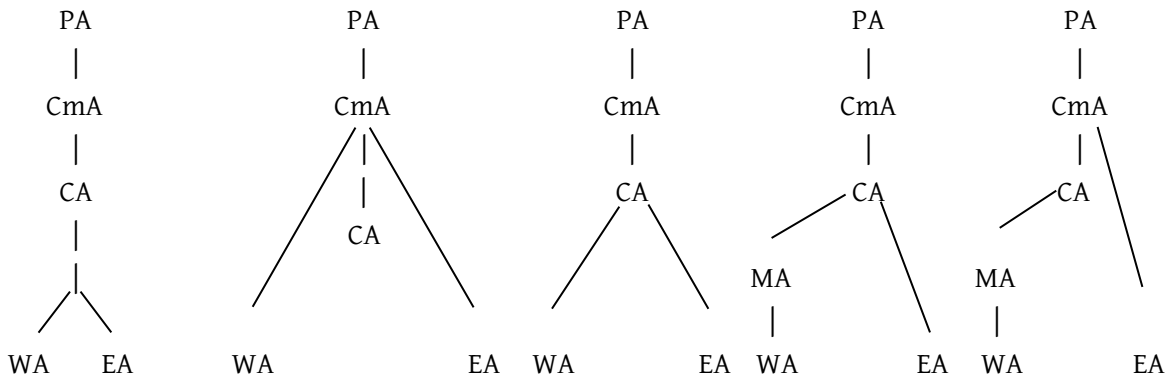


Figure 5: Possible diachronic development and splitting of Western and Eastern dialects

There are other logical possibilities, such as some or all of one of either the Eastern or the Western variants having split off earlier than CA, and I will explore these possible scenarios later on. Today, the vast majority of the Western dialects described here are extinct due to democide or displacement which has caused mixed surviving communities to undergo significant dialect leveling. Refugee communities often came from different Ottoman provinces; thus the generation after the Armenian Genocide largely abandoned their native dialect in favor of SWA (and other languages in subsequent generations). Chapter 4 contains a detailed rundown of CA and SWA/dialectal verbal systems, along with salient data for all of the dialects studied for which I will roughly follow Hoenigswald (1960:13-47)'s typology of morphological changes – Chapter 5 includes some of the main features which are examined.

## CHAPTER 3: OVERVIEW OF WA DIALECTS

Chapter 3 offers an in-depth exploration of WA dialects within the context of historical and contemporary linguistic scholarship. The first section (3.1) delves into classifications based on geography, morphology, and phonetics, elucidating the diverse criteria employed to differentiate and categorize the dialects into various classification schemes. Subsequently, in subsection 3.1.3, the vitality and current status of these dialects are given. Section 3.2 is dedicated to an assessment of prior scholarly contributions in the field, especially by Aytənian, Ačərean, Ałayan, Łaribyan, Djahukyan, and DeLisi, illuminating the groundwork that has paved the way for the present analysis. Moving further, section 3.3 undertakes the task of examining documented population movements and relocations that have influenced the distribution and evolution of WA dialects.

### 3.1 Classifications: Geographical, morphological, and phonetic

#### 3.1.1 Geographical and morphological

There have been numerous attempts to classify Armenian dialects – during the formative years of Armenian dialectology (1823-1908), most linguists simply gave a straightforward western-eastern divide based on geography (Cirbied 1823), the Western ones being largely within the borders of the Ottoman Empire, and the Eastern ones being under Russia or Persia.

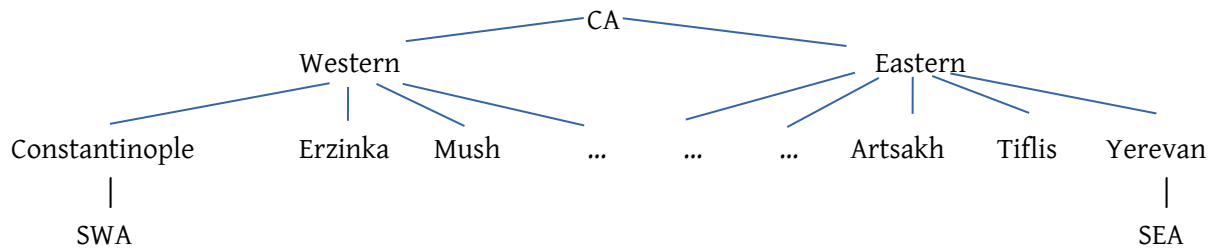


Figure 6: Traditional Western-Eastern dialect division

This simple tree correlates with an important isogloss in Armenian dialectology: the morphemes used to form the indicative present (Vaux 1995). In CA, the indicative present was formed by adding agreement suffixes directly onto to the verbal stem. The verb stem consists minimally of a root and a theme vowel. But in modern SEA and SWA, this simple synthetic construction is instead used for the subjunctive present. To form the indicative present, SWA adds a prefix /gə/ Կը before the

synthetic form. This indicative prefixed particle has a wide range of reflexes in the Western dialects – *g-*, *k-*, *kə-*, *ku-*, *gu-*, *gü-*, *gi-*, etc., and can become mobile (Bezrukov & Dolatian 2020) or more rarely, gain inflectional morphology in other dialects. Some dialects, including SWA, have more than one reflex based on lexical or morphophonological factors. In SWA, for example, this morpheme is *gu-* before monosyllabic roots, *g-* before vowels, and *gə-* elsewhere before consonants; other dialects differ in their distribution. In contrast, SEA uses a periphrastic or analytic construction. The verb is a non-finite form called the imperfective converb – essentially, the verb is formed with a present participle with a non-inflecting (not agreeing in number or person) suffix *-um*, while person and number agreement is on an auxiliary.

Lect	Present indicative of 'I write'	
CA	<i>gr-e-m</i>	write-TH-1SG
SWA	<i>gə-kr-e-m</i>	IND-write-TH-1SG
SEA	<i>gr-um e-m</i>	write-IMPF.CVB AUX-1SG

Table 3: Morphemes used for the indicative present in CA, SWA, and SEA

Aytənian (1866:16-18), who was among one of the first modern Armenian linguists, mentions four groups of dialects: 1) Middle Provincial (the historical core of Armenia itself), 2) Constantinople and Asia Minor, 3) Western (by which he meant Eastern European/Transylvanian dialects), 4) Eastern (Astrakhan, Persia, India). Patkanov, improving upon Aytənian, goes further by describing a dozen individual dialects and he is the first one to pay attention to and analyze morphological differences as a way of differentiating dialects.

Various dialectological issues were also addressed by Patkanov (1864). He published a study on the Agulis dialect in German (1866), then presented a description of eight dialects of Armenian in the work *Изслѣдованіе о діалектахъ армянскаго языка* 'Research on the Dialects of the Armenian Language' (1869). It is supported by a number of written works and his personal investigations. K. Patkanyan in 1875 published the two-volume work *Матеріалы для изученія Армянскихъ нарѣчій* 'Materials for learning Armenian dialects', one of which contained texts in Nor-Nakhichevan (Crimea), the other in the Mush dialect. In 1867, German Armenologist Julius Heinrich Petermann published an analysis of the Tbilisi dialect. In 1883, Sargseanc' published a detailed study of the Agulis dialect, a work that still stands up today for dialectological studies. In 1886, Polish Armenologist Jan Hanusz, who had studied the Artial dialect as it was spoken in Poland, published several articles and books, the most important of which is *Sur la langue des Arméniens polonais, 1. Mots recueillis à Kutî, Crocovie*, then wrote *Beitrag zur armenischen Dialectologie*. These works remain the best documentation we have on some of the Artial subdialects, although the study is incomplete. In 1887, the Russian comparative linguist Alexander Ivanovich Tomson published a study on the dialect of Akhaltskha (Georgia), and in 1890, on the dialect of Tiflis. In the last decade of the 19<sup>th</sup> century, there was a flurry of publications, articles (popular and

scholarly), dialect grammars and sketches, ethnographical, poetic, and folkloric works published particularly in the Ottoman Empire, Imperial Russia, the Austro-Hungarian Empire (Vienna, chiefly) and Paris.

We owe the majority of our knowledge to Ačarean (variously transliterated as Adjarian, Ačaryan, Atcharian, etc.) who was born in Constantinople in 1876, and undertook an education in linguistics in France. Early in his career, he published in French and German – the two most groundbreaking studies were *Les explosives de l'ancien arménien étudiées dans les dialectes modernes* (1899a, English translation in Balabanian 2024a) in which he developed an experimental procedure in a phonetics laboratory for Armenian consonant acoustics, where he discovered voice onset time (VOT) (Braun 2013, Vaux 2021) 65 years before Lisker & Abramson (1964) and a comparative, multidialectal study of Turkish loanword morphology in 1902. His first major work was *Classification des dialectes arméniens* (1909) where he catalogued, described, and classified a large set of Armenian dialects. This French monograph was then the basis for a larger work in Armenian *Հայ Բարբառագիտություն* [*Armenian Dialectology*] (1911), which outlines 31 Armenian dialects, categorized into three main groups based on the present and imperfect indicative particles: *-owm/-um*<sup>95</sup> (-ոււմ) dialects, *kə-/gə-* (կը-) dialects, and *-el* (-ել) dialects. Some of these dialects have never been analyzed again.

After surviving the genocide, he repatriated himself to Soviet Armenia where he taught at Yerevan State University from 1923 until his death in 1953. He also became a founding member of the Armenian Academy of Sciences when it was established in 1943. The Institute of Language of the National Academy of Sciences of Armenia is named after him – many of the Armenian authors quoted from the past decades are graduates of this Institute.

Other important works include *Հայերէն գաւառական բառարան* [*Armenian Provincial Dictionary*] (1913), and eleven dialect descriptions form the basic corpus of dialectological data (Martirosyan 2019) compiled in a massive work entitled *Հայոց լեզվի պատմություն* [*History of the Armenian Language*] (Ačarean 1940b, 1951). Further dialectal information is found in his posthumous seven-volume *Լիակատար քերականություն հայոց լեզվի* [*Comprehensive Grammar of the Armenian Language*] (Ačarean 1955-1971), and especially his crowning work, *Հայերէն արմատական բառարան* [*Armenian Etymological Dictionary*] in four volumes (Ačarean 1971–1979, original handwritten volumes written in 1926). He also produced a series of monographs and articles devoted to the examination of specific dialects, such as Aslanbeg (1898), Artsakh (1899b), Eudokia (1901), Van (1904, 1952), Nor-Nakhichevan (1925, 2021), Maragha (1926a), Agulis (1935), New Julfa (Nor-Jughha) (1940), Constantinople (1941), Hamshen (1940c, 1947), Van (1952), Artial (1953), among others. For decades after his death, many posthumous manuscripts and notes have continued to be newly compiled and published, such as his detailed study of Zeytun, Hajin, and Musaler (2003).

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95 Included in these dialects are those that have the following derived reflexes: *-əm*, *-im*, and *-am* (Gevorgyan 2013:71).

After Ačarean (1909, 1911, classification scheme in Figure 7), most specialists started to use morphological differences, chiefly but not exclusively the indicative verbal construction, to classify the dialects, shown in Figure 8 below.

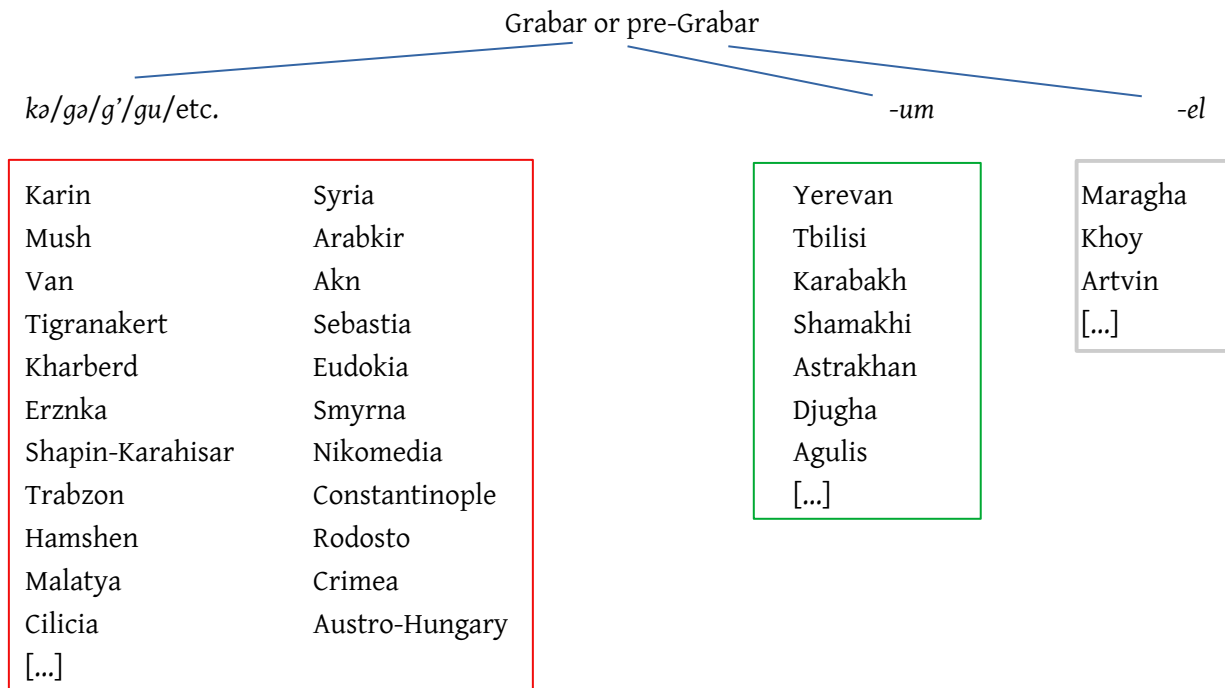


Figure 7: Ačarean (1911)'s basic dialect grouping based on verbal morphology<sup>96</sup>

Grigoryan (1957), Bałramyan (1960, 1961, 1964, 1972, 1976), and Ałayan (1954, 1958a, 1958b) made significant contributions to the field through documentation, the discovery of new dialects (the *s*-branch), and the use of newer scientific methodologies. Ałayan (1954:404) provided a schema that is substantially the same as the ones that would come later, with the minor exception that he grouped the CA-like plain present and imperfect indicative with the group of dialects that used a particle:

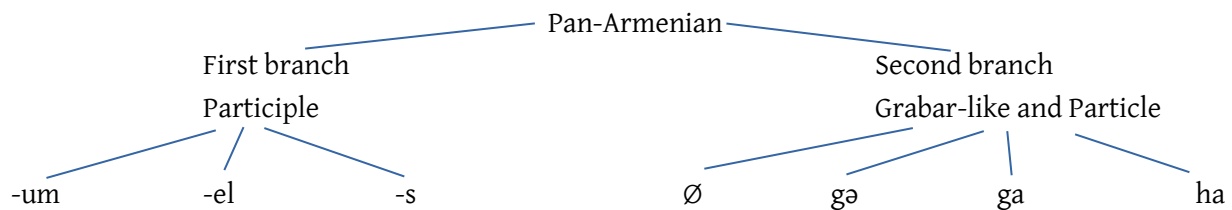


Figure 8: Ałayan (1954)'s dialect classification scheme

<sup>96</sup> Corresponds to my map in Figure 56 of Appendix B.



One of their contemporaries, Łaribyan (1958b), who increased the number of studied dialects to 60, further broke down the *-el* group into two subgroups – the *-el* and *-es/-is/-lis*<sup>97</sup> subgroups, but in fact these endings may be found in the same dialect such as Khoy/Urmia (Scala 2021a, Hodgson 2020), and even within the same paradigm, as in the following example from Urmia and Areš/Havarik given by Martirosyan (2019:86) in Table 4 show that these labels are inadequate. Nevertheless, his university textbook from 1958 and series of articles and books published in the two previous decades remain relevant to this day, especially his dialect descriptions of Aramo (1958a:9-77), Beylan (1953:418-425, 1955:224ff), Edesia (1958a:146ff), Kabusiye (1958a:78-145), Kesab (1953:444-457), Ordu (1953:93-97) and Ozim (1953:93-97).

	CA	Urmia <sup>98</sup>	Areš/Havarik <sup>99</sup>	SEA	SWA
1SG	gr-e-m	k <sup>y</sup> ir- <b>es</b> em	g <sup>y</sup> ir-ε- <b>lis</b> əm / g <sup>y</sup> ir-ε- <b>li</b> yəm	gr-um em	gə kr-em
2SG	gr-e-s	k <sup>y</sup> ir- <b>es</b> es	g <sup>y</sup> ir-ε- <b>ləm</b> əs	gr-um es	gə kr-es
3SG	gr-ē	k <sup>y</sup> ir- <b>el</b> i	g <sup>y</sup> ir-ε- <b>lim</b> i	gr-um ē	gə kr-ē
1PL	gr-e-mk <sup>c</sup>	k <sup>y</sup> ir- <b>es</b> enk <sup>c</sup>	g <sup>y</sup> ir-ε- <b>ləm</b> ank <sup>c</sup>	gr-um enk <sup>c</sup>	gə kr-enk <sup>c</sup>
2PL	gr-ē-k <sup>c</sup>	k <sup>y</sup> ir- <b>es</b> ek <sup>c</sup>	g <sup>y</sup> ir-ε- <b>ləm</b> ak <sup>c</sup>	gr-um ek <sup>c</sup>	gə kr-ek <sup>c</sup>
3PL	gr-e-n	k <sup>y</sup> ir- <b>es</b> en	g <sup>y</sup> ir-ε- <b>ləm</b> an	gr-um en	gə kr-en

Table 4: Verbal paradigms comparing CA *gr-el* ‘to write’ in the indicative present with Urmia, Areš/Havarik, SEA, and SWA

97 Piecing together Łaribyan (1939:29), Ałayan (1954:12), Muradyan (1960:10), and Gevorgyan (2013:71), given that there are EA dialects which have maintained intermediate forms, I can reconstruct a chain of changes as follows: *-lis* > *-yis* > *-ys* > *-s* (see Vaux 2015 for further discussion).

98 Asatryan (1962:7-17).

99 Gevorgyan (1985).

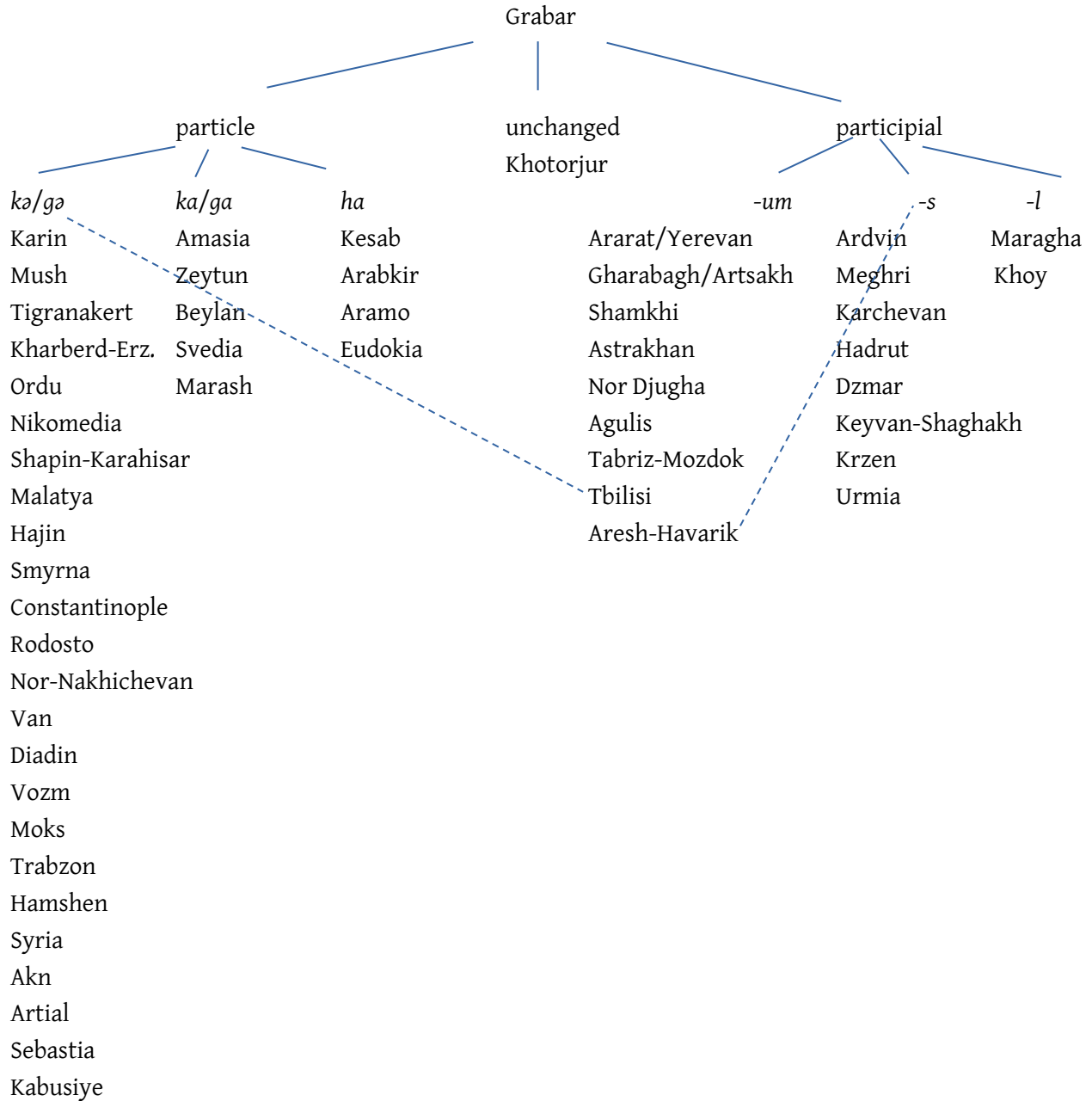


Figure 9: Łaribyan (1958b)'s seven-way dialect grouping based on the form of either the indicative particle or participle<sup>100</sup>

There have been criticisms regarding the manner in which Łaribyan categorized these dialects, the *ha* branch being the most problematic (Arabkir, Aramo, Edesia, Kesab, previously also in the dialects of Eudokia and Malatya) as *ha* is not used for the indicative present in some dialects<sup>101</sup>, but the

100 Corresponds to my map in Figure 1.

101 It is, for example, used as a plain indicative mood marker in Kesab, Č'olak'ean 2009:130.

continuous or progressive present tense, yet the rest of the branches are solely concerned with the indicative present and imperfect past. Łaribyan also placed the dialects of Beylan of the Antioch dialect group, Marash-Zeytun and Kesaria (a.k.a. Kayseri, Caesaria, Gesaria) dialects of the Asia Minor dialect group in the *ka/ga* branch, but in some of these, the particle *ka/ga* were used for the progressive (Gevorgyan 2013). Tbilisi and Aresh-Havarik (also Meghri and Artvin) are regarded as transitional dialects (Gevorgyan 1988:50-51), “interdialects”, or “interbranch dialects” as the former is mostly an *um*-dialect with elements of a *gə*-dialect, and the latter is also an *um*-dialect with elements from an *s*-dialect (Petermann 1867a, Petermann 1867b, Tomson 1890b). Połosean (1996:43-45) also rejects the independent categorization of the *ga/ka* and *ha* branches.

### 3.1.2 Phonetic

After Łaribyan (1939), some additional attempts at classifying dialects were made based on the outcomes of the CA stops and affricates (Łaribyan 1941, 1953, 1958b), shown below in Figure 10 (refer to Table 5 below where the full list of dialects appears). Type II.c dialects such as Moks (Muradyan 1982:112) and New Julfa (Vaux 1997a) are noteworthy in having developed a four-way contrast for their stops and affricates ([b, d, g, dz, dʒ], [b<sup>h</sup>, d<sup>h</sup>, g<sup>h</sup>, dz<sup>h</sup>, dʒ<sup>h</sup>], [p, t, k, ts, tʃ], and [p<sup>h</sup>, t<sup>h</sup>, k<sup>h</sup>, ts<sup>h</sup>, tʃ<sup>h</sup>]) (see Seyfarth & Garellek (2018) for more recent work on the evidence for voiced aspirates), though Djahukyan (1972) points out that these maintain a three-way contrast phonemically<sup>102</sup>, with the voiced series being positional allomorphs of the voiceless ones. Type I dialects have no voicing contrast – the older (CA or pre-CA) voiced stops became voiceless and merged with the original voiceless set.

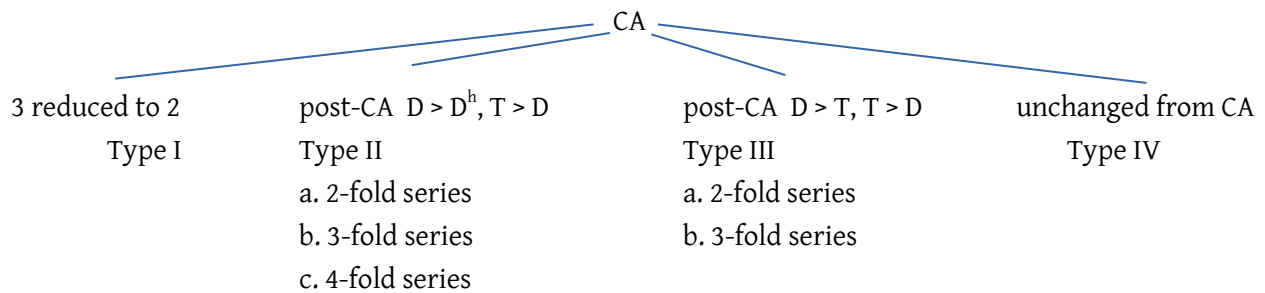


Figure 10: Adaptation of Łaribyan’s dialectal classification based on voicing outcomes

Vaux uses a simpler number system for dialects based on the word-initial outcome of Proto-Indo-European (“PIE”) stops and affricates (the capital letters in Table 5 are stand-ins for any plosive or affricate), disregarding the fact that certain dialects have developed a four-way contrast for simplicity’s

<sup>102</sup> Vaux (2014:50, 306) holds that this arguably is not true for New Julfa, which has Persian loans with plain voiced stops in initial position.

sake. Under “Equivalent”, I have used the types (groupings) of dialects used by Łaribyan. Another important difference between Łaribyan and Vaux is that they have different starting points – Łaribyan takes CA stops and affricates as the original state for all dialects, whereas Vaux starts with PIE. Also note that some dialects have a different outcome for initial, medial, or final plosives.

Group	Equivalent	*D	*D <sup>h</sup>	*T	Dialects
1	Type II.b	D	D <sup>h</sup>	T <sup>h</sup>	Sebastia, some Hamshen subdialects (Mala), Syrian, Akn, Arabkir, Shapin-Karahisar, Kharberd, Erzuka, Suceava, Sebastia, Dersim, Artial, Crimea/Nor-Nakhichevan, (Khotorĵur)
2	Type II.c	T	D <sup>h</sup>	T <sup>h</sup>	Ararat/Yerevan, New Julfa, Karin, Mush, Khotorĵur, Kaputan, Garni, Alashkert, (Ozim), Tiflis, (Erznkay), (Diadin/Vartenis)
3	Type II.a	D	D	T <sup>h</sup>	Constantinople, Eudokia, Amasia, Marzvan, Samson, (Crimea), Nor-Nakhichevan, Trabzon, Kesaria, Stanoz, Ayntab
4	Type III.b	D	T	T <sup>h</sup>	Sasun, MA, Marash, Canik, Shorvoyan-Zeytun, Hajin, some Hamshen subdialects, Aramo, Kabusiye, Kesab, Haji-Habibli, Bitias, Svedia, (Dersim), Antakya (Antioch), Beylan
5	Type III.a	D	T <sup>h</sup>	T <sup>h</sup>	SWA, Malatya, Tigranakert, Rodosto, Ordu, Nikomedia, Aslanbeg, Edesia/Urha
6	Type IV	T	D	T <sup>h</sup>	PA(?), CmA <sup>103</sup> , CA, SEA, Tiflis, Meghri, Karchevan, Artvin, Lori, Aresh-Havarik, Krzen, Nakhichevan, Gharadagh, Dizmar, Meghri, Karchevan, Kakavaberd, Agulis/Zok
7	Type I	T	T	T <sup>h</sup>	Van, Goris/Syunik, Tavush, Burdur, Shaghakh, Astrakhan, Shamakhi, Diadin/Vartenis, Artsakh (Gharabagh), Kanaker, Hadrut, Maragha, Urmia, Khoy, Moks, Shatakh, Ozim, Hin Ĵuła, Sivri-Hisar, Yozgat/Gamirk, Vayoc' Jor, Arjesh

Table 5: Adapted from Sayeed & Vaux (2017:1151), with additional dialects added from Łaribyan (1941, 1953, 1959), Weitenberg (2002:147), Hodgson (2020:24), and Martirosyan (2019) and my own work

103 Kortlandt (1978:16)'s reconstruction of the CmA obstruent system has the unaspirated voiceless series as glottalized (see Vaux 2022 for criticisms).

Baronian (2017), while criticizing certain elements of the soundness of Ačarean (1909, 1911)'s 3-way morphological classification on phonological grounds, nonetheless concedes that even over a century later, Ačarean's classification remains the standard way most linguists broadly classify the dialect groups, though he still tries to convince the reader that a phonetic classification of Armenian dialects is possible and that a primary distinction between consonant voicing/aspiration systems is a more plausible way to start than the traditional present-tense formation. He superimposes the voicing isoglosses with the present indicative formation, and gets an interesting picture in Table 6.

Present indicative pattern	Geographical location/status	Sound isogloss group
<i>gə/kə sirem</i>	Ottoman majority	1, 2, 3, 4, 5, 7
	Russian minority	2
<i>ha sirem</i>	Ottoman minority	1, 4, 5
<i>sirum em</i>	Russian & Iranian majority	2, 6, 7
<i>sirel(is) em</i>	NW Iranian & Russian minority	2, 6, 7

Table 6: Adapted from Baronian (2017:13), 'I love' by dialect and consonantal patterns

Previous researchers (Vogt 1958, Fourquet 1959, Łaribyan 1959, Ałayan 1960, Djahukyan 1960, Georgiev 1960, Benveniste 1961, Feydit 1961, Vogt [Fogt] 1961, Lehmann 1961, Makaev 1961, Otremskij 1961, Zabročkij 1961, Ivanov 1962, Žirmunskij 1962, Łaribyan 1962, Kiparsky 1965, Pisowicz 1976, Kortlandt 1978, 1985:190-191, Garrett 1991, 1998:12-14, Vaux 1998, Ravnæs 2005, Martirosyan 2010:697-698, Baronian 2017) have been able to piece together the relative chronology of these specific sound changes affecting all plosives and affricates. In summary, using a series of regular sound changes involving phonation (breathiness, aspiration, ejectives) and voice, it is hypothesized that Group 7 dialects are descended from Group 6, those of Group 5 are descended from Group 4, Group 3 are descended from Group 1, and Group 4 are descended from Group 1. We are thus left with three voicing patterns, from west to east: Groups 1, 2, (both of which were considered archaic by Pedersen 1906, see Vaux 1998:239 for counterarguments) and 6<sup>104</sup>, which Baronian (2017:15) tentatively calls Western, Central, and Eastern, though he is unsure how this classification can be pushed further back to PA (some linguists such as Simonyan 1979:195 have suggested that from IE times to PA times, there were always phonetic differences by region, thus one cannot establish the greater antiquity of one system compared to the two others). The immediate advantage of this classification is that each type diverges from its neighbor by a single feature: Groups 1 and 2 diverge by the voicing of the PIE \*D series, Groups 2 and 6 diverge by the aspiration (or murmured quality) of the \*D<sup>h</sup> series. The border between Groups 1 and 2 is historically significant, as it corresponds to the ancient border between Hellenic/Roman/Byzantine Armenia and Persian Armenia. The difference between Groups 2 and 6 may also be quite old,

104 Note that for Group 6, assuming it is the oldest group, Vaux (1998:10) only uses it in a descriptive sense, as he does not believe that the archaism shared by the dialects in this group is a valid criterion for historical subgrouping.

if we rely on the description provided by the 7-8<sup>th</sup> c. grammarian Step<sup>h</sup>anos of Siwnik<sup>h</sup> who describes what appear to be voiced aspirates when he says that the difference in some dialects between (the letter) ρ [b] on one side and (the letters) ϭ [m] and ϭϭ [p] on the other is large, but between ρ [b] and ϭ [p<sup>h</sup>], it is subtle; and when ρ [b] is said, a blow (puff) comes out of the lips and their sounds are large and thick to our listening (Adontz 1970:200). All of this can be summed up as:

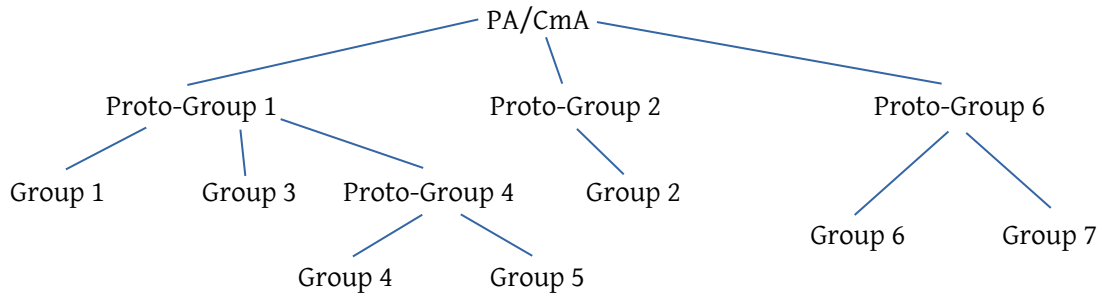


Figure 11: Rough consensus described by scholars above

Kortlandt (1978:10), a Glottalicist for PIE who subscribes to the idea that various groups had ejectives as another feature within their set of stops and is working under the assumption that sound changes can only occur one feature at a time, derives Group 2 from Group 6, contra Vogt (1958:148) and Baronian (2017), and derives Groups 1 and 3 from 2 and 6, respectively. In sum, he establishes a relative chronology with five steps (shown schematically in Figure 12<sup>105</sup>):

- 1) rise of aspiration in voiced stops (Group 6 > 2);
- 2) devoicing of unaspirated voiced stops (Group 6 > 7);
- 3) voicing of glottalic stops (Group 7 > 4, Group 6 > 3, Group 2 > 1);
- 4) loss of unaspirated voiceless stops (Group 4 > 3, Group 4 > 5) (*ibid.*:13); and,
- 5) devoicing of voiced aspirates (subset of Group 2 > subset of 6 and 7, subset of 1 > subset of 5).

105 A straight line means that the lower group is a subgroup of the higher group; a swooping curve with arrow directions means that a certain subgroup split off from the group that gives birth to that curve. To illustrate with one example, Proto-Group 6 gave birth, among others, to Group 6, but a certain segment of Group 2 dialects split off and became identical to Group 6, according to this glottalicist view. Group 3 was fed from three directions – i) a split occurred in Proto-Group 6 which created Group 3; ii) another split from Proto-Group 6 created Group 7, a certain segment of which became Group 4, and a certain percentage of Group 4 dialects changed in such a way as to merge with Group 3; and iii) and finally, certain segment of Group 6 split off and joined Group 3. See Meid (1987:9-11) for an anti-Glottalicist view.

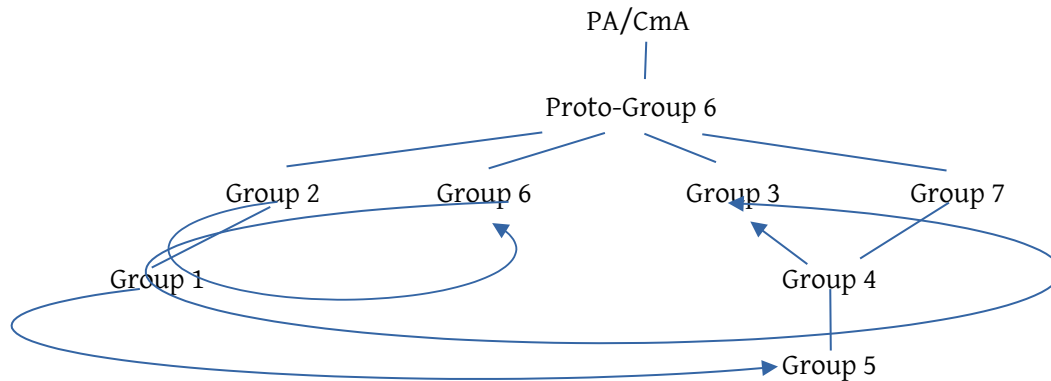


Figure 12: Rough consensus of glottalic view of dialect derivations

Following the differences in integration of loanwords from Arabic and Turkish (Aṭayan 1960:44), he dates the third step above between the 7<sup>th</sup> and 10<sup>th</sup> centuries, and says that it is possible that the first step was already underway during the Classical period, as suggested by Djahukyan (1976:76). Kortlandt's derivations have some detractors – Pisowicz (1976) presents a number of arguments that Group 2 was in fact the source of Groups 1, 3-5, and 7, and Vaux (1998:10, 239; 2000b), who asserts that CmA belonged to Group 6, the only group showing the tell-tale signs of archaism as it is the only one to not be in contiguous areas, claims that it is easier to derive the remaining groups from Group 2 – Group 1 voices its voiceless series, Group 3 then undergoes deaspiration, Group 5 then undergoes devoicing; and Groups 4 and 7 level the voicing distinction in their two unaspirated series in different directions, which has the effect of inverting the feature specifications for aspiration and voicing (Vaux 1994b, Calabrese 1988).

Many dialects have been claimed to possess glottalized<sup>106</sup> or ejectives<sup>107</sup> – Hajin and Zeytun in northern Cilicia, Van, Karin, Kars in the traditional Western Armenian core, Old Julfa (Jolfa) in southern Nakhichevan (and its colonies in New Julfa/Isfahan and Abadan in Persia), the traditional Yerevan dialect, and this following set in areas which have Caucasian (Abkhaz, Georgian, Laz, Mingrelian, etc.) languages that have such consonants: Artvin, Ardala, Janik/Dzhanik or Noviy Afon (in

106 Seyfarth and Garellek (2018) mention that glottalization in Armenian has referred to either a glottal constriction with a pulmonic airstream mechanism (Pisowicz 1997) or an ejective articulation with a glottalic airstream mechanism (Allen 1950, Ladefoged & Maddieson 1996:67; Baronian 2017, Pisowicz 1998). See also Fleming (2000) and Seyfarth et al. (2023).

107 There has long been a scholarly debate as to the acoustic and perceptual status of these sounds (Hübschmann 1876, Sievers 1876, 1896 [in Mückle 2015], Khachaturian 1983) in the dialects. See Schirru (2012) for a discussion on glottalization and ejectivity in modern SEA speakers from Yerevan; see Seyfarth and Garellek (2018) for their findings of breathy voice, creaky voice, and glottalization. Toparlak & Dolatian (2023), who also studied SEA speakers from Yerevan, found that some speakers produce a final /t/ as an ejective [tʰ], which is an articulatory byproduct and not a phonemic property.

Abkhazia<sup>108</sup>), Tiflis<sup>109</sup>, and Akhaltskha (Vaux 2022). Assuming that these series are actually glottalized or ejective, this could be relevant for a CmA or PA reconstruction because these dialects are not contiguously located, thus appearing to be old. A related series of arguments are made by Sayeed & Vaux (2023), who entertain the idea that the PIE D<sup>h</sup> series remained breathy in PA, which has certain advantages (such as being better able to account for borrowed words, see also Garrett 1991, 1998), but ultimately embrace the *communis opinio* followed by Weitenberg (2002:148), in which PA is reconstructed without any breathy voiced stops, looking like CA and other modern Group 6 dialects.

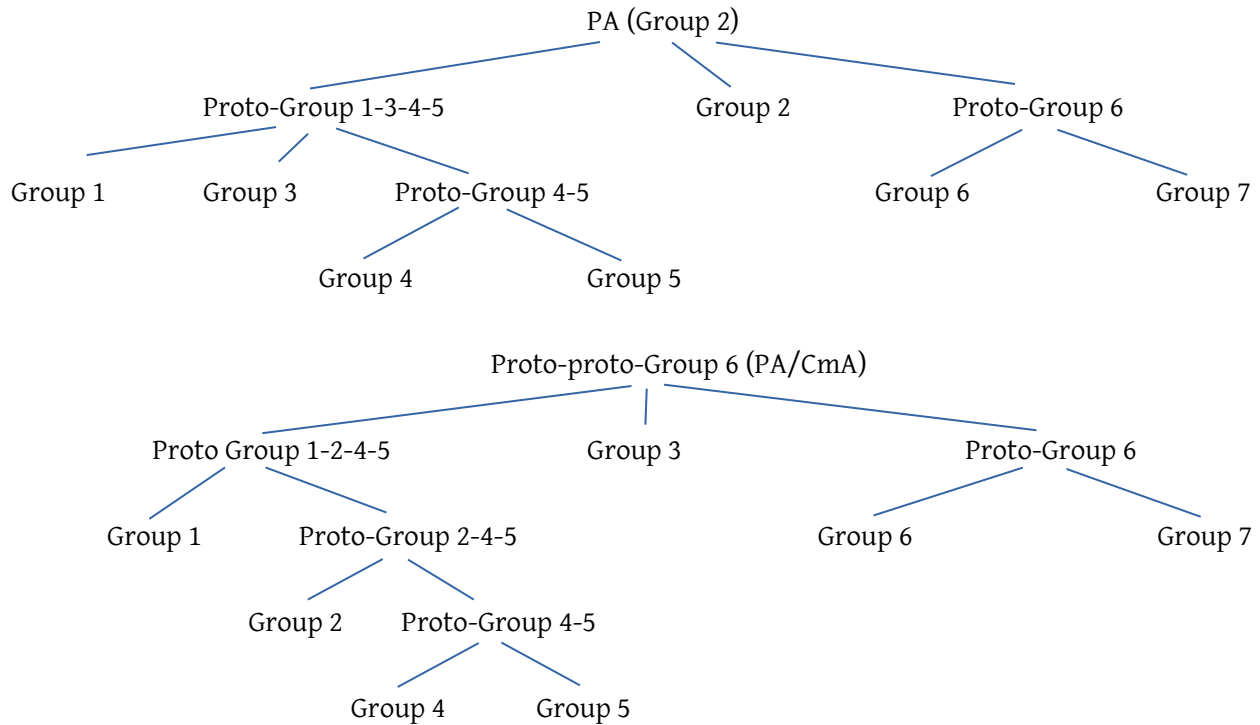


Figure 13: Two of many possible derivations for initial stops given in Sayeed & Vaux 2023, the first tree assumes that PA had breathy voiced stops

Djahukyan (1972:262-264, 1967) also weighed in on this issue. For the PIE-derived voiced breathy series, he sketches out a line of developments which assumes that an older state of Armenian must have had a breathy series from which the ancestor of Groups 1 and 2 must have derived (either PA

108 This is a small Christian Hamshen subdialect whose speakers ended up in Abkhazia from the Ottoman Empire; Chirikba (2008:58-59) mentions that “Dzhanik has a ternary system of stops and affricates: voiced, voiceless aspirated and voiceless unaspirated. The later sounds are tense, and when put under emphasis (e.g., when a speaker is asked to repeat himself), they are pronounced with what sounds as weak glottalization, though it is not quite clear whether glottal (ejective) coarticulation is involved, e.g. [tʰehez] ‘bride’s dowry’, [tʰün] ‘thou’, [pʰerimgu] ‘I (shall) bring hither’”. Abkhazia is also home to waves of immigrants who came from Artvin and other areas around the Black Sea on the Ottoman side, such as Ordu, Trabzon, Bayburt, Gümüşhane, and Giresun, today subject to a high degree of dialect mixture (*ibid.*:57).

109 Ačarean (1911:39) only ever mentions Tiflis as having ejective consonants.



or CmA), which split off into Group 5 in the western areas, and Group 6 in the northern areas, which then spreads more eastward and one divergent group splits off and goes further south, though he warns that many specific issues (he mentions more than a dozen) require further research.

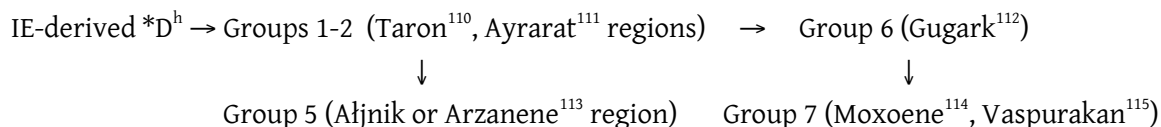


Figure 14: Djahukyan (1972:263)'s view on the development of breathy stops

### 3.1.3 *The health of the dialects today*

Martirosyan (2018) states that our knowledge of WA dialects is uneven, and that many of them are now almost or completely extinct. Some of them have been described before the Genocide, others are known by some secondary materials recorded from the refugees, and for the rest, we practically have no information. Bert Vaux had access to some old dialect speakers in the last decade of the 20<sup>th</sup> century. I have done my best to collect the precious resources available in print and online. Many WA dialects were made extinct because of the 1915-1923 Armenian Genocide (Katvalyan 2015). Some of these dialects survived the Genocide, but their speakers underwent language shift to one of the standard varieties (to SWA for those who immigrated to Western and Middle Eastern countries, then to the dominant language of their respective new nations, and to SEA for those who immigrated to the Russian- then Soviet-controlled Republic of Armenia); EA dialects fared much better in general but the deterioration of the situation in Azerbaijan has endangered many EA dialects. For example, the Shamakhi (also spelled Shemakha) dialect was spoken in Shamakhi in modern-day Azerbaijan since at least the 16<sup>th</sup> century, but because of persecution in the late 1980s, the Armenian populace of Shamakhi was displaced to Armenia, and they have undergone a near complete language shift to SEA (Vlasyan 2019). In New England alone after the Genocide, there were several thousand dialect speakers of Van<sup>116</sup> and nearby (sub-)dialects, virtually all of whom were already deceased by the end of the 20<sup>th</sup> century (Vaux n.d.:2). Boston, home to cultural or compatriotic unions of many former Ottoman denizens, such

110 An important canton of the Turuberan province of Greater Armenia, roughly corresponding to the Muş Province of modern Turkey

111 A central province within Greater Armenia – from the northwestern tip of Lake Sevan to Xorasan in the west, and includes most of the capital cities of the various dynasties of Armenia.

112 Traditionally, northern Armenia, today mostly in southern Georgia.

113 Historical province southwest of Lake Van – Tigranakert was usually its most important city.

114 Mokka' in CA, Moks in most modern dialects, located east of Arzanene from south of Lake Van to north of Bohtan River.

115 A large historical south-central province, covering the territory on the eastern side of Lake Van, north of Lake Urmia, and south of Syunik and Artsakh.

116 Even as late as the 1960s, there were enough speakers of the dialect to fill the pages of magazines such as *Arcvi Vaspurakan* and *Varak* with letters, songs, dialogues, riddles, etc. (Vaux & Russell 1995).

as Habusi (now submerged underwater due to a dam, Ghazarian 1997), and was also home to student associations, chapters, and a compatriotic union (which published two periodicals) of Armenians from Gyurin, though the organization was dissolved in the late 20<sup>th</sup> century, as the last Armenians born in Gyurin died of old age (Baronian 2022). Similar concentrations of dialect speakers elsewhere in the Western world have dissipated, either by switching to SWA or a non-Armenian language altogether.

Status	Dialects (EA in <i>italics</i> )
Dead	Akn, Nicomedia, <i>Kirzan</i> , <i>Zok/Agulis</i> , Artial (all varieties, incl. Suceava, Kutu), Khodorjur, Xarberd, Dersim, Halvorig, Arabkir, Stanoz, Kesaria, <i>Jugha</i> , Beylan, Antioch, Sebastia, Arjesh, Jerusalem, Manazkert, Erznkay, Altun-Husein, Eudokia, Aslanbeg, <i>Burdur</i> , Malatya, Marzvan, Rodosto, Yevpatoriya, Syolyoz, <i>Aresh-Havarik</i> , <i>Bolu</i> , Ordu, Adapazar, Manisa, Ismayil, Ozmi, Shapin-Karahisar, Karasubazar/Bilohirsk, Palu, Bithynia, Malkara, Nallihan, Tomarza, Divriği, Zara, Ulash, Mancılık, Evereg, Sivrihisar, Chomakhlu, Bandrma, Smyrna, <i>Talverik-Motkan</i> , <i>Yozgat/Gamirk</i> , Tiflis, Shatakh <sup>117</sup> , Cyprus, Gamakh, Bandırma, Menemen, Surmalu, Chmshgadzak, <i>Burdur</i> , Adana, Vardenis (Diadin), Gop, Manzikert, Xnus, Xlat, Baghesh, <i>Astapat</i> , <i>Khanagah</i> , <i>Karkanj</i> , <i>Ghzlar</i> , <i>Mozdok</i> , <i>Astrakhan</i> , Feodosia, Kağızman, Kiği, Zaltr, <i>Janyatagh</i> , <i>Dzmar</i> .
Moribund (<10 speakers)	Marash, Edesia, Moks, <i>Mehtishen</i> , Tigranakert, <i>Krzen</i> , <i>Haghpat</i> , <i>Koghb</i> , Van, <i>Tovuz</i> , <i>Ghazakh</i> , Hajin, Artvin, Ayntab, <i>Meghri</i> , <i>Tsghna</i> , Kabusiye, <i>Livasian</i> , <i>Zeytun</i> , <i>Shamakhi</i> .
Critically endangered	Kesab, Vakıf, Nor-Nakhichevan, Noviy Afon/Janik (Hamshen), Constantinople, <i>New Julfa</i> , Mush (Talin and Tsovinar), <i>Tumi</i> , <i>Keyvan</i> , Sasun, Diadin, Trabzon, Xtrbeg, Yoghnluk, <i>Hadrut</i> , <i>Shaghakh/Sarinshen</i> , <i>Shushikend</i> , <i>Shushi</i> , <i>Harav</i> , <i>Kaghartsi</i> , <i>Kirovabad</i> , Aparan, <i>Vanadzor</i> , <i>Kyarkyar</i> .
Vulnerable	Hamshen, Anjar, <i>Artsakh</i> , Javakhk (Akhaltsikhe & Akhalkalaki), <i>Tavriz</i> , <i>Urmia</i> , <i>Salmast</i> , ( <i>Payajuk</i> , <i>Haftewan</i> , <i>Sarna</i> ), <i>Khoy</i> , Abkhazia (Hamshen and Trabizon subd.), SWA, Gyumri, <i>Goris</i> , <i>Syunik</i> , Karin, <i>Karchevan</i> , <i>Kuris</i> ( <i>Kakavaberd</i> ), <i>Gudemnis</i> , <i>Varhavar</i> .
Not endangered	<i>SEA</i> , some varieties of Persian Armenian ( <i>Tehran/General Persian Armenian</i> ).

Table 7: Dialect status (some data from Mkrtč‘yan 2015a)

Out of the 50,000 to 70,000 self-identified Armenians left in Turkey, the overwhelming majority of whom are in Istanbul, 18% speak SWA (with substratal Constantinople dialect influences) as their first language, and an unknown percentage<sup>118</sup> speaks it as their second language; though amongst

117 Presumed dead but may have a few speakers left in Armenia.

118 Judging from the fairly large number of SWA educational and children’s materials printed in Turkey (since importing textbooks for teaching from foreign nations is prohibited (Melkonyan 2011:78), so is having a non-Turkish citizen teacher

young people, about 92% only speak Turkish (Melkonyan 2011). School enrollment and the quality of education have suffered due to a lack of qualified teachers who have good command of the language. According to some information from the 1970s, there still lived approximately 150 Armenian families in Diyarbakır<sup>119</sup> (Haneyan 1978:5-9), an area that recently experienced a small cultural revival but was quashed by military operations by Turkish armed forces. There have been various claims about hidden Armenians in and around Dersim who may still speak their dialect.

The issue of Crypto-Armenians (those who conceal their full or partial Armenian descent and blend in with the Turkish or Kurdish majority<sup>120</sup>) is fraught with difficulties – just the estimates of their numbers alone is astonishingly wide, from a lower range of 30 or 40 thousand (Hofmann 2002), 100,000 estimated by the Armenian Patriarch of Constantinople Archbishop Mesrob II Mutafyan (Reimann 2007), some journalists (Altınay & Turkyilmaz 2011:41) and history professors (Basyurt 2005), 300,000 by Hrant Dink (*ibid.*), 500,000 by Turkish historian Yusuf Halaçoğlu, 700,000 by an Iranian-Armenian journalist and member of Parliament (Khanlaryan 2005), 2 million by a professor of human rights studies at UC Davis (Watenpaugh 2013), 3 million by Armenian researcher Haykazun Alvrtsyan (Mkrtchyan 2014), 3 to 5 million by Aziz Dağcı, president of a local NGO (Danielyan 2011), to an upper range of 5 million by Sarkis Seropyan, editor of the Armenian section of the biweekly Turkish-Armenian newspaper Agos. Short of a detailed granular study of these people’s linguistic abilities proving otherwise, it is safe to assume that none of these hidden Armenians speak any WA dialect.

There are an estimated 150,000<sup>121</sup> Hamshenis in Turkey today (Simonian 2007:xx), though only a subset of this population speaks in a Hamshenic subdialect, none of which had orthographic norms until Vaux (1995) devised a Turkish-based Latin script. The Western Hamshenis (Hemshinli), who live in Rize as well as larger cities throughout Turkey and now Europe, speak Turkish and are Sunni; the Eastern Hamshenis (also called Eastern Hemshinli or Homshetsik) live in Artvin and speak predominantly various subdialects of Hamshen and are also Sunni; the Northern group (sometimes called Homshentsik) are descendants of non-Islamized Armenians who formerly lived in the provinces of Samsun, Ordu, Giresun, and Trabzon, who now live in Georgia and Russia on the Black Sea, and remain Christian. Vaux (2007:257, 265) notes that due to the extended isolation from the rest of the Armenian world and its avoidance of influence from literary dialects, the Hamshen group is unique in that it offers us one of our only glimpses of Armenian in its ‘pure’ form (untainted by loanwords from

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teaching minority students within Turkey), the number is likely to be quite high.

119 Vaux (2011) claimed that there were still a few speakers left in Diyarbakır, presumably speaking in the Tigranakert dialect. Harvard professor James Russell made an audio recording of a 59-year-old male Tigranakert dialect speaker in New York in 1995, another made by Mgrditch Markosian of Lüsie Bajo, who lived in Tigranakert her whole life until she died in 1996, one made of Souren Kahvejian by Dikran Karageuzian, and Vaux’s recordings of Mayram Maghchelzi (Vaux 2006b:6).

120 Some researchers lump in Islamized Armenians (whose range of number estimates is equally large).

121 Estimate ranges are quite wide – a report by Hofmann (2002:11) states that there are 20,000 Hemşinli Muslims whose homeland is between Trabzon and Karin.

literary prestige varieties and pressure from CA and its great prestige and not purged of the Turkish component of its lexicon); thus these subdialects, which are quite different from each other, show tremendous numbers of innovations and archaisms.

Vakəf (Armenian pronunciation) or Vakıflı/Vakıfköy (in the Samandağ district) in Turkey is the only village where a non-Hamshen WA dialect is still natively spoken today<sup>122</sup>. The village has suffered many challenges in the modern era, especially the depopulation of the young, but the village is now branding itself as a quaint ecotourism destination. A report by Suciyan (2007) states that the local dialect will be lost if it is not recorded and studied soon and that young people of the village (who generally move to bigger cities for employment and only return during the summers) either know the dialect poorly or have a passive understanding of the dialect, that is, they understand it but cannot respond in the same dialect (they do so in Turkish).

As for the two standard dialects, SWA had been the more influential and widespread of the two (Chahinian 2023:17), yet after 1915, the balance radically altered, and SEA became the official language of the then newly-formed Armenian Soviet Socialist Republic (December 1920). Nearly all publication ceased in SWA (refugees did manage to set up their own printing houses in Lebanon and nearby areas such as Cairo, Damascus, and Aleppo early on, however), only to slowly restart in areas where refugees settled, such as Los Angeles, Boston, New York, Montreal, Toronto, Sydney, Buenos Aires, Paris, etc., for a few generations longer. The imposition of the Soviet spelling reforms of 1922-1924 further deepened the divide between the two, though the 1940 orthographic reforms partially reverted some of the more radical changes. Lockwood (1972:178) correctly predicted that whereas language retention was so far secure for SEA, the outlook for Armenian elsewhere, even for SWA and especially for the non-standard dialects, was not auspicious, as its speakers, always at least bilingual, were scattered far and wide, and modern conditions conspired to create a situation where one cannot hope to resist linguistic assimilation for long. Lockwood also mentions that SWA is strongest in Lebanon, which remains true to this day, however battered by a series of wars, economic crises, and constant emigration. Since the collapse of the Soviet Union, there has also been a noticeable but incomplete shift from SWA and SEA speakers for some diaspora communities, especially in the United States (Karapetian 2018:59-65).

## 3.2 Prior work

Two important researchers who have attempted to perform similar work though for dissimilar goals, using different dialects, different data, and different features – Djahukyan (1972) and DeLisi

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122 The other WA-speaking villages still standing today are areas around the Black Sea (Hamshen), Kesab in Syria, Anjar in Lebanon, and small areas in Georgia and Armenia with transplanted WA dialect speakers, mostly from the Karin and Mush regions.

(2015, 2018). Advancing the principle of morphological categorization of Ačarean (1909, 1911), Łaribyan (1939) further separated the dialects as he considered the *s*-branch (*lis, li, s*<sup>123</sup>) as a separate grouping, but it was not until Djahukyan (1972) in *Հայ բարբառագիտության ներածություն* ‘Introduction to Armenian Dialectology’, that we have a proper phylogenetic analysis of dialectal data using early Soviet computational linguistic methods (*idib.*:8-9). In the decade before the publication of this work, he had worked with the Ačarean Language Institute and had dispatched fieldwork expeditions to hundreds of locations within the Soviet Union to document and archive materials for individual dialects. Implicit in his research was the working assumption that dialectal features behaved like waves, and explicit was his insistence that one could not take either one morphological feature or a series of phonological developments and categorize dialects in such ways, contra Łaribyan (1939, 1958b). For a full breakdown of his linguistic views, in terms of his philosophical approach to language and his contributions to linguistic theory, see Sargsyan (2017) and Djahukyan & Sakayan (2003). He produced an expansive synchronic study and rough categorization of dialects into 11 groups, 7 of which are Western, and 4 of which are Eastern, with some dialects or dialect groupings being further subdivided, an adaptation of which is found in Figure 15 below.

Western group	Karin (4 subdialects <sup>128</sup> )
I. Antioch <sup>124</sup> branch or extreme southwestern	Kesaria (3 subdialects <sup>129</sup> )
Beylan	Kharberd-Erzinka (7 subdialects <sup>130</sup> )
Kesab-Svedia (5 subdialects <sup>125</sup> )	Gyurin
II. Cilician branch or southwestern	Malatya
Hajin	Marzvan-Amasia
Marash-Zeytun	Sebastia (2 subdialects <sup>131</sup> )
III. Asia Minor branch or western	Shapin-Karahisar
Akn	Sivrihisar
Arabkir	Syolyoz
Aslanbek	IV. Hamshenic branch or northwestern
Constantinople (8 subdialects <sup>126</sup> )	Edesia
Crimea (2 subdialects <sup>127</sup> )	Hamshen (3 subdialects <sup>132</sup> )
Eudokia	V. The Transylvanian or extreme northwestern

123 See Figure 1 in Chapter 1 for a map of its distribution.

124 Also called the “Syrian” dialect group.

125 Kesab, Kabusiye, Yoghnołuk, Haji-Habibli, and Aramo.

126 Constantinople proper, Smyrna, Nikomedia, Bardizag, Rodosto, Ordu, Trabzon, and Adapazar.

127 New Nakhichevan and Zaltər.

128 Karin proper, Gyumri, Baberd, and Khndadzor.

129 Tomarza, Darende, and Evereg.

130 Kharberd, Erzinka, Gamakh, Chmshgadzak, Altunhusein, Ismayil, and Halvorig.

131 Sebastia proper and Prknig.

132 Martil, Mala, and Zefanos.

	Artial (Kuty and Suceava)	Burdur
VI. Mush-Tigranakert branch or south-central	Mush (9 subdialects <sup>133</sup> )	Gharabagh (Artsakh) (13 subdialects)
	Sasun (Gelieguzan, Hazzo)	Kazakh-Kirovabad (3 subdialects)
	Talvorik-Motkan (Nish, Aygetun)	Krzen
	Tigranakert	Mehtishen
VII. Vanic branch or southern		Shamakhi (2 subdialects)
	Diadin (Vartenis)	XI. Agulis-Meghri branch or eastern
	Van (5 subdialects <sup>134</sup> )	Agulis (2 subdialects)
		Meghri (4 subdialects)
Eastern group		
VIII. Khoy-Maragha branch or southeastern	Khoy-Maragha (4 subdialects)	
IX. Ararat branch or northeastern	Ararat/Yerevan (8 subdialects)	
	Ardvin-Tbilisi	
	Astrakhan (2 subdialects)	
	Bayazet	
	Djugha (3 subdialects)	
X. Gharabagh-Shamakhi branch or extreme NE	Aresh-Havarik	

Figure 15: Djahukyan (1972:132-136)'s classification of 120 dialects based on 100 features

Djahukyan, undertaking a multi-feature classification of 120 Armenian dialects according to their main phonetic, morphosyntactic, and lexical features, aims to simply apply the principles and methods of linguistic geography to Armenian dialects, that is, the method of dividing up dialects by collocations or isoglosses. However, in the course of the work, as Mkrtč'yan (2015b:19-20) points out, Djahukyan must have discovered that the identical application of the principles of linguistic geography to the dialects of Armenian causes certain difficulties: firstly, the periodic population movements violated the natural boundaries of the distribution of dialect features, and secondly, the existing facts do not provide clear and precise criteria for determining the relationship of dialect units. Dialectology or dialectography determines dialect centers and boundaries according to the degree of density and sparseness of isogloss lines drawn on a map. As this was insufficient, opined Djahukyan, the objectivity of the separation of dialect units is not ensured for the exact differentiation, separation and classification of such units, such as dialect groups, subgroups, dialects, subdialects, and infraorders within subdialects. Therefore, to reflect the material of the subject of study and the picture of the relationship between dialects in a more specific and differentiated way, Djahukyan singled out a new

133 Baghesh (Bitlis), Xlat, Artske, Arjesh, Manazkert, Mush proper, Bulanəx, Xnus, and Alashkert.

134 Moks, Shatakh, Bast, Ozmi, and Van proper.

principle of dialectology, which he conventionally called statistical dialectology. His main findings are reproduced below.

He considers the Cilician branch as a transitional group between the Syrian (Antiochan) dialects and the Asia Minor ones. Within the very large Asia Minor group, he considers Shapin-Karahisar as transitional between Karin and Sebastia, Eudokia as transitional between Sebastia and Marzvan-Amasya, the Constantinople subgroup to be interdialectal among Marzvan-Amasya, Crimea, Gyurin, and Malatya, Sivrihisar as transitional between Crimea and Gyurin, Syolyoz as transitional among Marzvan-Amasya, Gyurin, and Kharberd-Erznkay. Curiously, he considers the Hamshenic as a միջբարբառախումբ, literally “inter-dialect group”, in-between a set of three other large groups – the Syrian, Cilician, and Asia Minor dialect groups, and he also considers the Transylvanian dialects as intermediate between the Asia Minor and Mush-Tigranakert groups. He then considers the Vanic branch to be intermediate between the Mush-Tigranakert group and Khoy-Maragha branch (which has traditionally been considered part of EA). For EA proper, he considers the Gharabagh-Shamakhi<sup>135</sup> group to be transitional between the Ararat and Agulis-Meghri groups.

Djahukyan’s analysis has been criticized by Vaux (2008b, n.d.), who has highlighted numerous methodological flaws – as helpful as his 120-dialect analysis was from the point of view of data collection, Djahukyan added pluses and minuses for each feature (many of his features are actually small collections of unrelated features, further diluting their relevance) and tallying up their numbers, and then grouping the dialects by arbitrary ranges based on their numerical scores; however, the groupings produced by his method do not significantly differ from previous analyses (Hambardzumyan 2020). Many of his features involve trivial changes that do not figure as optimal criteria for subgrouping (discussed in later chapters), for example, the development of the front vowels *ä ö ü*<sup>136</sup> (Djahukyan 1970a:63), and a number of his features are archaisms rather than innovation. Vaux (n.d) believes it strange that members of the linguistic school established by Ačarean in Armenia would so commonly use archaisms as criteria for subgrouping, given that his teacher, Meillet, was highly cognizant that innovations alone can be used in this fashion. Another common criticism is that Djahukyan unfortunately does not generally provide references for his data.

Nevertheless, Djahukyan remains indispensable for studying Armenian dialectology and his comprehensiveness has not been surpassed<sup>137</sup>. He also covers nearly every WA and EA dialect in existence, except Bolu, an Artsakh/Karabakh dialect in Western Turkey (Samuelian n. d.) and its related

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135 And within this particular group, he considers Kazakh-Kirovabad to be transitional among Mehtishen, Artsakh, and Krzen.

136 See Chakmakjian & Dolatian (2022) for variation of the front rounded high vowels in SWA speakers in Syria.

137 By verifying with primary sources, I have been able to detect and correct several errors or inconsistencies found in Djahukyan (1972)’s data, for some of these cases, since we are dealing with a fairly large time gap for some dialects, it is likely that a feature may have once existed in a particular dialect but had died out by the time Djahukyan collected his data. Furthermore, many of the dialects he describes have been analyzed by several different authors, who often disagree in their descriptions (Vaux n.d.).

dialects, Stanoz, Yozgat (Mkrtčyan 2006), some dialects in the Republic of Armenia with voiced aspirates (Katvalyan 2018, 2020), some Iranian EA dialects, the Cypriot dialects, and Jerusalem (Vaux 2002). Martirosyan (2019b:213) points out that Djahukyan’s multi-feature classification disturbs the ordering that Ľaribyan’s phonological classification posits – for example, Tigranakert, Mush, and Sasun are grouped as a cluster, yet all three belong to different groups as to their PIE stop outcomes – Tigranakert *kʷ/g/kʷ* slots in Group 5, Sasun *k/g/kʷ* is in Group 4, and Mush *gʷ/k/kʷ* in Group 2 (CA *g/k/kʷ* is Group 6). Djahukyan’s analysis considers far many more features than simply looking at the outcomes of PIE stops, therefore greater deference must be given.

DeLisi (2015, 2018) has done extensive work in the diachrony of Armenian stress systems. In her research, she attempted to prove (and succeeded, in my opinion) the hypothesis that the hammock stress system, due to its crosslinguistic rarity, was likely the original stress system of PA (PA is much older than CmA). CA has long been known to have word-final primary stress – DeLisi was able to conclusively establish that the hammock pattern ([ð ... ó]<sub>ω</sub>, *ànkaniṃ* ‘I drop’) is reconstructible as a feature as far back as late PA, given that it was present in CA and almost all modern dialects, except a few Eastern ones (Vaux 1998:148) that have switched to a typologically much more common penult stress pattern. The hammock pattern is relevant for the diachronic morphology of Armenian given that unstressed medial vowels tended to either be reduced or disappear, e.g. (CA *aláčem* ‘I entreat’ > MA *alčem*).

DeLisi asserts that the synchronic phonology of CA and MA and diachronic dialectology support the conclusion that the typologically rare hammock system rather than the typologically common penult system should be reconstructed for the period of shared innovation. She relies on old isoglosses (particularly the monophthongization of original [aw] to [ō] and [aj] to [a] in various positions in the word) and cites Weitenberg (2002:151–152), who projects the dialectal split of eastern and western varieties to some point before the 5<sup>th</sup> c. CE.

DeLisi (2015, 2018) limited her analysis to dialects still spoken (prior to 1915) in the general vicinity of the Armenian homeland and historical Armenian Kingdom of Cilicia in western Anatolia (parts of modern-day Turkey and Syria); for instance, although Artial is covered in both Greppin and Khachaturian (1986) and Djahukyan (1972), DeLisi eliminated it from her phylogenetic study because it is now spoken in a diaspora community in Poland and surrounding regions, where extensive contact with Polish, Ukrainian, Romanian, and Hungarian, has obscured the historical relationships to other Armenian dialects. In the figure below, dialect names encased in boxes are EA dialects (DeLisi 2018:122). The split at node 38 represents the capturing of all penult dialects in her sample. The two hammock dialects of EA are outside the penult sub-tree (Khoy and Tʷbilisi, italicized in her tree, though the latter actually had penultimate stress). DeLisi states that only one hammock dialect of EA has been captured within the penult subtree (Mełri in bold), but according to Ałayan (1954:243), Mełri has a penultimate



stress system, which actually reinforces DeLisi's findings<sup>138</sup>. She uses this phylogenetic classification to support the conclusion that the hammock dialects are more prosodically conservative, whereas the penult dialects innovated their stress system together sometime after the separation of EA and WA, since the Eastern hammock dialect Khoy (Asatryan 1962) dominates node 38 in Figure 16. DeLisi also notes that this tree is unrooted, meaning that the true original split for the tree has not yet been determined.

From my preliminary results in Section 6.2.1, there is considerable agreement between my phylogeny and DeLisi's – though she has far fewer WA dialects, both group together closely the same pairs, such as Sasun and Tigranakert, Mush and Van, Aslanbeg and Erznkay; and both analyses (compare the figure below with Figures 29, 30, and 31) show a close affinity between CA and MA, though this affinity is likely exaggerated due to areal effects having affected the more recent dialects. Adding a temporal dimension to my analysis would likely to change the distribution of dialects. DeLisi (personal correspondence, November 7, 2022) also suspects that the close affinity of CA and MA in her tree is a mirage, thus probably an artifact of their proximity in time and a byproduct of the fact that the modern dialects have changed so much in the intervening centuries. She also believes that there is some long-tail bias here, which is another limitation in the phylogenetic analysis.

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138 Based on an error, the only hammock dialect to be captured in the penult subtree is Melri, but because this dialect is spoken geographically quite close to Karchevan (Muradyan 1960), DeLisi suggests that perhaps later contact between the dialects has obscured the original grouping, though this explanation is moot because she mistook Melri as being a hammock dialect.

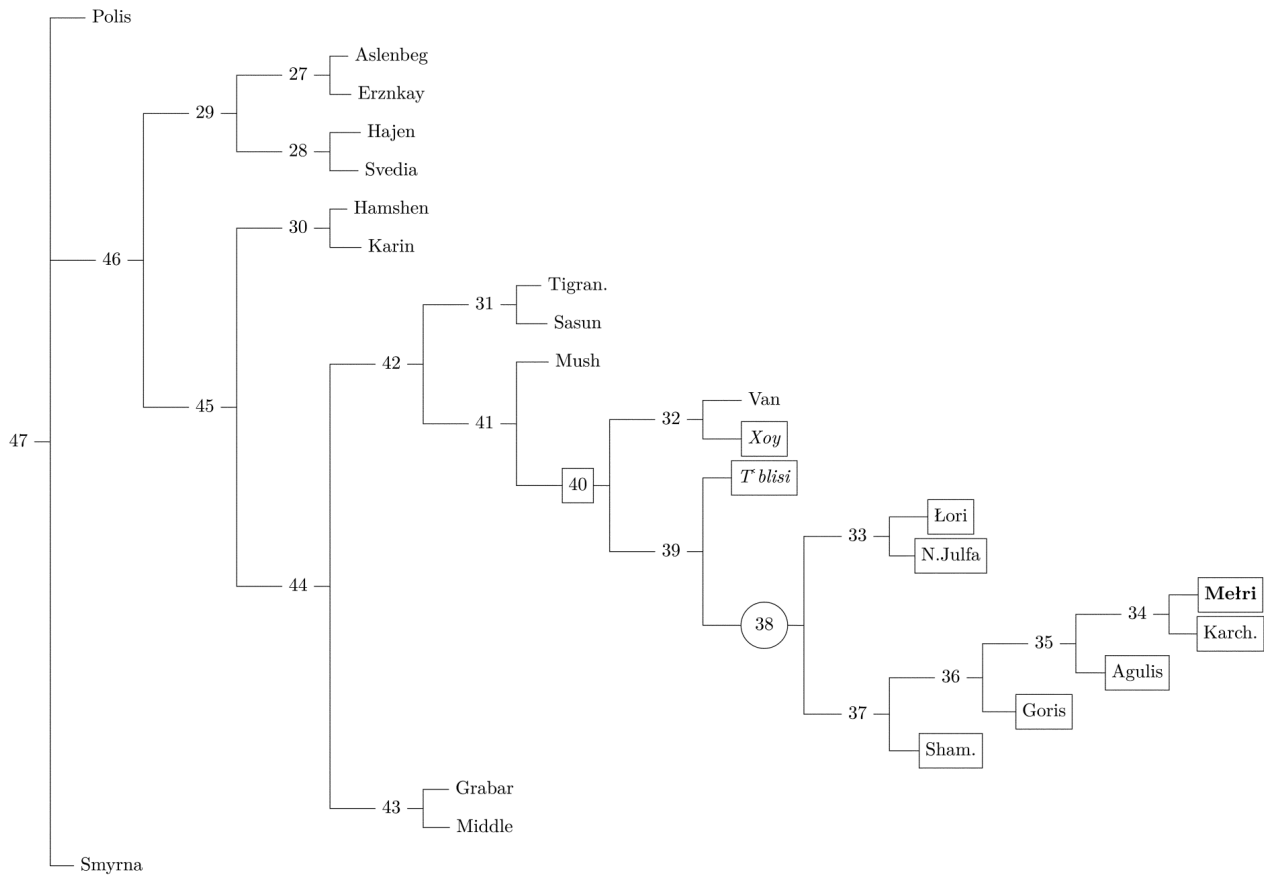


Figure 16: Phylogenetic tree of Armenian dialects (DeLisi 2018:123)

For the attested (relatively minor) textual differences in CA, Djahukyan (1972:180-192) attempted to replicate the analysis he had performed on the 120 modern dialects that may have existed during the 5<sup>th</sup> century. His methodology was self-admittedly imperfect and complicated – he took a sizable CA corpus, and divided this corpus by classical and post-classical author whose birthplace is known into five putative variants or categories – the Western or Roman/Byzantine, Southwestern or Cilician, Extreme Southwestern or Antioch, South-Central, South-Eastern, and North-Eastern variants (see also Djahukyan 1992c:107). The list of such authors or works was not divulged, nor were the texts, sadly. He then took a set of 40 features (a set which was very different from the features he used for the modern dialects), compared each modern dialect roughly spoken in the same areas, and compared the quantitative degree of difference of each group of modern dialects to the rough geographical boundary he had selected for the classical variants. His general conclusion was that in the 5<sup>th</sup> century, the variants of Armenian were not separated from each other enough to be called different dialects, but he states that there were small though noticeable differences (more details expounded in Section 6.3).

### 3.3 Known population movements and relocations

The history of Armenians in Asia Minor is marked by significant population movements, driven by both geopolitical shifts and cultural interactions. Armenians have inhabited this region for millennia, but notable migrations occurred during various historical periods. The early expansion of the Kingdom of Urartu in the 9<sup>th</sup> and 8<sup>th</sup> centuries BCE brought Armenians<sup>139</sup> to the northeastern parts of Asia Minor. The collapse of various ruling dynasties, such as the fall of the Orontids (200 BCE), the Artaxiads (2 CE), the Arsacids (428), the Bagratunis (1045), and Lusignans (1375) of Cilicia the led to significant population shuffling.<sup>140</sup> The period between the Arsacids and Bagratunis is characterized by a complex feudal regime in which population movements between feudal holdings were fewer than in previous or later eras. Subsequent periods saw migrations as a result of invasions and conquests, such as the Seljuk Turks' arrival in the 11<sup>th</sup> century, the Mongol invasions (1220-1245), and the many Mameluk invasions of Cilicia (1266, 1343-1344, 1374-1375).

Cirbied (1823), whose claims ought to be taken with a grain of salt according to Zohrabian (1823), mentions that pre-5<sup>th</sup> c. speakers of the Corduene (Gordian) dialect spread westward from the southern shores of Lake Van, and that between during 5<sup>th</sup> and 6<sup>th</sup> centuries, there were many second-language speakers of this dialect due to the influx of Assyrian Christians of the Jacobite and Nestorian sects, who sought refuge in the mountainous regions near Lake Van. Cirbied also claimed that speakers of the Corduene dialect spread further westward to Cilicia, and that some settled in Sebastia (Modern Turkish Sivas), while blending their dialect with that of Little Armenia (an area immediately south of Pontus).

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139 Djahukian (1963:133, 1985b:369, 1986, 1987:312-321, 417-474, 1988:148-161, 1990, 1992a:34-38, 1992b:53-59) shows that it is possible for some nearby cuneiform languages to have loans from PA and that numerous ancient names of the Armenian Highlands and adjacent regions can be etymologized in Armenian. Moreover, Diakonoff (1967:135, 1985, 1992) and Piotrovskii (1944, 1945, 1946, 1949, 1959, 1962) wrote about possible Armenian borrowings in the Urartian language. For a modern book-length discussion treating various hypotheses, see Petrosyan (2018).

140 This is a well-known historical trend, where urban populations flee to rural areas following the collapse of social order in these cities (Wickham 2006). Since Armenian history is replete with ups and downs of centralized authority, with every cycle of the emergence of a centralized state, whichever prestige language or dialect chosen by the elites becomes a barrier to the emergence of new dialects and centripetal forces are activated. After the fall of such a centralized state comes the creation of smaller separate and independent local authorities, favorable conditions for the emergence of dialects are again created. The fall of the Arshakuni (Arsacid) kingdom would have been like any other wherein the process of dialect formation is revived again; however, Mkrtč'yan & Xaç'atryan (2016:55-56) propose that the invention of Armenian writing and the immense prestige of the scriptural canonical language (CA, essentially) are partially able to slow down this process, which continues in Armenia until the beginning of the 20<sup>th</sup> century with the imposition of SEA as the official language of the Armenian Soviet Socialist Republic. Vaux disagrees with this view, with some reservation, given that half the speakers of the language have always been female, who were overwhelmingly illiterate until the 20<sup>th</sup> century (see, for example, the writings on this topic by Mesrop Davtian Taghiadian and Mesrovb Jacob Seth (2004:182)), one could argue that literary inertia might not have played much of a role in the evolution of traditional/non-literary dialects. And of course, the literary language argument would not hold for the Muslim Armenians, all of whom were traditionally illiterate in Armenian (p.c.).

Malatya (Μελιτηνή, Latinized as Melitene) was populated by Armenians since Antiquity. After the division of Lesser Armenia in the 4<sup>th</sup> century, it belonged to the Roman province of Second Armenia (Hakobyan 1981:145). The Malatya dialect was one of the larger ones spoken, with at least 10,000 speakers in the 1890s and 15,000 if one includes the surrounding villages just before the 1915 Genocide (Danielyan 1967:6-11).

Kesaria is less clear, as its Armenian presence is usually dated to the 14<sup>th</sup> century, though there are no historical documents backing up this claim (Grigorean & Garakēōzean 1963:118f). Until the Turkish invasion in 1471, Kesaria was populated entirely by Greeks and Armenians. Due to the stronger assimilatory policy in this area, the Armenians of Kesaria and other Central Anatolian city centers became largely Turkish-speaking by the beginning of the 17<sup>th</sup> century. However, a number of peripheral villages have preserved this dialect (see Alboyadjian 1937:1628 for a map of different Turkish-speaking and Armenian dialect-speaking communities, Ant'osyan 1961:ii-vi, Vaux 2012c), and it has several presumably archaic features not shared with other Asia Minor dialects.

The Hamshen population deserves special mention. The areas immediately surrounding the Black Sea did not have significant Armenian populations in Antiquity. According to historical accounts, 12,000 Armenians led by Prince Shapuh Amatuni and his son Hamam (whence the name of the dialect and local culture, *Hamam-* + *-a-* (linker infix) + *-šen* 'built by Hamam', the heart of which was an earlier city of Tambur) first settled in that region of the Black Sea, then controlled by the Byzantine Empire, in the 7<sup>th</sup> and 8<sup>th</sup> century when escaping the Arab persecutions in Edesia (Simonian 2007<sup>141</sup>). According to

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141 Until the 14th century, Hamshen was a Christian principality ruled by Armenian princes. Almost every village had its Church and priests. In the following centuries, however, the region witnessed a lot of bloodshed, forced conversions, and migrations under Ottoman rule. Nevertheless, Hamshen remained a significant intellectual center until the 17<sup>th</sup> century. Many of the Hamshentsi people have (often forcefully been) converted to Islam. Ottoman records show that Hamshen was overwhelmingly Christian until the late 1620s. Starting in the 1630s, the Hamshen Armenian diocese began to decline while one of the first mosques in the area was built in the 1640s. Conversion to Islam seems to have taken place gradually. But Hamshentsi even today are not entirely Islamized. About half of the Hamshentsi population who fled from Anatolia is, in fact, still Christian today, belonging to the Armenian Apostolic Church. During the Armenian Genocide most Christian Hamshentsi have been prosecuted and expelled. They reside today mostly in Abkhazia, Georgia, and Southern Russia (Krasnodar, Sochi, Adler). Muslim Hemshentsi have also suffered during this period and some were even mistaken for Armenians because of their language and killed. As a consequence, two separate communities of Muslim and Christian Hamshentsi have since lived in separation. Those in Turkey have been brought up without the awareness of their Armenian identity but retained much of their old traditions and to date speak in Hamshen subdialects, while those in the Soviet Union were able to retain their identity and dialect. After the breakup of the Soviet Union and an increased openness in Turkey, both communities have made successful attempts at mutual contact and understanding. Though in Turkey, notwithstanding recent increased academic interest, the linguistic situation is still sometimes either not understood, or deliberately fuddled for political purposes, with one of the worst examples being the monograph by Altunkaya (2012), which describes Hamshen as a mysterious language belonging to the Ural-Altai group that has not been described previously; Hamshen is one of the very best-studied and best-documented of all non-standard Armenian dialects, with complete dialect descriptions going back to over a century. Altunkaya (2020) doubled down on his views, yet

Djahukyan (1972), linguistic evidence shows that many features are shared with the Edesia dialect that are unusual among Western dialects, such as the use of the 3SG AUX *a* in place of CA/WA *e*: *Astvac mec a* ‘God is great’ (North Hamshen, Vaux 2007:274), and positioning of the negative auxiliary following the verb (though this is also found in Trabzon, which is unsurprising because many of the northern Hamshen communities originally lived in villages around Trabzon): *yis el barab doynil č'im* ‘I too am not going to let it go to waste’ (Ačarean 1911:191). Edesia also shares some non-morphological features with the geographically closer dialects of Syria, such as the pronunciation of the definite article as *-a*, and its consonant system is shared with geographically contiguous but genetically distantly related dialects (Malatya in Asia Minor, Tigranakerk, Mush) and with SWA. There are four villages<sup>142</sup> that are considered to be part of the Bardizag group (Tēr-Yakobean 1960:32-33) that were populated by Armenians who migrated from the Hamshen region (called Laz-Armenians), whilst the largest part of Bardizag was said to be populated by Armenians moving from the Sebastia region in the first quarter of the 17<sup>th</sup> century (Tēr-Yakobean 1960:16-21).

There has been an Armenian presence in Bulgaria since at least the eighth century (Mesropyan 2016:95), and historians state that a large part of the founders came from Gamakh and to a lesser extent from Erznka, Sebastia, and Kesaria (Pachajian 1971, Mesropyan 2016:95-98). Sebastia and Akn, in turn, are said to have been populated by Armenians who settled from Van and Vaspurakan in 1021 (Čanikean 1895:7-21, Azatean 1943:20-22, Ačarean 1951:437, and Hewsens 2000:29), which may explain their unusual behavior when subjected to cladistic analysis in Chapter 6. The community in Rodosto also took in migrants from Gamakh in 1606-07 (Martirosyan 2019b:214).

The Yozgat dialect is considered dead today, as almost all of the estimated 53,000 Armenians living in Yozgat before the Armenian genocide were ethnically cleansed. However, there have been efforts to document and preserve the dialect, including the publication of a Yozgat Armenian dictionary and the recording of conversations and folk songs in the dialect (T‘emurčyan 1970, Mkrtč‘yan 2006). Ačarean (1911:31), who had spent years engaged in fieldwork across the Ottoman Empire and beyond, mentions that in Asia Minor cities such as Bursa, Kayseri (a.k.a. Caesaria, Kesaria, etc.), and Yozgat, the new generation had become increasingly Armenian-speaking thanks to schools and because of immigration from Constantinople.

It is well-known that some areas of Armenia Minor and Cilicia were the result of later migrations, and there have been population movements from EA-speaking areas to more westerly

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admitted that he is “an amateur, not a linguist” (*amatör olduğumu ve dil bilimci olmadığımı belirttiğim*), did not read anything by Bert Vaux, and has not studied any Armenian. Luckily, there have also been recently published books in Turkey that are objective (Özkan 2014, 2023 and Şahin 2019, both of whom are Hamshen natives and the former being properly trained in linguistics) and plainly state that this is a divergent dialect group of Armenian.

142 Tönkel (75 families before the Genocide; later on + 28 houses on the hillock), Žamavayr, official name: K‘ilise-Tüzü (40 families), Zak‘ar-giwł, Turkish name: Sak‘ar-Piç‘k‘ə (65 families), Manuřak or Menemře (30 families); Tēr-Yakobean (1960:33, 308-310, 3561, 463-464, 466-474) recorded folklore texts from this village (Martirosyan 2019b:200).

regions, such as part of the Svedia (also called Kistinik or Kistinək) community having migrated from Karabagh and Zangezur (Andreasyan 1967). WA speakers from the south-central and western fringes of the Armenian Highlands also moved westward throughout the second millennium.

Constantinople has witnessed numerous accretions of speakers from Asia Minor and the Armenian Highlands throughout the centuries. Armenians had been living in that city since at least the fourth century CE, their first parish was established in 572, and historians have argued back and forth about the full or partial Armenian descent of at least sixteen Byzantine emperors and eleven empresses (Hewsen 2001:92, Kaldellis 2019:155-195), though nearly all of them were highly culturally Hellenized. Numerous schools and churches have more or less continuously operated throughout the centuries. According to the 17<sup>th</sup>-century journal of Simeon of Poland<sup>143</sup> (himself a Polish-Armenian traveler known for his travelogue and his visit to the Ottoman Empire and elsewhere), there were at least “10,000 Anatolian Armenians” living in the city in the 1610s including over a hundred priests, 3 bishops, and 4 or 5 hieromonks (Andreasyan 1964), and about 30,000 more in surrounding areas which today are simply suburbs of Istanbul. Curiously, Simeon claimed that there were only 80 households who were native to Constantinople, which may be inferred to mean that they had been there since Byzantine times, and adds that there were 40,000 Armenian emigrant foyers (Kouymjian 1997:30). By the early 20<sup>th</sup> century, an estimated 200,000 to 250,000 (Hofmann 2002:10) Armenians lived in Constantinople.

The history of the Armenian community in Crimea is a fascinating tale that begins in the late 13<sup>th</sup> century, as the first mass-flight towards the Crimea took place after the Tatar invasion into Armenia in 1236 (Martirosyan 2019b:194). According to historical documents, more Armenians found a new home in Crimea around the 1280s and 1290s (Keghart 2023). This period marked the start of a significant chapter in the history of the Armenian diaspora. The discovery of Armenian gravestones dating from 1357 to 1557 in the late 19<sup>th</sup> century further corroborates the long-standing presence of Armenians in this region. The historical landscape of Crimea and its Armenian inhabitants underwent a significant change when Ottoman Sultan Mehmed conquered Crimea in 1475. In a strategic move to transform Constantinople into a commercial hub, Mehmed deported about 40,000 Crimeans to the city (Müller-Wiener 1977), a substantial number of them being Armenians. This mass relocation had a profound impact on the demographic and cultural makeup of both Crimea<sup>144</sup> and Constantinople. Around the same time as the Ottoman conquest, which was also a few generations after the loss of sovereignty over Cilicia, there was another significant migratory movement. A large number of Crimean Armenians moved to regions like Poland and Moldavia (Keghart, 2023); and another wave settled in surrounding cities such as Rostov, Stravropol, Taganrog, Maykop, etc. (Ačařean 1925:11-14, Martirosyan 2019b:194). The Ottoman court physician Amirdovlat Amasiatsi (meaning, born in Amasia, Asia Minor, 1420-1495) wrote some medical tracts that appear to have some early features which would

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143 The travelogue uses a mix of CA and an early Artial dialect.

144 For further discussion, see Schütz (1980), Weitenberg 1997, and Abrahamyan (1964:157-196) for Crimea, (*ibid.*:197-233) for Poland, (*ibid.*:328-349) for Romania, and (*ibid.*:350-361) for Hungary.

later be found in the Constantinople dialect, though this is difficult to ascertain as one also finds Cilician and Asia Minor features.

From historical records, we know that there were repeated movements and small- and medium-scale migrations within Asia Minor, generally going in a westward direction over time. For example, there is solid historical research that records the Armenian presence in Stanoz/Ankyuria since the 14<sup>th</sup> century (Ōtean-Gasbarean 1968, Mkrtč'yan 2006:202-222, 293-294), and from linguistic evidence, we can surmise that many of them migrated to Sivri-Hisar (Martirosyan 2010:710 for lexical similarities); the first reliable attestation of the Armenian colony in Sivri-Hisar dates from the beginning of the 17<sup>th</sup> century. Before the Great Fire (*Menc Yanłan*) in 1876, there were 2800-3000 Armenian families in Sivri-Hisar, more than half of whom moved to Ēski-Šēhir and Smyrna, and the rest were deported and perished during the 1915 Genocide (Tēr-Yovhannēsean 1965:27ff, 37ff, 115-116, 354-450, Mkrtč'yan 1995:205-206, 2006:105-118). In turn, the populations that ended up in Crimea and Sivri-Hisar are likely ultimately from Ani after the collapse of the Bagratid dynasty and the capture of its capital (Ani) in 1045 (Martirosyan 2008:538).

There have also been more recent population movements (mostly forced) from WA- to EA-speaking areas caused by warfare between the Ottomans, Persians, and Russians. Significant numbers of Armenians from the Ottoman Empire settled in Kars, Alexandropol (later Gyumri), and Akhaltsikhe (Georgia) as these areas were part of the Russian Empire in the 19<sup>th</sup> century. During the Russo-Turkish War of 1877-78, Armenians from Mush and Alashkert established villages in the Erivan Governorate which was then part of the Russian Empire, in Aparan (near Gyumri) and south of Novo-Bayazit (New Bayazit<sup>145</sup>), present-day Gavar on the shores of Lake Sevan. According to Ač'arean (1909, 1911:116), there were 21 Armenian villages in the Erivan Governorate where the Mush dialect was spoken. Another group of Armenians from Xnus (Khnus, Hınıs) settled near Akhalkalaki, particularly in three villages: Heshtia, Toria, and Ujmana (Ač'arean 1909:48, 1911:116, Simavoryan 2009). According to a 1955 article, the Mush dialect was spoken in villages located in the following districts (raion) of Soviet Armenia: Talin, Aparan, Artik, Aghin, Ejmiatsin, and Martuni (Bałdasaryan-T'ap'alc'yan 1955). One notable village in Armenia where the dialect is still spoken today is Kamo in the northwestern Shirak Province of Armenia (Katvalyan 2016a:8).

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145 Of the remaining villages of New Bayazit, the Mush dialect also contains Upper and Lower Kyolaghran, Lower Aluchalu, and Gedakbulag. According to Ač'arean (1911:116), at least in the early 20<sup>th</sup> century, the 21 Armenian villages which spoke the Mush or Alashkert dialect are: Yeranos, Adamxan (Vardadzor), Dzoragegh, Tsakkar, Gōlkōy, Tazakend (Tsovasar), Lower and Upper Adyaman (Nerkin and Verin Getashen), Upper and Lower Karanlug (Nerkin and Verin Lusagyugh), Avdalaghalu (Vaghashen), Alikrykh (Astghadzor), Zolakhach (Zolakar), Upper and Lower Gyuzeldara (Nerkin and Verin Vardenik), Upper and Lower Kyolaghran, Lower Aluchalu, Gedakbulag (Karchaghbyur), Zaghalu (Tsovak) and Tūskülü (Lusakunk). Kyolaghran villagers migrated from Nahen, Yoncalı, and Krakom; Aluchalu migrated from the Bayazit village of Çakırbey, from Van and Maku; while the people of Gedakbulag from Leter, Mush, and Xlat (Khlát) (Ač'arean 1911:138, Dolatian 2023b:363).

In the 1940s, the Artsvabuyn ('eagle nest') Zeytun Reconstruction Committee was formed in Aleppo and received permission from Soviet authorities to establish and construct Nor Zeytun (Yegyan 2019), which repatriated Genocide survivors from Zeytun to the new district, which later became absorbed into the capital city Yerevan. This explains why Soviet Armenian linguists were able to do much additional work on the Zeytun dialect throughout the 20<sup>th</sup> century, though this dialect is now moribund.

Though Syria was one of the earliest and perhaps eventually largest refugee communities of WA dialect speakers post-1915 as the Genocide was underway, there was near immediate dialect leveling among the survivors (who had come from many different Ottoman regions) and their children, who spoke SWA. These represent the bulk of Armenian speakers in Syria – note that when Syrian dialects are mentioned by various specialists (many of which are cited in this dissertation), it always refers to the non-standard dialects spoken in the northwest of today's Syrian territory by very small pockets of speakers numbering in the hundreds, though many have their roots in Syria from Hellenistic times (Hodgson 2020:6). In the 2012-16 Syrian civil war, many families left Kesab, Aramo, and Jisr-al-Shughur, mainly to Armenia or North America, though a small number have since returned. The region where the Kesab dialect is spoken was occupied by Turkish-backed rebel forces, though it is unclear to what extent it has permanently unrooted its inhabitants.

During the 44-day 2020 Artsakh War (usually referred to as the Second Nagorno-Karabakh War), roughly three-quarters of the region where numerous Artsakh (sub-)dialects had been spoken for many centuries were occupied by Azerbaijan and saw their Armenian-speaking populations expelled. In late 2022, the remaining unrecognized rump state of Artsakh was blockaded and effectively starved for more than 9 months, then militarily conquered in September 2023 without any opposition or criticism from any government or non-governmental organization worldwide. The fate of its remaining 120,000 inhabitants is unclear, but unless they can relocate to sparsely-population regions within Armenia proper and maintain viable communities, their dialects are likely to disappear, and all monuments, churches, statues, monasteries, cemeteries, documents, carvings, paintings, etc., are most certainly going to be annihilated, as has been thoroughly documented in Nakhichevan (Balakian 2011, Marsoobian 2023, Mozaffari & Barry 2023, Short et al. 2017, Seppälä 2021, Roberts 2022), where over 99% of all Armenian cultural and physical artifacts and archaeological sites have been destroyed.

Other known population shifts include Armenians in Burdur in western Anatolia from Artsakh (Karabagh) who came in 1610 (thus Burdur is an EA dialect with typical traits such as the present formation with an *-um* participle, Mkrtč'yan 1971:19). Two other Artsakh-speaking communities existed in Western Anatolia – Bolu and Ödemiş, the latter of which was destroyed in February 1916 with only a few families surviving (Kévorkian 2011). Mkrtč'yan (1971:21) lists a number of additional *-um* dialects that were transplanted in western Anatolia during the reign of various Ottoman sultans:



Antalya, Denizli, Diyneser<sup>146</sup>, Dovrek<sup>147</sup>, Duzce, Elmali, Ereyli<sup>148</sup>, Gasaba<sup>149</sup>, Isparta, Kirk-Aghach, Nazilli, Punikia<sup>150</sup>, and Zonguldak. Many people who later comprised the population of Vardenis/Basargechar in Armenia after 1829-1830 were from Diadin (Tateon). The Gorgan (Qoroq, قرق, also known as Qoroq-e ‘Olyā and Qoroq-e Bālā) Armenian community in northwest Iran was resettled from Trabzon in 1915, after the killing of 50,000 Armenians. New Nakhichevan was originally a town established on the right bank of Don in Russia by Armenians resettled from Crimea in and after 1779, and later incorporated into the city of Rostov-on-Don, as part of religious hostilities and mass emigration of Christians from Crimea in 1778. There have also been various resettlements from Iran to Karabagh (1828), the Lake Van region to Iran (1600s), Erzurum (Ottoman Empire) to Akhaltsxa and Akhalkalaki in Georgia and Gyumri in 1828, from Julfa in Nakhichevan to New Julfa (in Isfahan, Iran) in 1605-6<sup>151</sup> (Vaux 2014) and the interesting case of the mixed Romani-Armenian language of the Lomavren (Vaux 2008b).

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146 Modern-day Turkish name unknown, thus not shown on my map, as I have been unable to discover its original name and location.

147 *Ibidem*.

148 *Ibidem*.

149 *Ibidem*.

150 *Ibidem*.

151 In the early 17<sup>th</sup> century, the Safavid Persian shah sought to attract Armenians deeper into its territory as a way to emulate the situation in the Ottoman Empire where urban Armenians often played administrative roles as trusted middlemen. Armenians were given fairly generous religious freedoms and they fared better than their compatriots in the later Ottoman Empire.

## CHAPTER 4: OVERVIEW OF THE VERBAL SYSTEM

Chapter 4 of this dissertation presents a comprehensive exploration WA verbal system, with special emphasis on the system as it stands in CA and WA, dissecting a range of structural intricacies exhibited by the various dialects. This chapter is structured into several sections and subsections, each dedicated to illuminating distinct facets of the verbal system in a comparative fashion. The opening section, 4.1, examines the classification of the verbal system into simplex and complex categories, further dividing the complex verbs into subclasses. Subsequently, Section 4.2 delves into a detailed analysis of complex verbs, dissecting their causative, passive, inchoative, and suppletive or irregular forms. Moving to Section 4.3, the tenses within different moods are expounded upon, encompassing the indicative, conditional, optative/subjunctive, necessitative, and imperative moods. This chapter also considers aspect (Section 4.4), exploring the expression of aspect in the verb system and how it has changed over time. Finally, Section 4.5 notes the important changes seen in the various participles.

### 4.1 Simplex – 4 classes

The CA verbal system has typical fusional morphology for an older IE language, whereby agreement is expressed by endings for person (first, second, third), number (singular, plural, with no trace of the PIE dual), tense (nonpast, past), aspect (imperfective, perfective traditionally called the aorist), and to a more limited degree, mood (indicative, subjunctive, imperative) and voice (active, mediopassive). The majority of finite forms are analyzable synchronically as:

(augment) + √ + suffixation + thematic vowel + ending

Stems are generally decomposable into roots and suffixation, such as: active ind. pres. 1SG *tes-an-e-m* ‘I see’ (cf. aorist 1SG *tes-i*; *-an*<sup>152</sup> is a suffix that forms inchoative verbs which does not surface in the aorist), and active ind. aorist 1SG *sir-ec<sup>c</sup>-i* ‘I loved’ (*-e-* is the theme, *-c<sup>c</sup>-* is the aorist suffix, cf. pres. *sir-e-m* ‘I love’). CA had a robust two-stem system in which all fully inflected verbs had two stems, usually called the “present stem” and “aorist stem” in traditional grammars (Lauer 1883, Djahukyan 1954), as shown in Table 8 below. By the time we have documentary attestations of modern dialects, this system had largely or entirely broken down, though in different manners depending on area.

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152 Kocharov (2019:81) tentatively assumes that in pre-CA, *-n(u)-* and *-an(i)-* retained the aspectual contrast [+telic] (the durative phase of a telic process or secondary aspectual meanings) vs. [-telic] (the durative phase of an atelic process or state, including resultatives), for which he gives the minimal pairs *\*mėrnul* ‘become dead’ vs. *mėranil* ‘be dead’, *trnul* ‘fly towards’ vs. *trānil* ‘fly from’.

Present stem	Aorist stem
Present indicative	-
Imperfect	Aorist indicative
Present subjunctive	Aorist subjunctive
Prohibitive (neg. imp.)	Imperative
Infinitive	-
(Participle)	Participle

Table 8: Schema of the two-stem system in CA (adapted from Kim, n.d. and Godel 1975:39)

The thematic vowel (/e/, /i/, /a/, or /u/, termed “classes” by traditional grammars (Cirbied 1823)) strongly influences the selection of suffixal endings – so much so that traditional grammars have treated thematic vowels as separate conjugational classes (Meillet 1913, 1936; Schmitt 1981, 2007; Thomson 1989). This remains true in all modern dialects, though with significant shuffling or partial collapses in some cases. The *u*-theme, for example, has been entirely lost in the Constantinople, Aslanbeg, Erznkay, and many other dialects, yet has spread in some dialects such as Artial, Smirna, Hamshen, Hajin, Mush, and Sasun. Interestingly, texts from the MA era show plenty of examples of formerly *e*- and *i*-theme verbs joining the *u*-class (for a list, see Ačařean 1959:378).

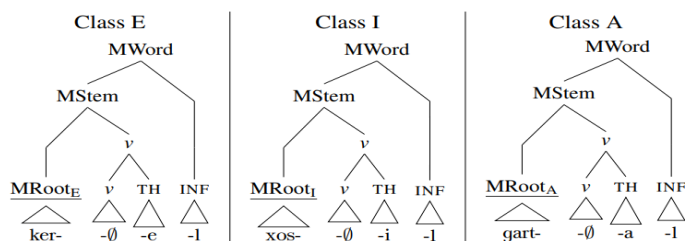


Figure 17: Word-internal morphosyntax<sup>153</sup> by verbal theme, from Dolatian (2020:297)

In traditional CA grammars, a fifth thematic vowel is sometimes mentioned – the /o/ class (Minassian 1976:24-25, Ařayan 1964), which has only one member, the defective verb *gol* ‘to be, exist, subsist’ (Ačařean 1959:299), which for an unknown reason derives from an original perfect of the root

153 Armenian distinguishes between morphological stems (MStems) vs. morphological words (MWords). The former is created from derivational morphology, while the latter from inflectional morphology. MRoot is the root morpheme, and the subscript letter represents the theme of the vowel attached to that verbal root. MWords map to prosodic words (PWords), while MStems map to a smaller prosodic constituent called the prosodic stem (PStem) (Dolatian 2020:24), though I do not address the prosodic and phonological issues. In this Figure which uses SWA, *ker-e-l* is ‘to scratch’, *xos-i-l* ‘to speak’, and *gart-a-l* ‘to read’.

\**h<sub>2</sub>wes-* (Kortlandt 1998c:19). Since this is such an important verb for the development of the indicative marker<sup>154</sup>, I reproduce its paradigm in full (note the retention of final *-y* on *goy*, Schmidt (1981:47) points out that final *-y* disappeared before the 5<sup>th</sup> century after *-u* and *-i*, but was retained after *-a* and *-o*; for a discussion and evidence of *-ay* being diachronically unstable in the 5<sup>th</sup> century, see Weitenberg 2001). As part of a process that started many centuries before the CA era, except *gol* and the auxiliary, all monosyllabic verbs eventually belonged to the *a*-theme, and the rare monosyllabic verb which would have received an *i*-theme got reanalyzed (e.g. \**d<sup>h</sup>eh<sub>1</sub>-y<sup>o</sup>/o* < \**dēye-* or zero-grade \**d<sup>h</sup>h<sub>1</sub>-y<sup>o</sup>/o*- > PA \**diye-* > pre-CmA \**dē-* > \**di-l* > CA *di-e-l* ‘to suck breastmilk’, Kim 2021:173). In the Latinizing School<sup>155</sup> (Catholic counterpart of the Hellenizing School), *gol* was used as a quasi-auxiliary in the past and future infinitives, e.g. *sireal gol*, *sireloc<sup>c</sup> gol* ‘to have been loved’, ‘to be loved (in the future)’ (Ačārean 1951:317).

infinitive		gol			participle			—
causative		—			aorist stem			—
person		singular			plural			
		1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	
indicative	present	gom	gos	goy	gomk <sup>c</sup>	goyk <sup>c</sup>	gon	
	imperfect	—	—	goyr	—	—	goyin	
	aorist	—	—	—	—	—	—	
subjunctive	present	—	—	guc <sup>c</sup> ē <sup>156</sup>	—	—	guc <sup>c</sup> en	
	aorist	—	—	—	—	—	—	
imperatives	imperative		—			—		
	cohortative		—			—		
	prohibitive		—			—		

Table 9: Verbal paradigm of the defective verb *gol*

Across dialects, person and number desinences have undergone a series of predictable, sometimes parallel changes, differing in detail but exhibiting similar tendencies as seen in the table below. Table 10 shows the wide range of desinences found in the modern dialects, and more

154 There has been a persistent belief among some Armenian linguists such as Abeghyan (1936a) that *gol* (especially in *goy* form) is the origin of the pervasive WA indicative marker – Ačārean (1959) settles the issue to my satisfaction, though I think that the semantic influence from *gol* may have been there, even if the etymological source of what would later become *gu/ku*/etc. is *kal* or *kenal*.

155 Consult Muradyan (2012:214-227) for an overview and comparison with the Hellenizing School, along with commentaries by Ačārean (1951:314-323), Djahukyan (1974b:63-174), Hambardzumyan (1990:90-98, 2008a, 2008b).

156 This form has been grammaticalized and preserved as a fossilized adverb meaning ‘perhaps’ in many dialects, including both standard dialects.

importantly, Table 11 morphemically breaks down the principal ways that the modern dialects express the plain (non-progressive) indicative present – these latter changes are of much greater interest.

Tense	Pers.	<i>e-</i> and <i>i</i> -themes		<i>a</i> -themes	
		CA	WA dialects	CA	WA dialects
PRES	1SG	-em, -im	-em, -ēm, -im	-am	-am, -m, -om, -um
	2SG	-es, -is	-es, -ēs, -is	-as	-as, -s, -os, -us
	3SG	-ē, -i	-ē, -i, -a	-ay	-a, -∅, -o, -u
	1PL	-emk <sup>c</sup> , -imk <sup>c</sup>	-enk <sup>c</sup> /k, -ēnk <sup>c</sup> /k, -ēn, -ink <sup>c</sup> /k, -enk <sup>cy</sup> , -inʔ, ik <sup>c</sup> /k, -æk <sup>c</sup> , -ənk <sup>c</sup> /k	-amk <sup>c</sup>	-ank <sup>c</sup> /k, -nk <sup>c</sup> /k, -onk <sup>c</sup> , -ak <sup>c</sup> , -k <sup>c</sup> , -ak <sup>y</sup>
	2PL	-ēk <sup>c</sup> , -ik <sup>c</sup>	-ēk <sup>c</sup> /k, -ik <sup>c</sup> /k, -ēʔ, -ek <sup>cy</sup> , -æk <sup>c</sup> , eak <sup>c</sup> , -ək <sup>c</sup>	-ayk <sup>c</sup>	-ak <sup>c</sup> /k, -k <sup>c</sup> /k, -ok <sup>c</sup> , -uk <sup>c</sup>
	3PL	-en, -in	-en, -ēn, -in, -ən, -eyn	-an	-an, -n, -on
IMPF	1SG	-ēi	-ēi, -ēyi, -ēy, -ē, -i, -ēim	-ayi	-ayi, -ay, -ai, -i, -ē, -aim
	2SG	-ēir	-ēir, -ēyir, -ēyr, -ēr, -ēis, ir, iir, -ēydə	-ayir	-ayir, -ayr, -air, -ir, -ēs, -aydə
	3SG	-ēr	-ēr	-ayr	-ar, -ēr
	1PL	-ēak <sup>c</sup>	-ēyak <sup>c</sup> , -ēyank <sup>c</sup> , -ēynk <sup>c</sup> , -ēink <sup>c</sup> , -ēnk <sup>c</sup> , ink <sup>c</sup> , akə, -ēk <sup>c</sup> /k, -eynk <sup>cy</sup>	-ayak <sup>c</sup>	-ayak <sup>c</sup> , -ayink <sup>c</sup> , -aynk <sup>c</sup> , -ēnk <sup>c</sup> , -ank <sup>c</sup> , -ink <sup>c</sup> , -aykə
	2PL	-ēik <sup>c</sup>	-ēik <sup>c</sup> , -ēyik <sup>c</sup> , -ēyk <sup>c</sup> , -ēk/k, -ēkə, ik <sup>c</sup> , -eyk <sup>cy</sup>	-ayik <sup>c</sup>	-ayik <sup>c</sup> , -ayk <sup>c</sup> , -aik <sup>c</sup> , -ik <sup>c</sup> , -ēʔ, -aykə
	3PL	-ēin	-ēin, -ēyin, -ēyn, -n, -in, -ēynə	-ayin	-ayin, -ayn, -ain, -in, -ēn, -aynə

Table 10: Personal suffix comparison by theme and dialectal form

CA	gr-e-m	√-TH <sub>e</sub> -1SG
SWA	gə kr-e-m	IND-√-TH <sub>e</sub> -1SG
Artial	gi kr-i-m	IND-√-TH <sub>i</sub> -1SG
Hajin	gə kəy-ie-m	IND-√-TH <sub>i</sub> -1SG
Hamshen	kiy-e-m gu	√-TH <sub>e</sub> -1SG-IND
Beylan	gä kər-i-m	IND-√-TH <sub>i</sub> -1SG
Aramo	hay kr-i-m	IND-√-TH <sub>i</sub> -1SG
SEA	gr-um e-m	√-PRES.PTCP AUX-1SG
Urmia	k <sup>y</sup> ir-ε-s ε-m	√-TH <sub>e</sub> -PRES.PTCP AUX-1SG
Areš	g <sup>y</sup> ir-ε-li yə-m	√-TH <sub>e</sub> -PRES.PTCP AUX-1SG

Table 11: Cross-dialectal comparison of ‘I write’ with morphemic breakdowns.

The only inflectional prefix extant in CA is the phonologically-conditioned *e*-augment: consonant-initial monosyllabic aorist forms, in the active, take the *e*-augment (Arashkert, Aramo, Arjesh, Bitlis, Gop, some Hamshen subdialects, Haji-Habibli, Moks, Mush, Xlat, Xnus, Xtrbek, and Yogh noluk keep the augment<sup>157</sup>):

1SG <i>e-t-u</i>	vs.	3SG <i>e-t</i> <sup>158</sup> ‘(s)he gave’
1SG <i>tes-i</i>	vs.	3SG <i>e-tes</i> <sup>159</sup> ‘(s)he saw’
1SG <i>ke-c<sup>c</sup>-i</i>	vs.	3SG <i>e-kea-c<sup>c</sup></i> ‘(s)he lived’ ( <i>ea</i> is a diphthong)
1SG <i>gna-c<sup>c</sup>-i</i> <sup>160</sup>	vs.	3SG <i>gna-c<sup>c</sup></i> ‘(s)he went, walked’, bisyllabic: [gə-nats <sup>h</sup> ]
1SG <i>e-k-i</i>	vs.	3SG <i>e-k-n</i> ‘(s)he came’ ( <i>-n</i> is extrasyllabic)
1SG <i>e-d-i</i>	vs.	3SG <i>e-d</i> ‘(s)he put, laid, placed’

157 I removed the augment as a feature in my analysis because it is clear that it is a relic. From the geographical point of view, what we see is reminiscent of the pattern described by Hock (1991:435, 440): “As a consequence, parts of the area—in some cases only very small speech islands—retain the older [grammatical feature]. [...] On the other end of the spectrum is a relic area, or several such areas, which has (or have) not been affected...” Xtrbek maintained the augment, but it shifted to *i-* by regular sound change, such as *i-pir* ‘s/he brought’, *i-dēur* ‘s/he gave’ (*ēu* is a diphthong, Hananyan 1995:43), *i-qōuc* ‘s/he stood (?)’ (gloss not provided in source, perhaps equivalent to CA *ekac<sup>c</sup>*) (*ibid.*:134).

158 Meillet (1904) remarks that post-CA and especially MA would avoid having a one-consonant form of a verb, as in CA 3SG *ed* ‘s/he put, s/he placed’, from *dnel* (< \**e-d<sup>h</sup>eh*-t, cf. Sanskrit अधात् *ādhāt*, Klein 2007:1079). See Karst (1901:324ss.) on how the modern dialects found strategies to avoid having a one-consonant 3SG aorist.

159 Not to be confused with *e-tu* ‘I gave’ and *e-t* ‘(s)he gave’.

160 Note the full aorist indicative paradigm of *ukil* ‘to go’ (< CA or pre-CA *kal*) in Kabusiye: *iga*, *igir*, *igək<sup>c</sup>*, *iguk<sup>c</sup>*, *igək<sup>c</sup>*, *ik<sup>c</sup>ēyn* (Łaribyan 1958a:114), where the augment (*i-* via sound change) exists across the paradigm, likely due to the monosyllabic rule still being operative. For other verbs, Kabusiye did not spread its augment beyond 3SG due to the same reason, e.g. *idēir* ‘s/he gave’ and *iluc<sup>c</sup>* ‘s/he cried’, yet *dəvir* and *lac<sup>c</sup>ir* in 2SG.

Vowel-initial forms do not take the augment in the classical era, e.g. 3SG *ac* ‘s/he led’, though in the post-classical era, we see a spread of the *e*-augment: *ēac* (the expected mid-front vowel *e*- would yield a diphthong, hence the use of the raised *ē*- mid-high front vowel instead). In certain cases, even in the classical era, the augment had spread throughout the entire aorist paradigm (Martirosyan 2013) and even in the subjunctive, as seen in Table 12. The same occurred in a small number of other verbs, e.g. *etow* ‘gave’, *elē* ‘became’, where the *e*-augment had become lexicalized as part of the aorist stem. No trace of the augment remains in SWA (see Table 13), and for the dialects which have preserved it (listed above), it is hard to find evidence if at least some of these subsist in lexicalized form.

person		singular			plural		
		1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>
Indicative	present	dn-e-m	dn-e-s	dn-ē	dn-e-mk <sup>c</sup>	dn-ē-k <sup>c161</sup>	dn-e-n
	imperfect	dn-ē-i	dn-ē-ir	dn-ē-r	dn-ē-ak <sup>c</sup>	dn-ē-ik <sup>c</sup>	dn-ē-in
	aorist	e-d-i	e-d-ir, e-d-er	e-d	e-d-ak <sup>c</sup>	e-d-ik <sup>c</sup>	e-d-in
Subjunctive	aorist	e-d-ic <sup>c</sup>	d-ic <sup>c</sup> -e-s	d-ic <sup>c</sup> -ē	d-ic <sup>c</sup> -uk <sup>c</sup>	d-ij <sup>c</sup> -ik <sup>c</sup>	d-ic <sup>c</sup> -en

Table 12: Various tenses of *dnel* ‘to put, to lay’ in CA

person		singular			plural		
		1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>
Indicative	present	gə t’n-e-m	gə t’n-e-s	gə t’n-e	gə t’n-e-nk <sup>c</sup>	gə t’n-e-k <sup>c</sup>	gə t’n-e-n
	imperfect	gə t’n-e-i	gə t’n-e-ir	gə t’n-e-r	gə t’n-e-ink <sup>c</sup>	gə t’n-e-ik <sup>c</sup>	gə t’n-e-in
	aorist	t’r-i	t’r-ir	t’r-av	t’r-ink <sup>c</sup>	t’r-ik <sup>c</sup>	t’r-in
Subjunctive	past	t’n-e-i	t’n-e-ir	t’n-e-r	t’n-e-ink <sup>c</sup>	t’n-e-ik <sup>c</sup>	t’n-e-in

Table 13: Various tenses of *t’nel* ‘to put, to lay’ in SWA

In present (indicative or subjunctive) and imperfect tenses, voice distinctions had identical personal endings, with a change in the theme vowel in the stem – *sir-e-m* ‘I love’ vs. *sir-i-m* ‘I am loved’; verbs with *a*- and *u*-themes were ambiguous for voice, e.g. *low-an-a-m* ‘I wash’ and ‘I am washed’, and *ar-n-ow-m* (ow = [u]) ‘I take’ or ‘I am taken’; in the aorist, these were always distinct: *ar-i* ‘I took’ (active) vs. *ar-ay* ‘I was taken’ (mediopassive). Yet another kind of asymmetry existed in the subjunctive, which only had a present and aorist tense: *e*- and *a*-themed verbs were fully distinguished (*hawat-ay-c<sup>c</sup>-e-m*, *hawat-ay-c<sup>c</sup>-i-m*, ‘I believe (subj.), I am believed (subj.)’, *sir-i-c<sup>c</sup>-e-m* (CmA \**sēr-ē-c<sup>c</sup>-e-m* according to Ačarean 1959:306), *sir-i-c<sup>c</sup>-i-m* ‘I love, I am loved (subj.)’, *sir-e-c<sup>c</sup>-ic<sup>c</sup>*, *sir-e-c<sup>c</sup>-ay*) but not *i*- and *u*-themed ones in the present subjunctive (cf. *c<sup>c</sup>elayc<sup>c</sup>* ‘I split, I tore’ vs. *c<sup>c</sup>elic<sup>c</sup>* ‘I was split, I was torn (subj.)’, yet *c<sup>c</sup>el-*

161 Though the 2PL *-ēk<sup>c</sup>* desinence is attested the vast majority of the time for *e*-theme verbs, we rarely see an *-ik<sup>c</sup>* variant (Djahukyan 1972:179), which can be explained as dialectal variation during the CA era, since CmA likely had *\*-eyk<sup>c</sup>*, from which one may easily derive both *-ēk<sup>c</sup>* or *-ik<sup>c</sup>*.

*u-c<sup>c</sup>-u-m* can mean either ‘I tear, I split’ or ‘I am split, I am torn-SUBJ’). These asymmetries get resolved in interesting ways in the dialects.

In CA, we see a few cases of multiply attested variants using different theme vowels<sup>162</sup>: *han-u-l* ‘to bind, tie, fit, weave, fasten’, *hin-e-l* and *hen-u-l* (also likely reflecting different IE grades, see Martirosyan 2010:636-637) (Awetik<sup>c</sup>ean, Siwrmēlean & Awgerean 1837:1214-1215), *ur<sup>n</sup>-u-l* ‘to be swollen, bloat’, *ur<sup>n</sup>-al*, *ur<sup>n</sup>-en-al*, and *ur<sup>n</sup>-an-il*, which may explain why certain areas had selected a different theme vowel. A more straightforward example is the variation we find in CA *han-u-l* and *han-e-l*, which may be etymologically related (Klingenschmitt 1982:131-132) ‘to draw, pull out, take away’, for which the dialects have: Alashkert, Hajin, Mush, and Suceava *hanel*; Akhaltskha, Goris, Yerevan, Karin, Artsakh, Crimea, Constantinople, Rodosto, and Sebastia *hanēl*; Agulis, Zeytun, Kharberd, Shamshulte, and Tiflis *hanil*; Aslanbeg *hanēl*; Tigranakert *hänēl*; Svedia, Xtrbek *hänil*; Akn *hēnēl*; Hamshen *honus*; New Jugha, Salmast, and Van *xanel*; Maragha *xanēl*; Moks and Ozim *xanil* (Ačarean 1977:33). A more complicated example is CA *zgayr<sup>r</sup>-e-l* and *jgrt<sup>r</sup>-a-l* ‘to belch, eruct’, two by-forms of the same word, often with a large variation in the dialects, like in MA *jkrtal*, *zkrtal*, Svedia *j<sup>c</sup>grtil*, Hajin *j<sup>c</sup>ag<sup>c</sup>g<sup>c</sup>ardol*, Akhaltskha *j<sup>c</sup>krt<sup>c</sup>al*, Karin *ckrtal*, Zeytun *cogt<sup>c</sup>ordol* or *j<sup>c</sup>ogt<sup>c</sup>ordol*, Alashkert *zgrtal*, Goris and Yerevan, Artsakh *zkrtal*, Tiflis *zkrtal*, Moks, Maragha, and Van *skrtal* (Ačarean 1977:148), cf. SEA *jgrtel*, *zkrtal*, and *zgayril*, SWA *zk<sup>c</sup>ayrel*, *jk<sup>c</sup>rdal* and *zgrdal*. Verbs with *u*-themes seem to have their theme vowel changed to *e-* or *i-* more often than the reverse (Djahukyan 1972:176-177), foreshadowing their disappearance in many modern dialects. Even before the MA period, in the 6<sup>th</sup> and 7<sup>th</sup> centuries, we start seeing an increasingly pervasive confusion of certain theme vowels, especially for inchoatives (verbs with the *-an-* infix) such as *ank-n-i-l* instead of *ank-an-e-l* ‘to fall, drop, descend’ (Ghazaryan 1960:62), which becomes *ənk-n-e-l* in SEA (cf. Ararat *əng-n-e-l*) and *iy-n-a-l* in SWA.

SWA retains more of the classical system than SEA, and adds several innovations (SEA adds *different* innovations too). Verbs can be conjugated in three persons, two numbers<sup>163</sup> (singular and plural), five moods (indicative, conditional, optative/subjunctive, necessitative/jussive, imperative, of these only the imperative has no tense distinction) with several tenses each, generally up to two present (simple and progressive), two future (simple and anterior), and two past tenses (imperfect and aorist), both in positive and negative (there are interesting morphophonological interactions with the fused negative prefix), along with several nonfinite forms such as infinitive, gerund, and several types of present, past, and future participles. There are also aspectual distinctions. Here I offer a brief morphological analysis.

162 In a small number of verbs, the *e-/i*-theme contrast does not hold through the whole paradigm (Godel 1975:122), e.g. *hay-i-m*, *hay-ē-i*, *hay-e-c<sup>c</sup>-ay*, *hay-i-c<sup>c</sup>-i-m*, *hay-e-c<sup>c</sup>-ayc<sup>c</sup>*, *hay-e-l* ‘to watch, look (upon), take care’, in the first person indicative present, imperfect, aorist, subjunctive present and aorist, and infinitive, respectively.

163 Though it is not clear if there are more verbs or tenses that have a dual, Łaribyan (1958a:48) reports that Aramo has a dual form of *gal* ‘to come’ in the present imperative: *æri* (singular), *ærig<sup>y</sup>* (dual), and *ærgik<sup>y</sup>* (plural), and says that the plural is a univerbated *ari-(y)ekayk<sup>c</sup>*, ‘you (all) come valiantly’; one if rejects this on the basis of the 2SG and 2DU forms, we can consider this verb suppletive in the imperative, since it is difficult to get to *ær-* from either *ga-* or *eg-* roots.



Transitive	Infinitive	Aorist 3PL	Imperative 2SG	Imperative 2PL	Gloss
<i>e</i> -theme V	kʰaʁ-e-l	kʰaʁ-e-ts-i-n	kʰaʁ-e	kʰaʁ-e-ts-e-kʰ	'to reap'
<i>i</i> -theme V	tʰapar-i-l	tʰapar-e-ts-a-n	tʰapar-i-r	tʰapʰar-e-ts-e-kʰ	'to wander'
<i>a</i> -theme V	kʰtʰ-a-l	ktʰ-a-ts-i-n	kʰtʰ-a	kʰtʰ-a-ts-e-kʰ	'to pity'

Table 14: Morphemic breakdown of several tenses/person markings for simplex forms

SWA, like many WA dialects, has three verb classes<sup>164</sup>, canonically named after the infinitive suffix theme vowel for each respective class – *e*-theme, *i*-theme, and *a*-theme. The system has become primarily agglutinative, but a concatenation of suffixes can give rise to several long-distance interactions; some of these may be termed contextual and apparent non-locality effects (Dolatian 2020:296-301, Fox 2017) which also show suppletive morphology<sup>165</sup>. The change in theme vowels is a case of outwards-sensitive allomorphy (SWA *bařg-i-l* 'to sleep' > *bařg-e-ts-a* 'I sleep', not \**bařgitsa*, yet take Aramo *bařg-ēy*<sup>166</sup>-l > *bařg-i-ts-óu*, not \**bařgetsóu*), which differs across subcategories of verb classes and differs according to dialect. Aramo is also unusual as it has leveled its three theme vowels (*e, i, a*) in the infinitive (CA *alótʰel* > *aʁotʰēyl* 'to pray', CA *aracil* > *aržēyl* 'to graze, pasture, feed', and CA *ertʰal* > *urtʰēyl* 'to go, march, follow, set off'), yet this leveling must be analogical and not as a result of sound change (otherwise, we would expect *aržayl* or *aržāyl* and *urtʰul* following the sound change rules given by Łaribyan 1958a:17-20).

In many eastern dialects (including some WA dialects that are more easterly than the others), the *i*-theme has become moribund as there has long been a trend of switching *i*-themes to *e*-themes. Even in WA dialects where the thematic difference appears robust, there are plenty of cases where the *i*-theme vowel shows outwards-sensitive allomorphy in certain morphological contexts such as when the infinitival is nominalized with a case marker that requires its original theme vowel to be replaced with an *e*-theme (SWA *bayt-i-l* 'to burst', *bayt-i-l-ə* 'the act of bursting', but *bayt-e-l-u* in the genitive-dative, *bayt-e-l-e* in the ablative, *bayt-e-l-ov* in the instrumental, etc.). These cases highlight local allomorphy because there is a finite bound between the alternating suffix (say, the theme vowel in verbal morphology and the definite suffix in nominal morphology) and the trigger morpheme (case markers, clitics, tense-mood combinations).

164 There is also a fourth moribund *u*-theme vowel conjugational class, such as *lesul* 'to grind' and *toxul* 'to leave, forsake', though these verbs are extremely rare and most speakers can likely not generate all forms.

165 See 4.2.1 and 4.2.2 for a short discussion.

166 Underlyingly *-i-* as its theme vowel (Łaribyan 1958a:40).

In Akn<sup>167</sup>, as well as in Aslanbeg, Eudokia, Kesab, Rodosto, Hamshen, and others, the theme vowel behaves differently from SWA, as we can see below, as the *e*-theme vowel shifts to *i* before nasals (Abrahamyan 2016:18; see Vaux 1998:50-53 for a cyclic Rules and Representations Theory-based analysis of Köprücü Hamshen), but remains constant in SWA. This conditioned *e*-to-*i* shift has already occurred between PIE and CA, where PIE \**ǵ* has been preserved in CA but yields *i* before nasals (Meillet 1936:41, Blažek 1999:145).

	Akn	SWA
1SG	gü xərg-i-m	gə xərg-e-m
2SG	gü xərg-e-s	gə xərg-e-s
3SG	gü xərg-e	gə xərg-e
1PL	gü xərg-i-nk <sup>c</sup>	gə xərg-e-nk <sup>c</sup>
2PL	gü xərg-e-k <sup>c</sup>	gə xərg-e-k <sup>c</sup>
3PL	gü xərg-i-n	gə xərg-e-n

Table 15: Present indicative tense of *xərgel* ‘to send’

The Akn *-ank<sup>c</sup>* 1PL verbal ending from the third verb group, which is an archaism, has spread to verbs belonging to other groups (Ačārean 1911:223), such as ուտեիւք *owteink<sup>c</sup>* ‘we ate’ > գիւղեաւք *giwdēank<sup>c</sup>*, բերիւք *berink<sup>c</sup>* ‘we brought’ > բ’երաւք *b’ērānk<sup>c</sup>* (Abrahamyan 2016:19). CA used the suffix *-mk<sup>c168</sup>* for the present 1PL, and *-ak<sup>c</sup>* for the past 1PL; thus the /-a/ infix in this form could be separately segmented as a past suffix. Like the Sebastia dialect, the ending of the imperfective and perfective 1PL is /-a-nk<sup>c</sup>/ւսք (here, the sound change of CA /an/ to /on/ does not occur), or which is more similar to the CA ending *-ak<sup>c</sup>ւք*, than with the *-i-nk<sup>c</sup>իւք* form of quite a few other Asia Minor dialects. In the first person plural, the old forms *sireak<sup>c</sup>*, *sirēak<sup>c</sup>* were replaced with *\*sirēink<sup>c</sup>* by analogy in the present

167 Akn is the historical name of present-day Kemaliye, formerly Eğin, today one of the nine districts of Erzincan Province in Eastern Anatolia. It was once an important cultural center and was the native dialect of many public figures, such as Arpiar Arpiaryan, Misak Metsarents (he was the first scholar to collect the folk stories of Darevils of Sasun), novelist and jurist Krikor Zohrab, composer and musicologist Siamanto, Arshak Chopanyan, Minas Cheraz, Nikol Galanteryan, and many more (Abrahamyan 2016). The bulk of our knowledge comes from Gabriēlean (1912)’s voluminous work “Akn Provincial Vocabulary and the Modern Armenian Language (our translation)”, mentioned by Ačārean (1911) for its extensiveness but criticized for its lack of scientific vigor. The other significant work is the more systematic Maxudianz (1912), which received positive book reviews from both Armenian and European linguists at the time (Abrahamyan 2016). This dialect belongs to the *kə/gə* branch (Ačārean 1909:43) and has a three-way voicing distinction in its consonantal system with an absence of plain voiceless stops and affricates, the same as in Kharberd-Yerznka, Arabkir, and Sebastia. It has eight vowels (*a, e, ə, i, o, ö, u, ü*), occupying roughly the same vowel space as those of Turkish. Phonetically, /ü/ is [ɣ]. Gabriēlean notes (1912:37) that this dialect preserves many archaisms, some going back as far as CA, in his estimation.

168 The Moscow Gospel, a manuscript dated to 887, well-known for its abundance of dialectalisms, one finds for example the first instance of 1<sup>st</sup> person plural verbal suffix in *-nk<sup>c</sup>* (Djahukyan 1997, Vaux n.d.).

inflection, where *sirenk*<sup>ç</sup> had in turn replaced the old form *siremk*<sup>ç</sup>. This last innovation is already current in Cilician Armenian, while the new 1PL imperfect \**sirēink*<sup>ç</sup> is not documented in this medieval variety, but is surely at the origin of the modern outcomes in many dialects (cf. Karst 1901:310-312, Scala 2021b:160fn3).

Some Hamshen subdialects keep the 1PL *-n-* infix, resulting in an unusual (for languages and dialects in this region) 1PL/2PL merger in *a*-theme verbs, e.g. *mek*<sup>ç</sup> *xavak*<sup>ç</sup> *oç*<sup>ç</sup> *t'ov* 'may we not play' and *t'uk*<sup>ç</sup> *xavak*<sup>ç</sup> *oç*<sup>ç</sup> *t'ov* 'may you (pl.) not play'. Agulis is another notable dialect that merges 1PL/2PL, though the merger affects all verbal themes, ex. *sáyrík*<sup>ç</sup> 'we, you (pl.) love' (Ačarean 1935:§307), *ask'únik*<sup>ç</sup> 'we, you (pl.) get dressed' (*ibid.*:§311), *ərvök*<sup>ç</sup> 'we, you (pl.) appear' (*ibid.*:§314). Interesting parallels are found in other dialects, such as Sasun, which collapses this distinction only in the past, and other languages such as Haitian Creole (DeGraff 2000:94) which even merges pronouns, and the two English-based Sranan (Winford & Plag 2013) and Nengee (Migge 2013) creoles which optionally merge them.

In Erznkay (Ercinzan), the *e-* to *i*-theme vowel shift only occurs in 1SG and 1PL according to Ačarean (1911:169), though some other sources also show 3PL having undergone the same change. This may be due to the fact that multiple dialect centers within the Erznkay-Kharberd/Dersim/Kiğ/Çarsancak group have been surveyed, so we are perhaps looking at some intradialectal variation, though they seem to be considerable, as we can tell from Table 16. In the third person, the theme vowel changes to *æ* in the first conjugation class. Notice also the palatalization of word-final voiceless aspirates, which also occurs in many southeastern EA dialects.

Present ind.	Erznkay <sup>169</sup>	Erz. (Ačarean 1911)	cf. SWA
1SG	kə xəm-i-m	gə xəm-i-m	gə xəm-e-m
2SG	kə xəm-e-s	gə xəm-e-s	gə xəm-e-s
3SG	kə xəm-e	gə xəm-æ	gə xəm-e
1PL	kə xəm-i-nk <sup>ç</sup>	gə xəm-i-nk <sup>çʸ</sup>	gə xəm-e-nk <sup>ç</sup>
2PL	kə xəm-e-k <sup>ç</sup>	gə xəm-e-k <sup>çʸ</sup>	gə xəm-e-k <sup>ç</sup>
3PL	kə xəm-i-n	gə xəm-e-n	gə xəm-e-n
Past Ind.			cf. SWA
1SG	kə xəm-e-i	gə xəm-e-i	gə xəm-e-i
2SG	kə xəm-e-i-r	gə xəm-e-i-r	gə xəm-e-i-s
3SG	kə xəm-e-r	gə xəm-æ-r	gə xəm-e-r

169 Data from Greppin & Khachaturian (1986).

1PL	kə xəm-e-a-nk <sup>ç</sup>	gə xəme-a-nk <sup>çʷ</sup>	gə xəm-e-i-nk <sup>ç</sup>
2PL	kə xəm-e-i-k <sup>ç</sup>	gə xəm-e-i-k <sup>çʷ</sup>	gə xəm-e-i-k <sup>ç</sup>
3PL	kə xəm-e-i-n	gə xəm-e-i-n	gə xəm-e-i-n

Table 16: Comparison of the present and past indicative in Erznkay and SWA

In Eudokia<sup>170</sup>, like many Asia Minor dialects, the theme vowel *-e-* changes to *-i-* in the first person singular and plural. Ačarean (1911:233) remarks offhandedly that Eudokia<sup>171</sup> is extremely similar to the Smyrna<sup>172</sup> and Constantinople dialects and contains just a few rare differences (such as the Turkish-borrowed interrogative marker being *mə* in Eudokia but *mi* in Constantinople, e.g. *gu das mə?* ‘do you give (it)?’). For the progressive, Ačarean, at least initially in his career, treated the *gor* marker, found in many Western dialects, as a borrowing from Turkish (Ačarean 1911:233-234), e.g. *g’udim, g’udim gor* (‘I eat, I am eating’), *gə p’ereji gor*, ‘I was bringing’, though in WA dialects the pattern does not precisely match the Turkish one (*getiriyor* ‘I am bringing’, *getiriyordum*<sup>173</sup> ‘I was bringing’, treated in Subsection 5.1.2).

The progressive reflex in Eudokia is *or*. Donabédian (2001b) suggests that this progressive marker may have a language-internal source. Two nearby, closely-related dialects – Amasia and Marzvan (Merzifon), use *ga* instead of *gor*. The future is formed with *bidi* as in SWA, though in Ordu, this has been reduced to a proclitic *b-* (Ačarean 1911:234), as in *b’ertam* ‘I will go’, cf. SWA *bidi yertam*. Its infinitive (*V-el/-il-al*) and participial forms – the present (*V-adz*), prospective (*V-elik<sup>ç</sup>*), future (*V-elu*), subject (*V-ox*), and evidential (*V-er*) are identical to those found in SWA (Khachatryan 2016:78-90).

170 Eudokia is sometimes referred to as an interdialect, owing to the fact that migration has historically occurred out of Eudokia (Eudocia, Eudokia) into the surrounding 23 villages and faraway areas such as Amasia, Marzvan, Ordu, Samson, and Sinop (Ačarean 1911:350). The interdialect of Eudokia is one of the lesser known ones in the western area of Little Armenia. Serious research and folklore materials were almost non-existent by the time Ačarean wrote his 1911 magnum opus – in 1899 Gazanchyan had published the work *Examination of the Armenian Provincial Vocabulary of Eudokia* in Vienna and in 1900 there were some short segments featured in the journal *Բիւրակն* [Byurakn] (<https://tert.nla.am/mamul/Byurakn/Table.html>) (Khachatryan 2016:63). Though in more modern times, Alpöyačean (1952) and Khachatryan (2016) have done some work. For the subdialects, there is only a text that is written in the Merzifon subdialect (Byurakn, 1900:427) and some information on the Ordu subdialect (ibid.:73). Near Eudokia, there was the village of Kirkoros, which spoke its own separate subdialect.

171 Eudokia is unusual insofar as its *i-to-e* before nasal rule is unevenly applied – *sirim, sires, sire, sirink<sup>ç</sup>, sirek<sup>ç</sup>, siren* (‘love’ in subjunctive for all six grammatical persons), and not the expected *sirin* we see in Crimea, Artial (Greppin & Khachaturian 1986:11-21), and many other Asia Minor dialects.

172 Ačarean (1951:352) includes the villages of Manisa, Gasapa, Payəntər, Grgalač, as speaking this same dialect.

173 Morphemically, further diachronically breaking down the morphemes of *getir-mek* ‘to bring’, *ge-tir-i-yor-d-um*, √come-CAUS-LIN-PROG-PST-1SG.

## 4.2 Complex

Complex verbs contain a root and a combination of more than one theme vowel or suffix – they are, with very few exceptions, derivatives of simplex verbs.

As we saw in Section 4.1, in the classical era and the subsequent archaizing written tradition which lasted until the early 19<sup>th</sup> century, transitivity strongly correlated with the thematic vowel of the verb. The *e*-theme occurred in both transitive and intransitive verbs but changed to *-i-* in the mediopassive. Minor classes in *-a-*, *-u-*, and *-o-* were intransitive, although some forms of these verbs were ambiguous between passive and active (Daniel & Khurshudian 2015). In SEA, the system was greatly simplified as all themes except *-e-* and (marginally) *-a-* are lost. WA has kept a larger number of *a*-theme verbs, though most of these are intransitive. On the other hand, *e*-thematic verbs include both transitive and intransitive verbs (continuing both the transitive and intransitive *e*-classes of CA). Intransitive theme *-i-* is only preserved in WA where it is used with some primary intransitive verbs, derived decausatives, and most mediopassives (Donabédian 1997). All three verbal classes remain productive in WA, as newly coined verbs in WA would enter the *e*-theme class, passive and passivized causative versions of those verbs would still be *i*-themed, and deadjectival verbs would enter the *a*-theme class (*abuš*, ‘stupid’ → *abuš-a-n-a-l*, ‘to become stupid’, √-LIN(ker)-INC(oative)-TH-INF).

Most verb types (intransitive, ditransitive, transitive, etc.) have synthetic valency-increasing and valency-decreasing forms. There are two voices – active and passive (Table 20) – and most transitive verbs can be made into a causative (Tables 17 and 18) and a passivized causative (Table 19), and much more rarely into a causativized passive (to continue an example featured in many tables below, the form would be *kaκ-v-e-ts-n-e-l*, etc., ‘made to be caused to be reaped’), not shown in tables.

A few additional generalizations about the verbal structure here: the aorist is an indicative perfective past (Bardakjian & Thomson 1977), sometimes called the perfect (Gulian 1990) or preterite (Johnson 1954, Kozintseva 1995) in some descriptive grammars; passives scope over causatives (with very rare exceptions), and the infinitival ending of either will end up determining and overriding the verb class (*e/i/a*-theme vowel); there is long-distance dependency (especially with theme vowels), as well as relativized locality, and a doubling of theme vowels, though the latter takes precedence over the former. There exists tense-agreement allomorphy, as well as some phonological reduction processes (hence the reduced *-ts*<sup>174</sup> – (CA conventional spelling *c*) allomorph of the causative infix *-tsn*<sup>175</sup>) thus there is some syncretism on the surface. Piecing it all together, a maximal verbal structure would be something like this:

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174 In this section, I use *-ts-* for SWA to distinguish it from the CA use of this same suffix.

175 Alternatively, one can propose that the *-n-* morpheme only shows up in certain cells in the paradigm.

IND/FUT/COND √ -TH-CAUS-PASS-TH-AOR-T-AGR  
 gə/bidi/yete tapar- e- ts- v- e- ts- a- n

Similarly to what has happened in several Gallo-Romance and Germanic languages, the *have*-auxiliary has replaced the much more common *be*-auxiliary in a handful of dialects around the Black Sea – a feature shared by Hamshen (all varieties except Canik, as far as I can tell) and Khodorjur (but only in unaccusatives in the latter). Compare Khodorjur *dəven k'un jəvadz a* (Hulunian and Hachian 1964:408), eastern Hamshen *davan kun avadz a* ‘the boy slept’ (*ibid.*:409) and *giadz unim* ‘I have eaten’. Though Hulunian & Hachian claim that the auxiliary ‘have’ is found in many other dialects, Vaux (2007:261) has not found any such dialects other than Khodorjur and Hamshen; although he mentions that some Armenian speakers report having heard it used in modern-day Istanbul and elsewhere, but these data remain uncorroborated. Vaux (*ibid.*:FN19) mentions that the characterization of the *have/be* dichotomy in terms of transitivity is due to Dumézil (1964), and Hulunian & Hachian (1964), though his own fieldwork seems to suggest that unaccusatives select for ‘be’ and all other verbs select for ‘have’, at least in the eastern Hamshen subdialect he analyzed (see Vaux 2005 for more information).

#### 4.2.1 Causative

CA had an irregular system of three types of causatives – lexical, morphological, and analytical. Lexical causatives are inherently causative verbs that come from fossilized verb forms of a related non-causative verb; morphological causatives are those which take *-uc<sup>c</sup>an-* infix<sup>176</sup>, diachronically decomposable as *-oyc<sup>c</sup>-* (of unknown origin<sup>177</sup>, also has an unstressed allomorph, *-uc<sup>c</sup>(<sup>178</sup>)* and *-an-*<sup>179</sup>

176 The morphological causative, according to Kocharov (n.d.:29), is very likely a PA innovation, which means that it existed before the breakup of any dialects; *-uc<sup>c</sup>an-* replaced the IE causative in *\*-eie-*, which had merged with the primary thematic flexion at an early stage (Kortlandt 1999:48), e.g. *\*top-eie/o-* > CA *t'at'aw-e-l* ‘to immerse’, cf. Old Church Slavonic *topiti* ‘to heat up, melt, thaw’, *\*b<sup>h</sup>er-e/o-* > *ber-e-l* ‘to carry, bear’.

177 Many proposals exist: some have tried to connect it with PIE *\*-eu-ské/o-*, *\*-ou-ské/o-* (Godel 1975:124, Schmitt 2007:136, criticisms by Klingenschmitt 1982:264f and Kocharov, n.d.:7); Kortlandt (2003:129f) proposes that it developed from a reanalysis of the sigmatic aorist of roots ending in *\*V<sub>u</sub>K-s-* and *\*-V<sub>ut</sub>-s-* (cf. transitive function of *\*s-*aorist in Greek *ἔστη-σ-α* tr. vs. *ἔστη-ν* intr.), though the reanalysis of sigmatic stems would yield monoconsonantal roots; Olsen (1999:550–552, 575; 2019:292f)’s proposal is *\*-eh<sub>i</sub>u-t-ig/o-*; Greppin (1975:122f) suggests that it may be a productive backformation of the noun suffix *-oyc<sup>c</sup>* (which exists in about a dozen nouns, Kocharov (n.d.:21) suggests that semantically, it may indicate the anticipated or achieved result of a purposeful action expressed by an agentive verb, e.g. *mac-oyc<sup>c</sup>* ‘glue’, *mac-an-el* ‘to stick to’, causative *mac-uc<sup>c</sup>-anel* ‘to glue, cause to stick to’); Djahukyan (1982:192) suggest, among others, a late development of *-oyc<sup>c</sup>-* from *-oys-* that spread from nouns to verbs; and Kocharov (n.d.:18-22) proposes that the aforementioned noun suffix *-oyc<sup>c</sup>-* was first used as a factitive construction showing purpose or goal or anticipated result, and was then reanalyzed as a causative construction.

178 Though very rare, there also existed a *-oyz/-uz-* or *-oys/-us-* allomorph with an aorist stem, e.g. *p<sup>l</sup>-uz-an-em* ‘I cause to collapse’, and a *-oys/-us-* allomorph with a root, such as *kor-us-an-el* ‘to cause to be lost, destroyed’ (cf. infinitive simplex *kornč<sup>c</sup>el* ‘to be lost, disappear’, with a fossilized *-nč<sup>c</sup>-* inchoative infix).

(inchoative or fientive), and analytical causatives are those which combine a finite inflected verb with a preposed infinitival form. Features of the morphological causative are that:

- i) they are rarely from passive verbs (Kocharov 2019);
- ii) they are typically derived from verbs the first argument of which has some degree of autonomy (spontaneous events, experiential events, events with affected agent);
- iii) are predominantly derived from intransitive verbs except for a few experiential and reflexive transitive verbs; and,
- iv) are not derived from canonical agentive and semantically transitive verbs (Tumanyan 1971:372–377; Abrahamian 1976:179–186; Jungmann & Weitenberg 1993:117–124; Arak'elyan 2010:161–168; Kocharov 2022a).

All CA morphological causative verbs had an *e*-theme, and were usually built upon the aorist stem, e.g. *hnazand-e-l* 'to submit, to be obedient' → *hnazand-ec'-uc'an-e-l* 'to make someone submit, to subdue', *ke-a-l* 'to live, to be alive' → *ke-c'-uc'an-e-l* 'to make someone live' (aorist stem *kec'*, basic stem *ke-*). In cases where the base verb already has an *-an-* infix, the causative allomorph *-uc'* is added *ij'-an-el* 'to descend' (aorist root *ij-*) → *ij'-uc'an-el* 'to cause to descend'. Post-classical texts start to have shortened causative forms (> *-uc'*) by the 8<sup>th</sup> – 11<sup>th</sup> centuries (Mkrtč'yan & Xaç'atryan 2016:125), and tended to simply drop the *-an-* inchoative infix (*arkanem* > *arkem* 'I throw'). This must be taken as evidence of change having already occurred in the native dialects of those who wrote texts down. The modern dialects have a range of inherited reflexes, usually *-c'n-*, *-ec'n-*, or *-ac'n-*, with the necessary sound changes depending on dialect (CmA/CA *c'* [tʰ] yielding [dʒ, [tʰ] or other outcomes in rare cases). In most WA dialects, we see a spread of the *-c'* causative infix, reduced from *-uc'an-*. Since CA had no means of passivizing with a suffix, it was not possible to form a passivized causative (when such a construction was required, the participle was used with an inflected auxiliary, such as *t'ak'uc'eal em* 'I am hidden' (Minassian 1976:309)), though some modern dialects have developed passivized causatives by stacking suffixes.

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179 Cognate to Ancient Greek *-av-* which was added to many verbs that already had a nasal infix, e.g. *λιμπάνω* 'to be absent' (Fortson 2010:391), and Gothic *-nan*, as in *fullnan* 'to become full' (Godel 1975:125). Kim (2021) explains some of the consequences of this early PIE-derived nasal infix on Armenian verbal morphology. Hamp (1975) counters Greppin (1973b, 1975:113), by forming arguments in favor of PIE-derived explanations for the existence of nasal infixes in CA. For a full diachronic analysis of every subcategory of nasal infixes in verbs, see Kocharov (2019:15ff). Already by the 5<sup>th</sup> century, CA appeared to have some dialectal variation, with some verbs having an inherent inchoative as opposed to a derived verb with an inchoative suffix, e.g. *oroganel* vs. *orogel* 'to water, to moisten, to irrigate' (Godel 1975:113 says that the second one is doubtlessly more archaic), which also exist with a prothetic *a-*, *aroganel* vs. *arogel* (Mkrtč'yan Xaç'atryan 2016:56–57, Ač'arean 1940b:38–39, Martirosyan 2010:113, Petrosian 1879:63, Awetik'ean et al. 1836:310). For a list of 5<sup>th</sup>-century authors who use different variants of inchoatives, see Djahukyan 1972:176.

Causative	Infinitive	Aorist 3PL	Imperative 2SG	Imperative 2PL	Gloss
<i>e</i> -theme V	kaʁ-e-tsn-e-l	kaʁ-e-ts-u-ts-i-n	kaʁ-e-ts-u-r	kaʁ-e-ts-u-ts-e-k	‘cause to reap’
<i>i</i> -theme V	tapar-e-tsn-e-l	tapar-e-ts-u-ts-i-n	tapar-e-ts-u-r	tapar-e-ts-u-ts-e-k	‘cause to wander’
<i>a</i> -theme V	kt-a-tsn-el	kt-a-ts-u-ts-i-n	kt-a-ts-u-r	kt-a-ts-u-ts-e-k	‘cause to pity’

Table 17: Morphemic breakdown of several tenses/person markings for causative forms in SWA

The valency-decreasing *thematic* (-*e* > -*i*) alternation present in CA has been lost in EA and weakened in WA, as this process is no longer productive but it is still recognizable (much like in older Germanic languages, of which Modern English has a few relics like *fall – fell*, *sit – set*, *lie – lay*), such as *ayr-e-l* ‘to burn (something)’, *ayr-i-l* ‘to be burned’, *mar-e-l* ‘to extinguish’, *mar-i-l* ‘to be extinguished’, *yep-e-l* ‘to cook’, *yep-i-l* ‘to be cooked’, *godr-e-l* ‘to break-TR’, *godr-i-l* ‘to break-INTR’, and *maš-e-l* ‘to wear out-TR’, *maš-i-l* ‘to wear out-INTR’. This particular subset of intransitives cannot be passivized, such as *dunə \*ayr-v-e-ts-av* ‘the house was burned’<sup>180</sup>, an effect likely caused by blocking which we will be discussing later, although there are periphrastic constructions that would allow us to convey the meaning. Most modern WA dialects prefer to use suffixal agglutination to either increase the valency of the verb (-*ts*-/-*c*‘-) or decrease it (-*v*-).

	CA	cf. SWA
Regular	mt-an-e-m ‘I come in’	md-n-e-m
Lexical caus.	muc-an-e-m ‘I bring in’	mudz-an-e-m
Morph. caus.	mt-uc‘-an-e-m ‘I make sm. come in’	md-ts-n-e-m
Anal. caus.	mt-an-e-l aɾn-e-m ‘I make sm. come in’ mt-an-e-l t-a-m ‘I make/let come in’	md-n-e-l gu d-a-m

Table 18: Causatives in CA, data partly from Kocharov (n.d.)

The morphological causative -*Vc*‘-*uc*‘-*an*-(*e-l*) [-*(V)*ts<sup>h</sup>uts<sup>h</sup>an(*el*)] is simplified to -*c*‘*nel* (SWA, SEA, many Eastern dialects), -*c*‘*unel* (Constantinople), -*c*‘*ənul* (Crimea) -*c*‘*unul* (e.g. Mush), or other forms in the modern dialects, with the *u*-theme gaining additional grounds in some of them but only for causatives (this innovation occurred in Hazzo, Crimea, and Vartenis). Other dialects, such as Xtrbek, did see the spread of *u*-theme verbs but not for causatives, *isk-ə-tsn-i-l* (cf. SWA *hsdag-a-tsn-e-l*) ‘to make something clear’, (čuk-tsn-i-l, cf. SWA *vošč-a-tsn-e-l*) ‘to cure someone’ (Hananyan 1995:194-5). Yet in some other dialects, such as Kabusiye, we superficially see a spread of *u*-theme verbs, but these are actually derived from *a*-themes via regular sound change<sup>181</sup> (Kabusiye has a complicating factor

180 Due to the breakdown of his archaic system, some SWA speakers have recently begun accepting this construction if an agent is added ‘the house was burned by someone’ (Dolatian, p.c.). My grammar does not allow it.



requiring the use of a particle derived from an ancient accusative as an enclitic which also changes the vowel, e.g. *géu gart-u-m* ‘I read’, *géu gart-o-m zə* ‘I read (it)’ (Łaribyan 1958a:102)).

Pass.Caus.	Infinitive	Aorist 3PL	Imperative 2SG	Imperative 2PL	Gloss
<i>e</i> -theme V	kaʁ-e-ts-v-i-l	kaʁ-e-ts-v-e-ts-a-n	kaʁ-e-ts-v-i-r	kaʁ-e-ts-v-e-ts-e-k	‘cause to be reaped’
<i>i</i> -theme V	tapar-e-ts-v-i-l	tapar-e-ts-v-e-ts-a-n	tapar-e-ts-v-i-r	tapar-e-ts-v-e-ts-e-k	‘cause to be wandered’
<i>a</i> -theme V	*kt-a-ts-v-i-l	*kt-a-ts-v-e-ts-a-n	*kt-a-ts-v-i-r	*kt-a-ts-v-e-ts-e-k	‘cause to be pitied’
Morpheme gloss	√-TH-CAUS-PASS-TH-INF	√-TH-CAUS-PASS-TH-AOR-TH-AGR	√-TH-CAUS-PASS-TH-AGR	√-TH-CAUS-PASS-TH-AOR-TH-AGR	

Table 19: Morphemic breakdown of several tenses/person markings for passive-causative forms in SWA

In Table 19, we see that there is a problem – for *a*-theme verbs, the infinitive form of the passive of the causative (the passivized causative) is predicted to be  $\sqrt{a-ts-v-i-l}$ , but compare with Table 20 where the normal passive is  $\sqrt{a-ts-v-i-l}$ . What we get is the (seemingly) aorist-based passive reading winning over the passivized causative reading, yet this blocking phenomenon does not occur in *e*-theme and *i*-theme verbs<sup>182</sup>.

The position marked “Voice” in Bybee (1985:4)’s crosslinguistically-observed concatenated suffixal verb structure ( $\sqrt{\text{VERB}} - \text{Valence} - \text{Voice} - \text{Aspect} - \text{Tense} - \text{Mood}$ ) may be occupied by the causative suffix and the passive suffix at the same time, in which case the order is generally “causative-passive”<sup>183</sup>. The reverse order, “passive-causative”, which is a causativized passive, has been described as impossible (Daniel & Khurshudian 2015) or extremely rare<sup>184</sup> by a number of sources commenting on

181 In Kabusiye (historically also spoken in Chavrik (Çevlik) and Mağaracık), many common words shift historical stressed *a* to *u*, e.g. *amar* > *amur* (> *amúr* ‘summer-DEF’), *artsat* > *ardzut* ‘silver’, *mal* > *mus* ‘sieve’, but this sound change did not occur word-initially under certain conditions, in secondarily stressed positions, nor before an unaspirated velar plosive or before and after a nasal, where we get a schwa instead, e.g. *žang* > *žəng* ‘rust’, *hima* > *həmə* ‘now’, *psak* > *bəsəg* ‘wreath’ (Łaribyan 1958a:86-87).

182 For a minority of SWA speakers, if given sufficient context, they can interpret a causativized passive reading of  $\sqrt{kt-a-ts-v-e-ts-e-k}$ , but it would not be the default reading (Dolatian, p. c.).

183 Much has been written about Japanese in this respect, for which most grammars (such as Bloch (1946), Martin (1975), and even much older reference grammars such as Chamberlain (1888:193)) and speakers will only accept *VERB-sase-rare* but not the other way around. Crosslinguistically, it appears that most languages do not like forming causativized passives Blanco (2010).

184 For Japanese on this issue, see Washio 2018; for Korean, see Aoyagi 2021 and Jeong-Woon (1992), for Turkic, see Letuchiy (2006); furthermore, there is a tendency (Creissels 2016) for causatives to become passives involving the grammaticalization of a ‘give’ verb in a number of language families, among them Manchu-Tungusic (Nedjalkov 1964,

a wide range of languages. If we say ‘something was read’, versus ‘something was made to be read’, pragmatically we get the same result – both confer the same end state onto the patient/recipient, so it is no surprise to see that various authors have suggested that there is a cross-linguistic tendency to strongly dislike such constructions, though it is marginally possible in SWA and it is unknown if such a construction is possible in any of the WA dialects, since these constructions usually happen only once or twice in corpora of many millions of words; Dolatian & Guekguezian (2023:516) looked into the issue for SEA, and from the Eastern Armenian National Corpus (EANC) of 110 million tokens, they only found one instance of a causativized passive, *gaž-v-e-tsn-e-l*, √-PASS-TH-CAUS-TH-INF, ‘to make someone go mad’.

In certain dialects, there seems to have developed a tendency to form analytical causatives, such as Van *mardu tal* ‘to marry a girl, lit. ‘to give to a man’, which is rare in most dialects, or simply left undescribed in the vast majority of grammars. Analytic causatives were somewhat common in CA, so it is no surprise that some dialects would have further pursued this strategy.

Even in dialects that have long snuffed out *u*-themes, we sometimes see remnants of the old *u*-theme-based causative usage, such as in SWA *tartsúr* ‘turn-IMP-2SG’, resultative *tartsutsadz em* ‘I have turned [it]’, present perfect evidential *tartsutser em* ‘I have (apparently) turned it’. It’s interesting to note that in SEA, which has gone further in eliminating traces of the *u*-theme, the older, more formal imperative in the second person singular is *darjru*, whereas in colloquial speech, this has been leveled to *darjra*, mirrored in nonstandard colloquial SWA *tartsír*<sup>185</sup>.

#### 4.2.2 *Passive*

CA transitive verbs with an *e*-theme can undergo passivization by altering its theme to *-i-*, such as *var-e-m* ‘I lead’ vs. *var-i-m* ‘I am led’. Thus, verbs with the *a-* and *u*-theme, and verbs which are inherently *i*-themed, do not form passives by such vowel substitution. These verbs make no formal distinction between active and passive throughout the entire indicative present system (Krause & Slocum 2022). The aorist tenses of the indicative or subjunctive moods maintain a morphological distinction between active and passive through a set of different personal endings (*p’orjec’i* ‘I tempted’ vs. *p’orjec’ay* ‘I was tempted’). In the imperative mood, only the imperative tense maintains a distinction, as it disappears in the cohortative and prohibitive.

As shown in Table 20, using SWA as our main model which uses the *-v-* passive infix, we only give the infinitive, aorist (3PL but any other person would work the same), and two imperative forms,

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Knott 1995) and Sinitic (e.g. Mandarin, Cantonese, Southern Min) (Hashimoto 1988, Cheng et al. 1999, Chin 2011, Yap & Iwasaki 2008).

185 Alternatively, it perhaps may be archaism after all, since CA had at least one variant *darjír* for the non-causative version of this verb.

the 2SG version of which contains the least suffixal information. The aorist stem is especially relevant here, due to how it interacts with the rest of the suffixes.

Passive	Infinitive	Aorist 3PL	Imperative 2SG	Imperative 2PL	Gloss
<i>e</i> -theme V	kaʁ-v-i-l	kaʁ-v-e-ts-a-n	kaʁ-v-i-r	kaʁ-v-e-ts-e-k	‘to be reaped’
<i>i</i> -theme V	tapar-v-i-l	tapar-v-e-ts-a-n	tapar-v-i-r	tapar-v-e-ts-e-k	‘to be wandered’
Morpheme gloss ( <i>e</i> & <i>i</i> )	√-TH-PASS-TH-INF	√-PASS-TH-AOR-TH-AGR	√-PASS-TH-AGR	√-PASS-TH-AOR-TH-AGR	
<i>a</i> -theme V	kt-a-ts-v-i-l	kt-a-ts-v-e-ts-a-n	kt-a-ts-v-i-r	kt-a-ts-v-e-ts-e-k	‘to be pitied’
Morpheme gloss ( <i>a</i> )	√-TH-AOR-PASS-TH-INF	√-TH-AOR-PASS-TH-AOR-TH-AGR	√-TH-AOR-PASS-TH-ARG	√-TH-AOR-PASS-TH-AOR-TH-AGR	

Table 20: Morphemic breakdown of several tenses/person markings for passive forms

The syntax and semantics of the SWA *-v-* infix have been studied by Haig (1982), who argues that it carries a dual<sup>186</sup> function – it marks the passive voice but also the intransitive use of inherently transitive verbs, concluding that it is a valency-reducing (detransitivizing) morpheme that affects the entire verbal phrase (following Hopper & Thompson 1980). Argument structures for WA passives were also cursorily looked at by Sigler (1997), Ackerman & Nikolaeva (1997), and Dolatian (2021a), and affix mobility in SWA and a few WA dialects has been examined by Bezrukov & Dolatian (2020).

Apparent non-locality<sup>187</sup> in WA conjugation classes have been analyzed by Dolatian (2020, 2021, 2022) (though passives and causatives were mostly unaddressed), where he argued for a computational locality that is a looser form of linear locality or adjacency (thus, contra Allen (1979), strict adjacency would not be required to explain morphological allomorphy<sup>188</sup>) and that this process is computationally local as long as the trigger and target are within a fixed bound, like in Edesia-Urha *i*-to-*e* theme allomorphy in simple intransitives such as *dzaʁg-i-m a* ‘I am blossoming’, *dzaʁg-e-ts-a* ‘I blossomed’, as well as passives such as *g-olər-v-i-m a* (Łaribyan 1958a:154-156) ‘I am being twisted’, *olər-v-e-ts-a* ‘I was

186 For an overview of the origins of dual *-v[i]*-, see Gevorgyan (2015), Ačarean (1957:239), and Petrosyan (1972). Traces of the dual have been preserved in Constantinople, Van, Karin, Svedia, Zeytun, Aramo, Mush, and to an even lesser extent in Akhalkalaki and Akhaltskha, and Hamshen is the only dialect that appears to have a productive nominal dual (Ačarean 1947).

187 “Apparent” because the allomorphy in agreement appears to be long-distance, for example, SWA *gə sah-i-m* ‘I slip’, *sah-e-ts-a*, ‘I slipped’ (aorist), but the MRoot *sah-* is always fixed at a maximal distance of two suffixes (here, a null little-*v* for a possible passive suffix and the aorist suffix) from the aorist suffix *-ts-* which triggers the allomorphy; all this to say that generating the right agreement suffix is still computationally local, meaning that as long as the trigger morpheme is still a predictable finitely bounded distance away from the final segment, the computation is local (Dolatian 2020:300-301).

188 This is in line with the general idea in linguistic theory, especially in early work in level-ordered phonology, is that a process is local if and only if the trigger and target of the process are structurally adjacent (Odden 1994), in other words, that the trigger morpheme is the closest morpheme to the allomorph (Dolatian 2020:296).

twisted’.

When dealing with verbs with multiple valency suffixes, the role of linear adjacency is generally highlighted (Plag & Baayen 2009, Wal 2006 for an account based on structural hierarchy instead). Cross-linguistically, we expect that each suffix will cyclically alter the verb’s conjugation class (Svenonius 2008) since derivational suffixes, which on independent grounds are expected to attach more closely to the root than a case suffix (Aronoff & Fuhrhop 2002), can change the class membership of a root. We see such a phenomenon across almost all dialects in Armenian.

Structurally, passives are sometimes considered to be analogous to the causative (cf. Uda 1990), thus the passive suffix (in our case, *-v-*) can be seen as an additional layer of little-*v* on top of the base verb’s own little *v*-layer (Bruening 2013), which is how Dolatian sees it (thus in the case of Armenian and its dialects, the causative and passive belong to different morphosyntactic slots) – see Figure 16: Phylogenetic tree of Armenian dialects (DeLisi 2018:123) for a graphical representation.

Interestingly, though *be-/become*-type auxiliaries are crosslinguistically often used to convey the passive (English, French, German, Italian, Kannada (Sridhar 1990:215), also see Haspelmath 1990:38ff which discusses several cases in which a passive suffix arose via grammaticalization of a *be*-auxiliary), we only see the occasional use of the combining of a participial form of the verb with *linel* ‘to be, exist, happen’ in the early period, such in Buzand (4-15:11 & 1:16-9, 5<sup>th</sup> c.) *niwt’eal linēr* ‘was made’, *hramayeal linēr* ‘was ordered’, Koriwn (1-22:3, mid-5<sup>th</sup> c.) *zorac’eal linim* ‘I am strengthened’, Agathangelos (1-1:5, 5<sup>th</sup> c.) *anc’eal ekeal linēr* ‘has come to pass’; one of the later authors I can find who uses such a construction is Tovma Artsruni (his *History of the House of Artsrunik*<sup>189</sup> volumes were completed between the 870s-905) *zrkeal linim* ‘I am deprived’ (3-29:3).

### 4.2.3 Inchoative

CA had a productive class of inchoatives, by using the *-an-* infix after the verb root but before the theme vowel and infinitival suffix, e.g. *hiwand-an-a-l* ‘to become ill’, *karmr-an-a-l* ‘to redden’ (from *karmir*, ‘red’). Inchoatives thus change the thematic vowel, since it is only the final vowel which will dictate the rest of the conjugation (cf. Klingenschmitt 1982:106-127, Oltra-Massuet 1999). The inchoative also had a *-nč-* or *-č-* allomorph, e.g. *t’ak’č’im*<sup>190</sup> ‘I hide, am concealed’ with the expected *t’ak’ey* in the aorist indicative, *erknč’im* ‘I fear, dream, distrust’, and *erkeay* in the aorist, not *\*erknč’ey* (see Ačarean 1959:315 for a list of such verbs).

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189 French (Brosset 1862) and English (Thomson 1985) translations available.

190 Since this allomorph likely became opaque over time, many modern dialects use light verbs with the root of verbs that bore this allomorph, as in Yerevan and Tiflis *t’ak’ kēnal* (‘stand’) ‘to be hidden’, or simply added a passive infix to the root, e.g. Ardanush *t’ak’vil* ‘to be hidden’ (Ačarean 1973:168).

WA dialects inherit the inchoative, though the penultimate vowel tends to weaken or drop out, so the *-an-a-l* series of suffixes in SWA is more commonly *-n-a-l* or *-ən-al*  $-\text{ըլսալ}$  (*hivant-an-a-l* or *hiwant-n-a-l*, ‘to become ill’, *nihar-n-a-l*, ‘to become thin’, *garmər-n-a-l*, ‘to redden’). Many modern dialects appear to have syncopated the unstressed vowel in the *-an-* infix, though some verbs underwent further changes, such as CA *am-a-č<sup>c</sup>-e-l* and SWA *aməč<sup>c</sup>-n-a-l* ‘to be ashamed’, a process which was clearly underway in MA texts.

Traditional grammars have considered inchoatives as third conjugation verbs, but they form a special category because the *-an-* infix drops in the aorist, all participles except the present negative participle, and the imperative; while regular third conjugation verbs add *-ts-* (< CA *-c<sup>c</sup>-*) to the present stem, for the inchoatives the *-ts-* appears in the place of the dropped *-n-*. Thus, we have *gart-a-l* ‘to read’ → *gart-a-ts-av* ‘he read’, but *sbidag-an-a-l* ‘to whiten’ → *sbidag-a-ts-av* ‘it whitened’ not *\*sbidag-an-a-ts-av*.

It remains a very productive grammatical feature (Dolatian & Guekguezian 2023), and at least in SWA, almost any adjective and some nouns can be made inchoative verbs simply by the addition of the suffix chain *-an-a-l*. WA dialects have four possible reflexes of the *-an-a-l* inchoative, which form a special subgroup of verbs on their own because even dialects that reduce this series of suffixes to *-nul*, *-nil*, or *-nel*, do not alter all a-theme verbs to *-u-*, *-i-*, or *-e-* respectively.

<i>-an-el</i> > <i>-nul</i>	<i>-an-el</i> > <i>-nel</i>	<i>-an-el</i> > <i>-nil</i>	<i>-an-el</i> > <i>-nal</i>
Artial (Kuti and Suceava), Hajun, Haji-Habibli, Hamshen (all subd.), Mush, Sasun,	Moks, Shatakh	Karin, Moks, Shatakh	Arabkir, Constantinople, Edesia, Erzkay, SWA, Tigranakert, Van

Table 21: Dialectal reflexes of INCH-INF suffix chains

Contrary to how one may ordinarily interpret the table above as *-an-el* developing into one of the forms shown, Weitenberg (1996:113) strongly suggests that the *-nul* variant cannot be considered a MA or more recent innovation, as it is found exclusively in verbs of the type *tesanem* ‘I see’, *iĵanem* ‘I descend’, including causatives in *-uc<sup>c</sup>anem*, in dialects which have eliminated all traces of the *u*-theme conjugation. He states that the *tesnul*-type variants must have originated in pre-literary Armenian together with and in competition with the *tesanel*-type at the time when the inherited *-n-* infix verbs were restructured. If this hypothesis is true, it may be one of the only segments of verbal morphology that may be reconstructed at the Cma stage.

## 4.2.4 Suppletive/irregular

From a phonological perspective, suppletive alternations are useless for reconstruction (Fox 1995:186), though this is not the case from the perspective of morphology. It should not be surprising that suppletive paradigms exist in the daughter languages of PIE as the underlying PIE stems involved in these paradigms show a surprising variety – according to Frantíková (2014:64), almost a hundred stems are involved in the formation of the paradigms

Suppletive verbs include *utem* ‘I eat’ (< perf. *\*h<sub>1</sub>eh<sub>1</sub>od-*, cf. Latin *edo*, Greek *édomai* < *\*h<sub>1</sub>ed-*), aor. *keray* (< *\*g<sup>w</sup>erh<sub>3</sub>-*, cf. Latin *voro*, Greek *bibróskō*), *ampem* ‘I drink’ (< *\*peh<sub>3</sub>-*, cf. OCS *piti*, Latin *bibo*), aor. *arbi* (< *\*srb<sup>h</sup>-*, cf. Latin *sorbeo* ‘suck up’), *gam* ‘I come’, (< *\*g<sup>h</sup>eH-*, cf. Greek *kikhánō* ‘reach’, OHG *gān* ‘go’), aor. *eki*<sup>191</sup> (< *\*g<sup>w</sup>em-*, cf. Latin *venio*, Greek *baínō*), *ert’am* ‘I go’, aor. *čogay* (< *\*kyow-*, cf. Sanskrit *cyávate*), *unim* ‘I have’ (< PIE perf. *\*h<sub>1</sub>eh<sub>1</sub>op-n-*, from the root *\*h<sub>1</sub>ep-* ‘get’, cf. Hittite *ēpzi* ‘takes’, Latin *apiscor* ‘reach’, *co-epi* ‘begin’), aor. *kalay*. CA *čanač'em* ‘I know’ forms the aorist *caneay*, but both are from the PIE *\*ǵnh<sub>3</sub>-* ‘know’ (Greek *gignóskō*), with assimilation in the present stem *čanač-* < *\*canač-* (Matasović 2009:41, Kortlandt 1991:1). Such verbs often have gaps.

Gaps (caused by defectivity<sup>192</sup>), especially those listed by traditional grammarians, lie at one extreme of a gradient range of uncertainty felt by speakers when deciding whether to apply morphophonological alterations (Albright, 2003:13), as these tend to occur when native users of the language know that an inflected form must stand in a certain relation to another inflected form, but the language does not provide enough data to be certain of what that relation should be (Albright 2009:2). The chief point is that the conjugational paradigm is incomplete and consequently speakers have a hard time producing or conceptualizing the missing forms (e.g. Spanish *garantir* ‘to guarantee’ replaced by the entirely regular *garantizar*) or use periphrasis (*j’étais en train de frire* ‘I was in the process of frying’ instead of *\*je frisais* ‘I was frying’). It is crosslinguistically common to see a handful in each language, such as German *erkiesen* ‘to choose, to elect’ (but Dutch *verkiezen* ‘to prefer, to elect’ is fully intelligible), Arabic *لَيْسَ* *laysa* ‘to not be’, Polish *widać* ‘to be able to be seen’, Portuguese *colorir* ‘to color’, Spanish *abolir* ‘to abolish’, among many others.

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191 Like *edi* ‘I put-AOR’ and *etu* ‘I gave-AOR’, their flexions point to the coexistence of sigmatic and asigmatic forms in the same paradigm, reminiscent of Slavic; their earlier pre-nasal loss forms were likely *\*edh<sub>3</sub>som* *\*edōsom*, earlier *\*edhēm* and *\*edōm* (Kortlandt 2003:81). Kortlandt (1996:40-41) also gives evidence for the idea that the sigmatic aorist spread at the expense of the root aorist at an early stage, when the present nasal infix was still productive and *\*s* had not yet changed to *\*h*.

192 A verb is said to be defective when it does not exhibit all the forms typical of a regular verbal conjugation following the morphological rules of a given language – but it differs from suppletion or mere irregular verbs in that it is missing some verb forms in certain (or most) persons and numbers. English has relatively few – *beware*, *quethe*, or *pend(ing)*. Both defective and suppletive verbs have morphologically irregular, opaque, and unpredictable forms (no good examples in English, but something like *\*quethe*/*\*quod*, *\*quethen*, from *quoth*, which now marginally only exists in the third person singular in past tense, Balabanian (2021), or the past participle of *wake* especially as a transitive, *woken* or *waked* or *woke*).

In a study on the decomposability of morphological forms in French verbs, Estivalet & Meunier (2015) found that their frequency effect is strong evidence that all inflected verbs in French are decomposed in visual modality<sup>193</sup> independent of their stem regularity and phonological realization. This frequency effect was interpreted by the researchers as the result of the recombination between the lexical information of the stem and the morphosyntactic features of the suffixes, explained by either an obligatory decomposition model (Halle and Marantz, 1993; Taft, 2004; Marantz, 2013) or a revised dual-route model similar to the minimalist morphology model (Wunderlich, 1996) that posits completely combinatorial and internally structured representations<sup>194</sup>. These decomposability issues may partly explain some of the dialectal verb forms we see, though these must be weighed against the possibility of some of these forms deriving from a pre-CA variant.

CA also had a set of verbs for which either partial or full suppletion occurred (*unim* ‘I have’, *kál* or *ká* ‘have!’, *dar̄nam* ‘I turn’ *dárj* or *darjír* ‘turn!’ for the imperative mood, note the *-j-* forms, the different rhotic phoneme is predictably a trill before a nasal). All dialects have at least partially continued this state, with some having created more defective verbs in specific tenses or persons (especially monosyllabic verbs<sup>195</sup>), and quite a number of them having leveled some of the irregularities.

SWA and to a similar extent, the modern Western dialects<sup>196</sup>, have somewhat large numbers of irregular verbs, e.g. *yellal* or *yellel* ‘to get up, come out’ (alternating roots *yel-* or *yell-*), *allal* ‘to be’ (*áll-*, *yek-*), *kal* ‘to come’ (*k-*, *yeg-*), *dal* ‘to give’ (*d-*, *du-*), *tar̄nal* ‘to turn’ (*tar̄n-* (formal) or *tarn-*, *tarts*), *tnel* ‘to put’ (*tn-*, *tr-*, *t-*), *yertal* ‘to go’ (*yert-*, *k-*, *kn-*), and others. In a frequency dictionary for SEA (Ghazaryan 1982), one can see that some of the most-used verbs are indeed irregular (such as *let*, *come*, *eat*, *take to*, *give*, *out*, *do*, *go*, *be*, *say*, *bring*, *turn into*, *wash*, etc.). Some authors (notably Postma) have pointed out a notable generalization about rhizotonicity and how having the stress on the root, rather than on an

193 Cf. Gold & Rastle (2007) and McCormick et al. (2009) on the decomposition of pseudowords and low-frequency words find that visual composition occurs before the lexical access stage.

194 A note on fragmentation analysis, further expounded by Baronian & Kulinich (2012), where they give a crosslinguistic (including French and WA data) theoretical account of defective verbs, which end up “caught” between word-formation strategies, because they partially behave like one paradigm and partially like another, without ever satisfying both participation conditions (such as numerous *-dre* and third conjugation *-ir* verbs in French). To take *frire* ‘to fry’ as an example, speakers are stuck among too many fragmented options for the stem consonant for plural person agreement, such as *\*frissons*, *\*frisons* [-z-], *\*frions*, *\*frivons*, or *\*fritons*, all of which are highly disfavored. This explanation has been applied to Ukrainian defective verbs, especially imperatives ending in *-povisty* (Kulinich 2018). Her research suggests that because the information is too fragmented, speakers try to synthesize a form (and fail), and end up switching paradigms as a gap repair strategy, but only if other strategies have been exhausted, such as periphrasis and synonym substitution (methodologically, the researchers allowed their 21 native speakers here to use periphrasis, substitution, and using a different verbal mood than from the one that was asked for).

195 See Kim (2021:166, 174) for the mysteriously de-reduplicated counterparts of reduplicated presents found in Greek and Indo-Iranian.

196 It is difficult to make definitive judgments on many of the dialects because we often do not have any comprehensive verb paradigms specifically for irregular (suppletive, deponent, defective, etc.) verbs.

inflectional desinence, may be the reason that languages such as Italian and Catalan<sup>197</sup> (which allow rhizotonic infinitives), seem to have no defective verbs (Nevins 2013, 2015), though a further investigation of this issue, at least for Italian, does reveal that there are indeed a few non-impersonal defective verbs with antepenultimate stress like *arrogere* ‘to add, to arrogate’, *benvolere* ‘to respect, to appreciate’, *colere* ‘to venerate, to revere’, *vertere* ‘to be about, to turn on, to concern oneself’, along with a few others. WA dialects have a hammock stress system, therefore this generalization can be said to hold. Unlike French, there is no restriction to just the third-person singular for many defective verbs.

### 4.3 Tenses by mood

In CA, the two verbal stems of the verbal system are associated with an aspectual distinction of present and aorist – traditional grammars tend to cite the present and aorist stems of any given verb since the two stems are predictable from the other. The present stem conveys the idea of an ongoing event or state, while the aorist stem signifies the perfective action or action perceived as a whole; in Klein (2007:1069)’s description, “the aorist stem signals perfective action or action viewed as a totality without internal constituency.” The two tenses that are formed from the present stem are the present indicative and the imperfect. The aorist indicative, however, is only used in the past tense. The stem and ending of a verb usually allow one to determine whether it is present or aorist indicative, though this is not always the case (Gasparyan 2000).

Most WA dialects kept the -c- aorist infix, though with some variation – Erznkay-Kharberd (identical to SWA in this respect) and Hamshen, for example, entirely regularized the system, whereas some dialects like Mush dropped this infix in all but the third person singular.

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197 Synchronically, unlike most other Romance languages whose conjugational groupings are explicitly defined in function of the theme vowels (Estivalet & Meunier 2015, Bermúdez-Otero 2013, see Myler (2015) for an opposing view), the French third conjugational group contains a merger of different Vulgar Latin verb endings along with the possibility of two or more stems within the same otherwise regular verbal paradigm – the third group can have two or more unpredictable stem allomorphs to which the suffixes are merged (e.g., [peu]t ‘he/she can,’ [pouv]ons ‘we can,’ [pu] ‘could,’ [puiss]e ‘I/he/she can’, for *pouvoir*, and [boi]rons ‘we will drink’ and [buv]ons ‘we drink’ for *boire*). Interestingly, Portuguese too has most of its defective verbs in the third conjugational group with notable exceptions such as *precar* ‘to guard against’ (Maiden & O’Neill n.d.). Though not generally considered defective by grammarians, French possesses a small set of verbs lacking certain tenses (generally the imperative) such as *accoutumer*, *bouillir*, *devoir*, *naître*, *pouvoir*, *provenir*, *renaître*, and *valoir* – and there is another larger set of 35 or so which are only used in the third person (verbs like *advenir*, *falloir*, *poindre*, *urger*, etc.) – many of the latter have forms which are not readily apparent to the L1 speaker. A point of contention between Baronian (2005) and Albright (2003)’s accounts is that the former rejects the latter’s insistence that the combination of unfamiliarity and uncertainty about a verb form is equated with defectivity (he provides French *clorre* ‘to close’ and *frir* ‘to fry’, Spanish *bulbucir* ‘to stammer’ and *abolir*, a handful of common SWA verbs which do not accept the expected preverbal indicative particle *gə* and many Russian verbs). But like Albright, Baronian rejects principles like homonymy avoidance and accepts that what causes the gap can be a combination of an exceptional morphophonological pattern combined with a generalization about the phonological class (Baronian 2005:158).



	CA	Erznkay	Hajin	Mush	Sasun	Aslanbeg
Verb	‘to lie’	‘to drink’	‘to write’	‘to sow’	‘to write’	‘to love’
1SG	xab-e-c <sup>c</sup> -i	xəm-e-c <sup>c</sup> -i	kəy-ie-c <sup>c</sup> -i	kar-i	krä-c <sup>c</sup> -ə	sir-e-c <sup>c</sup> i
2SG	xab-e-c <sup>c</sup> -e-r	xəm-e-c <sup>c</sup> -i-r	kəy-ie-c <sup>c</sup> -i-y	kar-i-r	krä-c <sup>c</sup> -ə-r	sir-e-c <sup>c</sup> i-r
3SG	xab-ea-c <sup>c</sup>	xəm-e-c <sup>c</sup>	kəy-ie-c <sup>c</sup>	kar-e-c <sup>c</sup>	krə-c <sup>c</sup>	sir-ea-c <sup>c</sup>
1PL	xab-e-c <sup>c</sup> -a-k <sup>c</sup>	xəm-e-c <sup>c</sup> -i-nk <sup>c</sup>	kəy-i-c <sup>c</sup> -o-nk <sup>c</sup>	kar-i-nk <sup>c</sup>	krä-c <sup>c</sup> -ə-k <sup>c</sup>	sir-e-c <sup>c</sup> -ã-nk <sup>c</sup>
2PL	xab-e-c <sup>c</sup> -ə-k <sup>c</sup> <sup>198</sup>	xəm-e-c <sup>c</sup> -i-k <sup>c</sup>	kəy-ie-c <sup>c</sup> -i-k <sup>c</sup>	kar-i-k <sup>c</sup>	krä-c <sup>c</sup> -ə-k <sup>c</sup>	sir-e-c <sup>c</sup> -i-k <sup>c</sup>
3PL	xab-e-c <sup>c</sup> -i-n	xəm-e-c <sup>c</sup> -i-n	kəy-ie-c <sup>c</sup> -i-n	kar-i-n	krä-c <sup>c</sup> -ə-n	sir-e-c <sup>c</sup> -i-n

Table 22: Comparison of the aorist in CA and some modern dialects

### 4.3.1 Indicative (present, imperfect, aorist)

CA had a rich system of verbal conjugations, with several different forms for the present, past, and future tenses, as well as forms for the imperative and subjunctive moods. The conjugations are marked by the use of suffixes and infixes, which indicate the person, number, and mood of the verb. The CA verbal system was synthetic, and most dialects of both the Eastern and Western groups (though to a lesser extent in the Western group) developed new analytic methods to fill in the morphosemantic gaps created by the loss of various fusional markers.

On the origin and development of the aorist stem in CA, there has been much research in recent years (Klingenschmitt 1982:266-287, Martirosyan 2018, Kim 2018a, Kortlandt 1987a, 1995, 2018, Vaux 1995, Viredaz 2018, Kocharov 2018, 2019, 2022b). The consensus view is that the Armenian weak aorist (‘weak’ here meaning suffixed) is, for the most part, a continuation of the PIE iterative imperfect (Fortson 2011:392) in \*-s<sup>k̑</sup>/o-; the third person mediopassive aorist ending in -w is a direct descendant of the PIE past-tense middle ending \*to, -an in the plural is from PIE \*-nto (>\*-anto, then -an after the loss of the final syllable<sup>199</sup>). The only traces left of the original PIE imperfect are the strong aorists (also called “shifted aorists”) as 3SG *eber* ‘carried’, *nstaw* ‘sat (down)’, *eharc*<sup>200</sup> ‘asked’ and a handful of others (Kim 2018a:122). These shifted aorists persist in a handful of frequently-used verbs and typically do not receive the -c<sup>c</sup> aorist suffix (Godel 1975:38, 43ff; Thomson 1989:48, 90; Olsen 2017:1093). The indicative aorist is also a repository of difficult-to-explain changes or disappearances of certain segments, such as *hari* ‘I struck, hit’ instead of \**harki*, from *harkanel* (< \**p̑rg*, Ačarean 1959:312, 1977:52).

198 *Xabec<sup>c</sup>ik<sup>c</sup>* is also attested.

199 For a treatment of final syllable loss in CmA in early loanwords from Syriac, see Macak (2016:183).

200 For this verb, this -c<sup>c</sup> is part of the stem and is not related to the weak aorist -c<sup>c</sup> suffix.

Theme	Verb category	Active conjugation 1SG -c <sup>ç</sup> i, 2SG -c <sup>ç</sup> er, 3SG -eac <sup>c201</sup> /-(i)c <sup>ç</sup> 1PL -c <sup>ç</sup> ak <sup>ç</sup> , 2PL -c <sup>ç</sup> ēk <sup>ç</sup> /-c <sup>ç</sup> ak <sup>ç</sup> , 3PL -c <sup>ç</sup> in	Mediopassive conjugation 1SG -c <sup>ç</sup> ay, 2SG -c <sup>ç</sup> ar, 3SG -c <sup>ç</sup> aw 1PL -c <sup>ç</sup> ak <sup>ç</sup> , 2SG c <sup>ç</sup> ayk <sup>ç</sup> /aruk <sup>ç</sup> , 3PL -c <sup>ç</sup> an
-e-	all verbs	✓	<i>čanač<sup>ç</sup>el</i> ‘to know’, <i>melanč<sup>ç</sup>el</i> ‘to sin’, <i>yanc<sup>ç</sup>anel</i> ‘to err’, <i>yarnel</i> ‘to rise’
-i-	all verbs		✓
-a-	simple verbs	✓	
	derived verbs	<i>banal</i> ‘to open’, <i>bar<sup>ç</sup>nal</i> ‘to lift up, raise, turn away’, <i>luanal</i> ‘to wash’	✓
-u- (-aw-)	simple verbs	✓	<i>hanul</i> ‘to remove’, <i>hinul</i> ‘to admire’
	derived verbs	<i>arnul</i> ‘to receive, take’, <i>ənkenul</i> ‘to hurl’, <i>lnul</i> ‘to fill’, <i>xnul</i> ‘to cork’	✓

Table 23: Selection of the aorist form based on theme vowel and verb derivation type in CA, adapted from Minassian (1976:175); note that c<sup>ç</sup>-less aorist forms are not included

In CA, the aorist actually had two sets of personal endings depending on voice, as shown in Table 24. Since dialects overwhelmingly restructured the way passives are created, these desinence distinctions fell out of use relatively early.

Tense\Person	1SG	2SG	3SG	1PL	2PL	3PL
Active aor.	dit-e-c <sup>ç</sup> -i	dit-e-c <sup>ç</sup> -er	dit-ea-c <sup>ç</sup>	dit-e-c <sup>ç</sup> -ak <sup>ç</sup>	dit-e-c <sup>ç</sup> -ēk <sup>ç</sup> <sup>202</sup>	dit-e-c <sup>ç</sup> -in
Mediopass. aor.	dit-e-c <sup>ç</sup> -ay	dit-e-c <sup>ç</sup> -ar	dit-e-c <sup>ç</sup> -aw	dit-e-c <sup>ç</sup> -ak <sup>ç</sup>	dit-e-c <sup>ç</sup> -ayk <sup>ç</sup>	dit-e-c <sup>ç</sup> -an

Table 24: CA verbal endings by voice in the aorist

Some of the reconstructed forms below are based on Viredaz (2018), Klingenschmitt (1982), and Bonfante (1942) (-k<sup>ç</sup> is an Armenian-internal innovation between PA and CmA). The CA aorist forms *etu* ‘I gave’ and *tuak<sup>ç</sup>* ‘we gave’ have been replaced by *etu-i* and *etua(n)k<sup>ç</sup>* respectively in inscriptions from the northeast region of historical Armenia of the 11<sup>th</sup> century onwards. These forms deviate from MA, where one finds *tui* and *tuak<sup>ç</sup>*, respectively. Avagyan (1986:134-142) discusses the inscriptional material and concludes that the vowel *e-* of these forms is due to the insufficient or grammatically incorrect knowledge of the authors of these inscriptions, as by the 11<sup>th</sup> century, the rigidly codified CA written norm was likely quite different from their native dialects. However, Martirosyan (2018:154, 2020) points

201 Reduction to -ec<sup>ç</sup> attested starting from the 8<sup>th</sup> c. (Mkrtč<sup>ç</sup>yan & Xaç<sup>ç</sup>atryan 2016:126).

202 Dit-e-c<sup>ç</sup>-i-k<sup>ç</sup> is also attested.

out that these inscriptional forms are directly confirmed by data from Aramo (Syria), the farthest and most isolated dialect in the extreme southwestern group. Here we find *ədva* ‘I gave’ and *ədvunk<sup>c</sup>* ‘we gave’, which, according to regular phonological developments of this dialect, reflect Armenian *etu-i* and *etuank<sup>c</sup>* respectively and are thus identical with *etu-i* and *etuank<sup>c</sup>* found in inscriptions.

Dialect	1SG	2SG	3SG	1PL	2PL	3PL
PA <sup>203</sup>	*edōsom	*edōset	*edōt <sup>204</sup>	*edōmes	*edōte <sup>205</sup>	*edōsṅ(t)
pre-CmA	*etúy(o)	*etudu	*etu	*etuyak <sup>c</sup>	*etuyk <sup>c</sup>	*etun <sup>206</sup>
CA	etu	etur	et	tuak <sup>c</sup>	etuk <sup>c</sup>	etun
post-CA (11-13 <sup>th</sup> c.)	ētvī, ētui	?	?	etuak <sup>c207</sup> , ētvank <sup>c208</sup>	?	?
MA	tui	tuir	etur, eret, tuaw	tuak <sup>c</sup>	tuik <sup>c</sup>	tuin
Proto-Aramo	*etui	*etue(r)	*etu	*etua(n)k <sup>c</sup>	*etuik <sup>c</sup>	*etuin
Aramo	ədva	ədvey	ida	ədvunk <sup>c</sup>	ədväk <sup>c</sup>	ədväyn
Kabusiye	dəva	dəvir	ideyr	dəvuk <sup>c</sup>	dəvāk <sup>c</sup>	dəveyn
Edesia-Urha	dəvi	dəvir	dəvec <sup>c</sup>	?	?	?
Proto-Svedia	*tui	*tuer	*etur	*tuank <sup>c</sup>	*tuik <sup>c</sup>	*tuin
Svedia	dəva	dəvir	idör	dəvunk <sup>c</sup>	dəvāk <sup>c</sup>	dəven
Proto-Zeytun	*tui	*tuir	*tuaw	*tuank <sup>c</sup>	*tuik <sup>c</sup>	*tuin
Zeytun	dəve	dəvey	dəvov	dəvōnk <sup>c</sup>	dəvek <sup>c</sup>	dəven
Constantinople	duvi	duvir	duvav	duvink <sup>c</sup>	duvik <sup>c</sup>	duvin

203 The -s- extensions found in 1SG and 2SG are explained by Bonfante (1942:102) and Barton (1965:47-48, 1989:146-147) by parallel with Old Church Slavonic “sigmatic type aorists”, *daxŭ* (< \**dōsom*) ‘I gave-AOR’, but *da* (< \**dōt*) ‘s/he gave-AOR’; *děxŭ* (< \**d<sup>h</sup>ēsom*) ‘I put-AOR’, but *dě* (< \**d<sup>h</sup>ēt*) ‘s/he put-AOR’, but note that PA spread this to 2SG, unlike OCS. This must have been a late PIE dialectal isogloss, as it exists in Indo-Iranian and Albanian (Orel 1998:157). The loss of -VsV- in PA must have occurred very early, as it is treated the same as \*-eu- (thus, \**esu* > \**ehu* > \**eu*, compare *k<sup>o</sup>yr* ‘sister’ and Indo-Aryan \**swásā*, Lithuanian *sesuō*, Latin *soror*, versus *loyc* ‘liquid, fluid, loose, free’ and Ancient Greek *λευκός* ‘bright, shining, gleaming, white, pale’, which represent original inherited forms of \*-eu-). Barton (1965:48, 67) also reconstructs 1SG and 3SG as \**edōsom* and \**edōt*, respectively.

204 Kortlandt 1996:41; other PA reconstructions my own. For possible CmA reconstructions, see Viredaz (2018:188).

205 Sigmatic reconstruction given here. Otherwise, the PA would be would \**edōste*, which would still lead to the same result via regular sound change (Bonfante 1942:105).

206 Following Bonfante (1942:105), from early PA to CA: \**edōsṅ(t)* > \**edōsan* > \**edōhan* > \**edōhn* > \**edōn* > \**edun* > *etun*.

208 The fact that polysyllabic forms can receive the augment in some texts can either mean an actual modification of the speaker’s grammar with a subsequent spreading of this rule, or a loss of productivity of this rule with an inconsistent, overzealous application of an unacquired rule.

207 Also *ētuak<sup>c</sup>* found in some inscriptions.

SWA	dəvi	dəvir	dəvav	dəvink <sup>c</sup>	dəvik <sup>c</sup>	dəvin
Hamshen	dəvi	dəvir	dəvav, ɛɛd	dəvak <sup>c</sup>	dəvik <sup>c</sup>	dəvin
Mush	təv(ɛc <sup>c</sup> )i	təv(ɛc <sup>c</sup> )ir	təvec <sup>c</sup>	təv(ɛc <sup>c</sup> )ink <sup>c</sup>	təv(ɛc <sup>c</sup> )ik <sup>c</sup>	təv(ɛc <sup>c</sup> )in
Sasun	dəvāc <sup>c</sup> ə	dəvāc <sup>c</sup> ər	dəvēc <sup>c</sup>	dəvāc <sup>c</sup> ək <sup>c</sup>	dəvāc <sup>c</sup> ək <sup>c</sup>	dəvāc <sup>c</sup> ən
Van	təv(ic <sup>c</sup> )i	təv(ic <sup>c</sup> )ir	təvec <sup>c</sup> , itu(r)	təv(ic <sup>c</sup> )ink <sup>cy</sup>	təv(ic <sup>c</sup> )ik <sup>cy</sup>	təv(ic <sup>c</sup> )in
Moks	təvə	təvir	itu	təvink <sup>cy</sup>	təvik <sup>cy</sup>	təvin
Shatakh	təvi	təvir	itu	təvink <sup>cy</sup>	təvik <sup>cy</sup>	təvin
col. SEA	təvi	təvir	təvav	təvink <sup>c</sup>	təvik <sup>c</sup>	təvin
SEA	təvec <sup>c</sup> i	təvec <sup>c</sup> ir	təvec <sup>c</sup>	təvec <sup>c</sup> ink <sup>c</sup>	təvec <sup>c</sup> ik <sup>c</sup>	təvec <sup>c</sup> in
Agulis	təvəm	təvəs	_ <sup>209</sup>	təvek <sup>c</sup>	təvek <sup>c</sup>	təvən
Shamakhi	tur/vi	tur/vir	utur, tur/vav	turink <sup>c</sup>	turik <sup>c</sup>	turin
Krzen	tə/uvi	tə/uvir	əret, təvuc <sup>c</sup>	tə/uvink <sup>c</sup>	tə/uvik <sup>c</sup>	tə/uvin
Hadrut	tuvɛ	tuver	tu/əvav	tuvək <sup>cy</sup>	tuvək <sup>cy</sup>	tuvən
Loři	təvi	təvir	təvuc <sup>c</sup>	təvink <sup>c</sup>	təvik <sup>c</sup>	təvin
Maragha	tuv/řum	tuv/řir	tuv/řic <sup>c</sup>	tuv/řunk <sup>c</sup>	tuv/řuk <sup>c</sup>	tuv/řun

Table 25: Comparative verbal morphology of *tal* ‘to give’ in the present indicative tense; EA dialects in light green (data mostly from Martirosyan 2014:345, 2018, 2019, and Łaribyan 1958a)

The CA future was formed either by using an adverb or, by context, using either the present subjunctive (*i vatiw grabar ant<sup>c</sup>eric<sup>c</sup>em*, ‘[at/in] tomorrow I will read Grabar’) for an ongoing action that possibly happens in the future or aorist subjunctive (based on the fact that its endings were somewhat similar to the indicative aorist endings) for a single occurrence that possibly happens in the future, e.g. *i vatiw srowak ginwoy arabic<sup>c</sup>*, ‘[at/in] tomorrow I will drink a bottle of wine’. Vaux (1995c) argues that due to the smaller functional load and its idiosyncratic desinences, the aorist subjunctive fell out of use quite early during the classical period and was replaced by a host of strategies that were more integrated with the verbal system. According to Weitenberg (1993), the present subjunctive disappears even before the old aorist subjunctive. In MA, we first see the *gu* particle being used either for the present or future (or we can say nonpast, though it eventually spread to the imperfective past), with an interesting phase in which it became productive to use a light verb (Karst 1901:300, originally a full verb in CA *kamil*, ‘to will, to want, to intend, to mean’ (Petrosian 1879), compare with the volitional auxiliary in English *will*), which could either be placed before or after the infinitival form of the verb, as

<sup>209</sup> There is no 3SG in the aorist according to Ačařean (1935).

seen in Table 26. Hamshen is the only modern dialect to have kept using the *kamil*-based light verb model alongside other forms of futures.

	grammaticalized light verb	particle	preposed light verb	postposed light verb
‘I (will) love’	ga-m u sir-e-m	gu sir-e-m	gam-i-m sir-e-l	sir-e-l gam-i-m

Table 26: Development of light verbs in MA

A side-note regarding phonology – CA had two mid-front vowels, one graphically represented as  $\bar{\epsilon}$ , transliterated as /e/, denoting [ɛ], which diphthongizes soon after the 5<sup>th</sup> c.<sup>210</sup> if word-initial (thus [ɛ-] becomes [jɛ-]); the other being a higher mid vowel, graphically represented as  $\bar{\epsilon}$ , transliterated as /ē/, denoting [e], which never diphthongizes (though derives though a CmA diphthong \*ei/\*ey, Godel 1975:6). Most modern WA dialects have leveled the quality but kept the diphthongization difference.

	CmA	CA	Aslanbeg	Artial	Xtrbek	Crimea	Aramo	SWA
1SG	*sireyi	sirēi	gə sirim	gi sirem	geu sirim	kʼi sirim	hay <sup>211</sup> sireym	gə sirem
2SG	*sireyir	sirēir	gə siräs	gi siris	geu siris	kʼi siris	hay sireys	gə sires
3SG	*sireyr <sup>212</sup>	sirēr	gə sirä	gi sire	geu siri	kʼi sire	hay sirey	gə sire
1PL	*sireyak <sup>c</sup>	sirēak <sup>c</sup>	gə sirink <sup>c</sup>	gi sirink <sup>c</sup>	geu sirənk	kʼi sirink <sup>c</sup>	hay sireynk <sup>cy</sup>	gə sirenk <sup>c</sup>
2PL	*sireyik <sup>c</sup>	sirēik <sup>c</sup>	gə siräk <sup>c</sup>	gi sirik <sup>c</sup>	geu sirək	kʼi sirik <sup>c</sup>	hay sireyk <sup>cy</sup>	gə sirek <sup>c</sup>
3PL	*sireyin	sirēin	gə sirin	gi sirin	geu sirin	kʼi sirin	hay sireyn	gə siren

Table 27: Cross-dialectal and diachronic comparison of *e*-theme verbal endings in the present indicative active

210 There is disagreement on the date. Weitenberg (1996:100-102, 2008) supports a 5<sup>th</sup>-century date, whereas Schmitt (1981:30) says that it is a post-CA development; in whichever case, the early 10<sup>th</sup> century is a *terminus ante quem* for diphthongization since it is attested in the Autun glossary.

211 Given as *hæy* in Łaribyan 1958a:40 because of vowel harmony rules in this dialect.

212 This reconstruction is easiest based on CA data; however, based on the very rare *-iwr* variant of certain *e*-theme verbs extant perhaps as a dialectal variant during the fifth century (Buzand uses *kocʼiwr* instead of *kocʼēr* ‘is called’ twice, 3-20:3 and 4-11:2, remarked on by Dhahukyan 1972:179), it becomes difficult but not impossible to derive *-iwr* from *\*-eyr*. Alternatively, this *-iwr* form is an early medieval variant found in the Taron-Karin region that seeped into later manuscript copies of Buzand’s 5<sup>th</sup>-century text, as it is found in Asoghik (born in Taron) and Lastivertsi (born in or near Karin, the traditional heart of WA, at least in political terms).

Pers.	pre-CA/CmA	intermediate stage	CA
1SG	*nstriyi	*nstii	nstēi
2SG	*nstriyir	*nstiir	nstēir
3SG	*nstriyr	*nstir	nstēr
1PL	*nstriyak <sup>c</sup>	*nstiak <sup>c</sup>	nstēak <sup>c</sup>
2PL	*nstriyik <sup>c</sup>	*nstiik <sup>c</sup>	nstēik <sup>c</sup>
3PL	*nstriyin	*nstiin	nstēin

Table 28: Reconstruction of *i*-theme verbal endings in the active past imperfect

In most WA dialects, except a few defective verbs, verbs are inflected in five simple indicative tenses (which we can further reduce to just three distinct forms, since the present and past imperfect are composed of *gə* + subjunctive, the future and past future are composed of *bidi* + subjunctive, and the aorist is an inherited ancient form), as seen in the table below.

Tense\Pers.	1SG	2SG	3SG	1PL	2PL	3PL
Present	gə k <sup>c</sup> n-e-m	gə k <sup>c</sup> n-e-s	gə k <sup>c</sup> n-e	gə k <sup>c</sup> n-e-nk <sup>c</sup>	gə k <sup>c</sup> n-e-k <sup>c</sup>	gə k <sup>c</sup> n-e-n
Past imp.	gə k <sup>c</sup> n-e-i	gə k <sup>c</sup> n-e-i-r	gə k <sup>c</sup> n-e-r	gə k <sup>c</sup> n-e-i-nk <sup>c</sup>	gə k <sup>c</sup> n-e-i-k <sup>c</sup>	gə k <sup>c</sup> n-e-i-n
Future	bidi k <sup>c</sup> n-e-m	bidi k <sup>c</sup> n-e-s	bidi k <sup>c</sup> n-e	bidi k <sup>c</sup> n-e-nk <sup>c</sup>	bidi k <sup>c</sup> n-e-k <sup>c</sup>	bidi k <sup>c</sup> n-e-n
Past future	bidi k <sup>c</sup> n-e-i	bidi k <sup>c</sup> n-e-i-r	bidi k <sup>c</sup> n-e-r	bidi k <sup>c</sup> n-e-i-nk <sup>c</sup>	bidi k <sup>c</sup> n-e-i-k <sup>c</sup>	bidi k <sup>c</sup> n-e-i-n
Aorist	k <sup>c</sup> n-e-c <sup>c</sup> -i	k <sup>c</sup> n-e-c <sup>c</sup> -i-r	k <sup>c</sup> n-e- c <sup>c</sup>	k <sup>c</sup> n-e-c <sup>c</sup> -i-nk	k <sup>c</sup> n-e-c <sup>c</sup> -i-k	k <sup>c</sup> n-e-c <sup>c</sup> -i-n

Table 29: Simple indicative tenses in SWA

SWA and all modern dialects also have a large set of complex tenses – generally combinations of participles, negation, evidentiality, and the past/non-past distinction. The semantic flavor and often the constituent parts differ among the dialects, but SWA is quite representative of what the system looks like. In Table 30, I use AGR to refer to person, number, and tense agreement.

Complex ind. tense	First-person sing.	Morphemic template
PRES PROG	gə k <sup>c</sup> n-e-m gor	IND+V-TH-AGR+PROG
PST IMPF PROG	gə k <sup>c</sup> n-e-i gor	IND+V-TH-AGR+PROG
NEG IND PRES	č <sup>c</sup> -e-m k <sup>c</sup> n-er	NEG-AUX-AGR+V-TH-CNEG
NEG IND PST IMPF	č <sup>c</sup> -e-i k <sup>c</sup> n-er	NEG-AUX-AGR+V-TH-CNEG

NEG IND PRES PROG	č <sup>c</sup> -e-m k <sup>c</sup> n-er gor	NEG-AUX-AGR+√-TH-CNEG+PROG
NEG IND PST IMPF PROG	č <sup>c</sup> -e-i k <sup>c</sup> n-er gor	NEG-AUX-AGR+√-TH-CNEG+PROG
PRES PERF	k <sup>c</sup> n-adz e-m	√-RES+AUX-AGR
NEG PRES PERF	č <sup>c</sup> -e-m k <sup>c</sup> n-adz	NEG-AUX-AGR+√-RES
EVD PRES PERF	k <sup>c</sup> n-er e-m	√-EVD+AUX-AGR
EVD NEG PRES PERF	k <sup>c</sup> n-er č <sup>c</sup> -e-m <sup>213</sup>	√-EVD+NEG-AUX-AGR
PLPF	k <sup>c</sup> n-adz e-i	√-RES+AUX-AGR
NEG PLPF	k <sup>c</sup> n-adz č <sup>c</sup> -e-i	√-RES+NEG-AUX-AGR
EVD PLPF	k <sup>c</sup> n-er e-i	√-EVD-PTCP+AUX+AGR
EVD NEG PLPF	k <sup>c</sup> n-er č <sup>c</sup> -e-i	√-EVD-PTCP+N-AUX+AGR
PROS PRES	k <sup>c</sup> n-e-lu e-m	√-TH-FUT.PTCP+AUX-AGR
PROS IMPF PST	k <sup>c</sup> n-e-lu e-i	√-TH-FUT.PTCP+AUX-AGR
NEG PROS PRES	k <sup>c</sup> n-e-lu č <sup>c</sup> -e-m	√-TH-FUT.PTCP+NEG-AUX-AGR
NEG PROS IMPF PST	k <sup>c</sup> n-e-lu č <sup>c</sup> -e-i	√-TH-FUT.PTCP+NEG-AUX-AGR
PROS PST PERF	bidi k <sup>c</sup> n-adz əll-a-m	FUT+√-RES+AUX-TH-AGR
NEG PROS PST	bidi k <sup>c</sup> n-adz č <sup>c</sup> -əll-a-m	FUT+√-RES+NEG-AUX-TH-AGR
PROS RES PST	bidi k <sup>c</sup> n-adz əll-a-yi	FUT+√-RES+AUX-TH-AGR
NEG PROS RES PST	bidi k <sup>c</sup> n-adz č <sup>c</sup> -əll-a-yi	FUT+√-RES+NEG-AUX-TH-AGR

Table 30: Compound indicative tenses, all in first person singular

There are also interesting archaisms in the aorist paradigm – the *-a-* in 1PL *-əak<sup>c</sup>-* (or *-yak<sup>c</sup>-* for *a*-theme and *-uak<sup>c</sup>* for the *u*-theme) persists in a small number of dialects, and the rest have all analogically eliminated it (see Table 31 – Kharberd/Yerznka *g'arel* ‘to write’ from Bałramyan 1960:22; Chmshgadzak *k'ašel* ‘to pull’ data from *ibid.*:27-30, for Charsanchag *varvil* ‘to behave, be treated’, see *ibid.*:41; for Hamshen, see Ačařean 1947:136-139, and for Akn, see Ačařean 1911:223). Note that Charsanchag, Chmshgadzak, Dersim, Kharberd, and Yerznkay are a closely-related dialect continuum; here the latter two are the most innovative. Charsanchag eliminated this *-a-* for its *e*-theme verbs, but maintained it for *i*-theme verbs; Hamshen is likely the most archaic of this bunch, since it did not participate in the nasal insertion rule for 1PL, though Martirosyan (2019b:201) rightly points out that in Hamshen, we see the analogical insertion of *-i/y-*, and suggests that the nasal insertion rule occurred rather late, as many peripheral dialects lack it.

213 Not accepted by all speakers; disambiguating context generally needed.

Pers.	CA	Akn	Hamshen	Chmshgadzak	Charsanchag	Kharb./Yerz.
1SG	utēi	g'ūdei	g'udeyə	gə k'aše	gə varvei	gə g'ərei
2SG	utēir	g'ūdeir	g'udeyd(ə)	gə k'ašeir	gə varveir	gə g'əreir
3SG	utēr	g'ūder	g'uder	gə k'ašer	gə varver	gə g'ərer
1PL	utēak <sup>c</sup>	g'ūdeank <sup>c</sup>	g'udayk <sup>c</sup> ə	gə k'ašeank <sup>c</sup>	gə varveank <sup>c</sup>	gə g'əreink <sup>c</sup> y
2PL	utēik <sup>c</sup>	g'ūdeik <sup>c</sup>	g'udéyə	gə k'ašeik <sup>c</sup>	gə varveik <sup>c</sup>	gə g'əreik <sup>c</sup> y
3PL	utēin	g'ūdein	g'udéyə	gə k'ašein	gə varvein	gə g'ərein

Table 31: Comparing the *-a-* 1PL IND IMPF archaism in several dialects

In Erzmkay, which maintains the archaic 1PL *-a-*, the use of the aorist with future meaning denotes an action that will take place without fail (Greppin & Khachaturian 1986:35). There are many phrasal verbs, such as *k'ellan dus* (<*durs elnel*) 'they go out', with the consonant *-r-* dropped; *bad mə gə šarin aler* 'they were building a wall' – with the phrasal verb *bad šarel* 'to build a wall'– the use of a present tense with the semi-auxiliary *aler* in the imperfect indicates a continuous action in the past.

	Eudokia	cf. CA	cf. SWA
1SG	gə mn-ay-i- <b>m</b>	mn-ay-i	gə mn-ay-i
2SG	gə mn-ay-i-r	mn-ay-ir	gə mn-ay-i-r
3SG	gə mn-a-r	mn-ay-r	gə mn-a-r
1PL	gə mn-ay-a-nk <sup>c</sup>	mn-ay-ak <sup>c</sup>	gə mn-ay-i-nk <sup>c</sup>
2PL	gə mn-ay-i-k <sup>c</sup>	mn-ay-ik <sup>c</sup>	gə mn-ay-i-k <sup>c</sup>
3PL	gə mn-ay-i-n	mn-ay-in	gə mn-ay-i-n

Table 32: Indicative imperfect in Eudokia

Regarding the aorist, there are two major innovations, namely, the *m*-aorist which is entirely confined in southeastern EA dialects (Salmast, Payajuk, Urmia, Agulis, Astapat, Tsghna, Khoy, Tabriz, Maragha, Astraxan, and perhaps Gerdz) and the *c*'-less aorist (the complete loss of the *-c'*- infix in the aorist, e.g. *Mush karir* vs. SWA *krec'ir* 'you wrote'), an innovation which spans large chunks of the southern portion of the Armenian Highlands, covering a small number of WA (Xnus, Bulanix, Mush, Xlat, Baghesh, Manazkert, and Arjesh) and EA (Mehtishen, Tsghna, Agulis, Tabriz, Maragha, Urmia, Payajug, and Tehran though only for *e*-theme verbs (Dolatian, Sharifzadeh & Vaux 2023b:121) dialects.



### 4.3.2 Conditional (past, non-past)

CA had no dedicated conditional morphology – a variety of undeclinable particles were used to indicate conditionality, most commonly *et'ē* or *t'ē*, likely related to Lithuanian *te* ‘may, let’ (used to indicate optative mood), Tocharian A *ca-*, Tocharian B *ca*, and Ancient Greek *τῆ*. A cross-dialectal breakdown is given in Section 5.1.3.

In MA, in formal writing, the *ku/gu* particle was used in the conditional mood as well; thus, without additional context, there would have been no morphological difference between the indicative present or imperfect with the conditional present or past (Mkrtč'yan & Xaç'atryan 2016:254), hence there is no surprise that various innovations occurred in the dialects which are covered in Section 5.1.2.

Colloquial SWA, which likely inherited this from the local Constantinople speech it was supposedly based on, has a curious case of double-headed complementation: in its most basic formulation, both *yet'e* and *ne* can be translated as ‘if’ and can introduce a conditional embedded clause, though a closer look at the enclitic *-ne* reveals that it heads a range of CPs and can mean *if*, *when*, or *ever* depending on its environment and it sometimes co-occurs with a head-initial complementizer in the same extended CP domain, resulting in the same interpretation as the phrase with only one of the C heads (Khanjian, 2013b:17):

1. *Yet'e* dun yert'am *ne*, bidi xmem. SWA  
if home go.SUBJ.1SG if, will.drink.1SG  
'If I go home (if), I will drink.'

On the diachrony of *ne*: since it is used far less often in the EA dialects,, one would suspect *a priori* that it is a Turkish-loaned element (WA has numerous morphosyntactic elements loaned<sup>214</sup> from the long period of Ottoman Turkish<sup>215</sup> domination, such as the diathetic derivation of verbs, a very similar NP-internal syntax<sup>216</sup>, emphatic reduplication, *m-* or echoic-reduplication, questionably the *-gor* continuous-progressive verbal particle (Donabédian-Démopoulos 2001a, discussed in Section 5.1.3), along with thousands of lexical items and calqued expressions, etc.). Indeed, even Vaux (1993) hints at this possibility in an article mentioning the *ne* marker while discussing the Aslanbeg dialect, but he

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214 Another theory, now no longer seen as justifiable, is that it was a loan from Avar or Laz/Lezgian (Northeastern Caucasian) *-ni* (Ačařean 1913:812, Khalilov 2023 for a dictionary verification).

215 In general, all forms of Armenian show significant Oghuz Turkic influence, even those dialects currently or erstwhile located far from Turkic influence, such as Suceava (Romania), Kutuy and Lviv (Ukraine), the numerous Nor Nakhichevan (Russia) varieties, Tiflis (Georgia), and the subdialects of New Julfa spoken in India, were once in Turcophone areas for extended periods (Vaux & Hopkins *under review*:33).

216 See Vaux & Sigler 2000 for a discussion on the slight differences between the formation of nominalized relative clauses in SEA/SWA and Turkish.



work-DAT go.PAST.3SG some.ABL hour.DAT.DEF  
 ‘S/he went to work at some time.’

5. Follow-up question: Yerp<sup>c</sup>? / \*ne?  
 When / \*NE  
 ‘When?’

Yet if we write out the elided question in full, both *yerp<sup>c</sup>/yet<sup>e</sup>* and *ne* become optional, so long as one is overtly pronounced (the surface syncretism between the two different types of questions can usually be clarified by context, SWA shown):

- |   |   |
|---|---|
| <p>6. (Yerp<sup>c</sup>) k<sup>c</sup>ordz-i yega-v (ne)<br/>         When work-DAT come.PAST.3SG if...<br/>         ‘When she came to work...’</p> | <p>7. (Yete) k<sup>c</sup>ordz-i yega-v (ne)...<br/>         If work-DAT come.PAST.3SG if...<br/>         ‘If she came to work....’</p> |
|---|---|

Donabédian-Demopoulos (2018) describes this sort of complementizer concord and the emergence of a clausal enclitic conditional marker as contact-induced phenomena and evidence of areal features through linguistic diffusion, seen especially in hypothetical constructions and temporal subordination. She cites Haig (2001:203), who gives examples in Turkish, Laz (Kartvelian), Kurmanji (Indo-Iranian, a dialect of Kurdish), and Zazaki (Indo-Iranian); to take just one Turkish example:

8. Bir iş eğer ki ciddiyet gerektiriyor-sa, ona gereken ciddiyeti göstereceksin.  
 One job if that seriousness require.2SG-if, he.ACC required business show.IMP.2SG  
 ‘If a job requires seriousness; you will show him the necessary seriousness.’

Here, *eğer*<sup>219</sup> introduces the conditional clause which is buttressed by both *ki* and the enclitic *-sa*, with a structure [IF[THAT [[a job requires seriousness] IF]], you will show him/her/it the necessary seriousness], which some speakers may optionally rephrase as [IF it is the case [THAT a job requires seriousness], you will show him/her/it the necessary seriousness]. Since I lack access to the majority of these now-dead WA dialects, I cannot conduct a sociolinguistic analysis that would allow me to say anything with certainty regarding the distributional rules.

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219 This Turkish use of *eğer* (which was borrowed from Persian اگر *agar* ‘if, since, given that’) is different from the erstwhile similar-sounding ([eɣæɾ] > [ejæɾ] > [æ:r] by the 21<sup>st</sup> century; Constantinople [(j)ɛkɛɾ]) evidential marker *yekɛr* used in some Asia Minor dialects, which is a grammaticalized form of the evidential participle of the auxiliary *allal*.

### 4.3.3 Optative/subjunctive (present, aorist)

The subjunctive mood in CA expressed actions or states that are hypothetical, uncertain, potential, or contrary to fact. It combines the values of both the PIE subjunctive (used to express an eventuality or an expectation, hence also as a future) and optative<sup>220</sup> (used to express wishes and conditions); hence Klein (2007:1072) suggests that the CA subjunctive mood could, in principle, be the semantic continuation either of these. The subjunctive was often used in dependent clauses to indicate the speaker's doubt, wish, or desire regarding the action or state described in the clause. There are only two tenses: the present (or non-past) and the aorist (or past). These forms were morphologically related in that they shared a common aorist suffix (see Table 33), but the present subjunctive was used more frequently in earlier stages of the language, while the aorist subjunctive gradually replaced it over time. Although the subjunctive forms were originally distinguished by aspect (imperfective and perfective) in PA, the aspectual contrast had become less important by the time of CA, and the two forms were primarily used to convey the subjunctive mood.

In CA texts, the Greek future was often translated by the aorist subjunctive (Krause & Slocum 2022) as seen, for example, in Dawit's the Grammarian's *Ars Grammatica* *kop'ec'ic'*, *kop'esc'is*, and *kop'esc'e* for τῶψω, τῶψεις, and τῶψει 's/he will strike, smite, beat' (Adontz 1970:46-47), and native treatments of Armenian grammar have often called the active present subjunctive as the "first future tense" and the active aorist subjunctive as the "second future tense" (Lauer 1883:82-84, Minassian 1976:216, 221).

The alternation we see in the second person aorist plural for both voices  $c' \rightarrow j$ , such as pre-PA/post-PIE  $b^h\text{eroi-ske-d}^h\text{h}_2\text{we} > *beric'ijik' > *beric'jik' > berjik'$  does not appear to survive in any dialect as it was likely no longer a productive process by the 5<sup>th</sup> century.

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220 It has been suggested by Barton (1965:10) that in during the PA era, when verbs analogically acquired active indicative endings, the optative eventually ceased to exist and obtained a plain indicative meaning, e.g. PA *\*atiya-mi* 'may I be hateful to...' > CmA/CA *ateam* 'I hate'.



SEA backformed *ararel* ‘to do, create (poetic)’ from *-arar*, an agentive noun suffix, based on the old aorist stem.

Voice distinctions are maintained for *e-* and *i-*themed verbs and even extended to *a-*themed verbs (*kardayc‘em* ‘I call-SUBJ’ vs. *kardayc‘im* ‘I am called-SUBJ’), something which *a-*themed verbs lack in the indicative mood. On the other hand, *u-*themed verbs remain incapable of forming a mediopassive in the subjunctive (Klein 2007:1070).

Ačārean (1951:385-388) has a long discussion on the early use of indicative tenses instead of the subjunctive ones, especially in subordinate or conditional clauses. “Mistakes” can be found even as early as the 5<sup>th</sup> century<sup>222</sup>, which at the very least shows us that speakers even back then had competing grammars in which more than one variant existed. His main idea is that there was a morphological collapse of the present indicative, the present subjunctive, and the simple future indicative, and that this situation was untenable for speakers who eventually found strategies to explicitly recreate differences among these three tenses across two moods.

The debate on whether the relationship between the present subjunctive and the aorist subjunctive in CA constitutes a mood or aspect-mood contrast has been ongoing. Avetyan (2022) claims that both forms function similarly in syntax and have a similar morphological structure, indicating that they are both subjunctive-mood forms. The difference in their frequency of use can be attributed to the diachronic trend of the present subjunctive being gradually replaced by the aorist subjunctive.

MA had a period in which subjunctives (sometimes called the “optative” in some grammars) were either bare verb forms like in most WA dialects, or a light verb (*genal*, ‘to stay, to remain, to pause’), e.g. *vor arčev genay u vjarvi* ‘that [it remain and] it be paid in front’ (Ačārean 1951:388), which seems to be a process which was analogous to *kal/kenal* (which ended up becoming the primary indicative marker) but resisted further grammaticalization.

The SWA subjunctive present and past correspond to the CA indicative present and past, respectively. The preverbal particle *gə* is the only difference morphologically. Semantically, the subjunctive represents hypothetical, unreal actions whose occurrence is or was desirable (subjunctive present/past), or undesirable and not recommended for the negative forms of these tenses, which are

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222 It is important to bear in mind that most of the earliest manuscripts of the 5<sup>th</sup> century texts are typically from 1000 or more years later, e.g. Eznik’s treatise is known to us thanks to one manuscript (Matenadaran 1097) dated 1280 (Orengo 2017:1030); Coulie (2014a, 2014b:151-154 for an analysis of manuscript variants) has suggested that manuscript transmission at fairly regular intervals (generally of 50 years or so), which means that many generations of recopying by dialect-speaking scribes separate the Eznik urtext from the version we have, which is why Vaux (p.c.) believes it dangerous to definitively speak of errors. Though there is a sentiment among certain Armenian linguists that these manuscripts were “normalized” over time based on the general norm of the later literary language (Hambardzumyan 2020:6).

prefixed with a reduced negation marker č̣- (though colloquially, this is sometimes intensified with the use of the full č̣i negation particle, which sometimes even gains regular prosodic word stress<sup>223</sup>).

Tense\Person	1SG	2SG	3SG	1PL	2PL	3PL
Present	ḳ'n-e-m	ḳ'n-e-s	ḳ'n-e	ḳ'n-e-nḳ	ḳ'n-e-ḳ	ḳ'n-e-n
Past	ḳ'n-e-i	ḳ'n-e-i-r	ḳ'n-e-r	ḳ'n-e-i-nḳ	ḳ'n-e-i-ḳ	ḳ'n-e-i-n
Neg. pres.	č̣-ḳ'n-e-m	č̣-ḳ'n-e-s	č̣-ḳ'n-e	č̣-ḳ'n-e-nḳ	č̣-ḳ'n-e-ḳ	č̣-ḳ'n-e-n
Neg. past	č̣-ḳ'n-e-i	č̣-ḳ'n-e-i-r	č̣-ḳ'n-e-r	č̣-ḳ'n-e-i-nḳ	č̣-ḳ'n-e-i-ḳ	č̣-ḳ'n-e-i-n

Table 34: Subjunctive tenses

This asymmetry in the negative is mirrored in many dialects – with some variation seen, such as in Xtrbek, where the negative prefix is used in the optative, whereas the inflected negative auxiliary is used in the conditional, e.g. č̣'am ḳari 'if I don't write' (notice the lack of the -r connegative suffix<sup>224</sup>) vs. optative č̣'aḳarim, and a negative version of the g̣ə particle used in the negative indicative mood – č̣'ēu ḳarim 'I don't write'.

In some dialects, such as Sasun (Greppin & Khachaturian 1986:169-178), the morphologically subjunctive forms are optatives (meaning, these dialects have the subjunctive form but is interpreted as the optative), such as Karin ḳaṛgei 'I [wanted to] send', past optative of 'send', expressing an unreal or unrealized wish or desire, and in some cases, particles postposed (like indefinite m̄ə) are fused with the word completely (*ibid.*:91-102).

#### 4.3.4 Necessitative

CA had no necessitative mood – its advent in the modern dialects was perhaps a contact effect with Turkish, though the semantic content of CA p̄ēt-/pit 'need' (see Subsection 5.1.4) makes it possible to consider the necessitative as internally reconstructible.

In most of the modern dialects, the necessitative mood, which is crosslinguistically rare though found in Turkish and many varieties of Armenian, combines aspects of the cohortative and jussive moods. It expresses a range of meanings, including plea, insistence, command, and consequence. In Turkish, it is formed by a suffix which precedes other verbal markings, e.g. *bakmalım* 'I must look' and

223 Some SWA speakers from Lebanon have gone further along in this development and have gained word-initial stress throughout the negative paradigm, e.g. č̣'úzec̣ 's/he didn't want', č̣'árav 's/he didn't take', č̣'ásav 's/he didn't say', č̣'dárav 's/he didn't bring' (Dolatian, p. c.).

224 Colloquial SEA is undergoing a parallel process of dropping the final consonant in connegative constructions, e.g. č̣'em g̣ar-e-l 'I have not written' > č̣'em g̣ar-e; a process already complete in many Iranian EA varieties (Dolatian:2021b:57).

*gitmeliyiz* ‘we need to go’. SWA has a past and non-past necessitative, which are formed using the *-lu* future participle plus the forms of *allal* (to be), and an analytic strategy is to use the locution *bēdk’ ē (vor)* ‘there is a need to’, e.g. *bēdk’ ē (vor) šinem* ‘I need to build’. In most Eastern dialects, the necessitative is created by using *piti* before the subjunctive forms.

Complex nec. tense	1SG	Template
result. fut.	k <sup>č</sup> n-e-lu e-m	√-TH-FUT.PTCP+AUX-AGR
neg. result. fut.	k <sup>č</sup> n-e-lu č <sup>č</sup> -e-m	√-TH-FUT.PTCP+NEG-AUX-AGR
result. fut. past	k <sup>č</sup> n-e-lu e-i	√-TH-FUT.PTCP+AUX-AGR
neg. result. fut. past	k <sup>č</sup> n-e-lu č <sup>č</sup> -e-i	√-TH-FUT.PTCP+NEG-AUX-AGR

Table 35: Necessitative tenses in SWA

Those dialects that use a reflex of *piti/bidi* in a strictly debitive or necessitative sense could be considered the more conservative ones (strictly in this respect) – Aramo, for example, uses *bidæ* and Kesab uses a phonetically reduced *bər/mər* with the same meaning. In many EA dialects, we see precisely a strict necessitative interpretation with this particle (SEA *piti gnam* ‘I have to go’, see Dum-Tragut 2009:263-271 for a detailed breakdown of various kinds of debitives in SEA).

The intermediate position is for the future to be semantically a necessitative or obligatory future (i.e. ‘it is necessary to...’ Greppin & Khachaturian 1986:22) and there is some variation among the dialects (even within subdialects, such as Suceava and Hungarian variants of Artial as seen in the table below). The main form is *bidor* in Suceava but the Hungarian subdialect (referring to the Transylvanian town of Gherla, formerly Szamosújvár or Neuschloß or colloquially Armenierstadt) uses the shortened form *bi* (<CA *piti*), which becomes *b-* when the verb is vowel-initial.

	Suceava	Hungary	cf. SWA
1SG	bidor sir-i-m	bi sir-i-m	bidi sir-e-m
2SG	bidor sir-i-s	bi sir-i-s	bidi sir-e-s
3SG	bidor sir-e	bi sir-e	bidi sir-e
1PL	bidor sir-i-nk <sup>č</sup>	bi sir-i-nk <sup>č</sup>	bidi sir-e-nk <sup>č</sup>
2PL	bidor sir-i-k <sup>č</sup>	bi sir-i-k <sup>č</sup>	bidi sir-e-k <sup>č</sup>
3PL	bidor sir-i-n	bi sir-i-n	bidi sir-e-n

Table 36: Comparison of future particle in two Artial subdialects



The most innovative function of *bidi/piti* is for it to be strictly a future marker – the majority of the Asia Minor dialects belong to this class. For those dialects in this category that require the speaker to state something in a manner entailing obligation, the partly grammaticalized expression *bēdk<sup>c</sup> e (vor)-VERB* ‘it is necessary (that)-VERB’ is used. Another innovation which has been repeatedly seen in other languages (English, Serbo-Croatian, Roon (Austronesian, Gil 2017), some Arabic dialects), and perhaps independently arising here in some dialects, is the use of *uzel* ‘to want’ as a future marker, such as in Artial (Suceava), which likely developed it separately, and Hajin and Marash, which likely inherited it since MA, which was used precisely in those areas in Cilicia, had the option of using such a future marker as well.

### 4.3.5 Imperative

In CA, the imperative mood had three tenses – the present (usually just called “imperative”), the cohortative (sometimes called “exhortative”), and the prohibitive (which is a negative imperative with notably different morphology, called “injunctive” or “vetative” in some grammars). The second-person singular *-r* is perhaps an old particle (cf. Ancient Greek  $\rho\alpha$ , Lithuanian *iř*), which had a cohortative value (Klein 2007:1073).

Voice	Active		Mediopassive	
	2SG	2PL	2SG	2PL
Present	bér	ber-é-k <sup>c</sup>	ber-í-r	ber-a-r-úk <sup>c</sup>
Cohortative	ber-ǰ-í-r	ber-ǰ-í-k <sup>c</sup>	ber-ǰ-í-r	ber-ǰ-í-k <sup>c</sup>
Prohibitive	mí ber-e-r	mí ber-ē-k <sup>c</sup>	mí ber-i-r	mí ber-i-k <sup>c</sup>

Table 37: Imperative tenses of *berel* ‘to bear’ in CA, which uses a bare stem

For a sizable number of verbs, the plain imperative is formed with the present stem (bare root) for the singular and the aorist stem + *-Vk<sup>c</sup>* for the plural, is used only in positive commands and shows a thoroughgoing distinction between active and mediopassive (Klein 2007:1076, Klingenschmitt 1982:46-55). There are many verbs that require the aorist stem as the basis for the imperative tenses, as shown in Table 38 below.

Voice	Active		Mediopassive	
Tense \ Person	2SG	2PL	2SG	2PL
Present	sir-eá <sup>225</sup>	sir-ec <sup>c</sup> -ék <sup>c</sup>	sir-eá-c <sup>c</sup>	sir-ec <sup>c</sup> -arúk <sup>c</sup>
Cohortative	sir-es-ǰír	sir-es-ǰík <sup>c</sup>	sir-es-ǰír	sir-es-ǰík <sup>c</sup>
Prohibitive	mí sir-e-r	mí sir-ē-k <sup>c</sup>	mí sir-i-r	mí sir-i-k <sup>c</sup>

Table 38: Imperative tenses of *sirel* ‘to love’, which uses an aorist stem

The cohortative fell out of use before the MA period, and there is a transitional period where both *-eá* and the more modern *-é* are used (see Ghazaryan 1960:57-59, 246-250 for examples), and predominantly causative *u*-theme verbs underwent a change from *-ú* to *-úr*. In MA, we also see speakers inserting the *-c<sup>c</sup>*- infix (perhaps from the older mediopassive ending in *-eá-c<sup>c</sup>* or the plural present *-ec<sup>c</sup>-ék<sup>c</sup>* and likely not from the aorist) for inchoatives, such as for *imanal* ‘to hear’, where we have both *imá* and *imac<sup>c</sup>ír* attested for the second person singular present imperative. Most of the modern dialects lost the final *-r* for the second person imperative in the positive, and what seems to be a holdover of the final *-r* in the negative (e.g. *mi xosír!* ‘don’t speak!’) stems from the *-er* ending of a connegative participle, to be explained in a later section, though it is possible that the written CA form could have influenced the development of such a peculiar participle.

SWA has a simpler system than CA – there are only two renditions in the imperative mood – the present (only in the affirmative) and prohibitive (only in the negative), and only two persons (note the aorist stem of 2PL in the present).

	2SG	2PL
Present	k <sup>c</sup> n-é	k <sup>c</sup> n-e-ts-é-k <sup>c</sup>
Prohibitive	mí k <sup>c</sup> n-e-r	mí k <sup>c</sup> n-e-k <sup>c</sup>

Table 39: Imperative tenses in SWA

What about the 2SG imperative *-e/-a/-i-r/u-r* alterations? The same principle discussed above can also deal with this, but this time with the added rule that the causative selects for *-u-* instead of the expected *-i-* given its *i*-theme class. This type of allomorphy is independent of the theme-dependent effects that we see in the system. One may also posit a final-*r* deletion rule in the *e-* and *a*-theme transitives, but this is likely not the case because it would not be phonologically motivated, as there are no other such tendencies in WA, and besides, the *-e-r* ending does independently exist as an active past participle (sometimes considered an evidential marker in the literature, see Donabédian 2001a), hence

<sup>225</sup> A considerable number of verbs had what seems to be free variation between the *-eá* and *-eác<sup>c</sup>*, e.g. *xōseá* or *xōseác<sup>c</sup>* ‘speak!’, *nayéá* or *nayéác<sup>c</sup>* ‘look!’.

we are left with a morphologically-motivated final *r*-suppression rule that only affects *e*- and *a*-theme verbs in their bare transitive forms in the 2SG imperative. The passivizing *-v-* suffix will always change the verb class to *i*-theme, hence we get the expected *-i-r* ending. The passivized causative reverts to the expected *-i-r* ending as well, since the tense/person markers will only want to see as far back as PASS, but not any further (which, as the rightmost theme vowel selection, has an *i*-theme feature which selects the *i*-theme vowel regardless). To sum it up, we would have the following patterns:

Verb class	UR form	2SG imp. tr.	2SG imp. pass.	2SG imp. caus.	2SG imp. passivized caus.
e-theme	√ <sub>e</sub> -/-e-r/	√ <sub>e</sub> -e	√ <sub>e</sub> -PASS <sub>i</sub> -i-r	√ <sub>e</sub> -CAUS <sub>i/u</sub> -u-r	√ <sub>e</sub> -CAUS <sub>i/u</sub> -PASS <sub>i</sub> -i-r
i-theme	√ <sub>i</sub> -/-i-r/	√ <sub>i</sub> -i-r	√ <sub>i</sub> -PASS <sub>i</sub> -i-r	√ <sub>i</sub> -CAUS <sub>i/u</sub> -u-r	√ <sub>i</sub> -CAUS <sub>i/u</sub> -PASS <sub>i</sub> -i-r
a-theme	√ <sub>a</sub> -/-a-r/	√ <sub>a</sub> -a	√ <sub>a</sub> -PASS <sub>i</sub> -i-r	√ <sub>a</sub> -CAUS <sub>i/u</sub> -u-r	√ <sub>a</sub> -CAUS <sub>i/u</sub> -PASS <sub>i</sub> -i-r

Table 40: Basic template of valency changes in three verb groups in SWA

In a large number of dialects (Alashkert, Aramo, Arjesh, Aygetun, Baberd, Bitlis, etc.), č̣- is used as the regular negative prefix to any verb stem, whereas in others, a proclitic (*v*)oč̣ ‘no, not’ is used, or rarely enclitic, like in Amasia, Edesia, Hamshen, Khodorjur, Ordu, Trabzon, which mostly cluster in the Black Sea region which makes it seem like an areal borrowing, but some very distant EA dialects like Shamakhi also have this feature. The prohibitive *mi* ‘don’t!’ is widespread – every source I looked at that displayed the prohibitive had it, but I have an absence of confirmation in a number of dialects in cases where my sources did not mention the existence of a prohibitive. In dialects that have a postposed negative, the prohibitive *mi* is generally used in both positions. In no dialect does the reduced form č̣- ever become postposed.

#### 4.4 Aspect

CA distinguished between the imperfective and perfective aspects, but only for the past (indicative imperfect *ergēir* ‘you were singing’ vs. indicative aorist *erģec̣’er* ‘you sang (in that past and not again, not since)’, and to a limited degree, in the subjunctive when used as a future. In the present, aspect was not marked.

Most modern dialects kept the aspectual distinction between the imperfective and perfective, albeit with different morphological means, and unlike in CA which does not distinguish voice in the active and mediopassive voices in the imperfect, some modern dialects have regularized the system and can fully distinguish voice in all tenses, including SWA, through the use of the *-v-* infix (*sir-e-l* ‘to love’ vs. *sir-v-i-l*, ‘to be loved’). Morphological marking for voice is consistent in CA, but generally more consistent in the modern dialects, though traces of a CA-like system remain in a few verbs. MA already

had a whole series of verbs with the *-v-* infix (Ačarean 1959:375-376), initially a redundant *u*-theme vowel added before *-i-* that underwent vowel hiatus repair (Dolatian 2022:30), showing us that this infix was already productive by the early Middle Ages. Meillet (1904:28) suggests that the third person aorist passive ending in MA *-iwr* was due to an analogical extension of based on passive aorist CA forms like *tesaw* ‘s/h was seen’ and *ełew* ‘s/he became, came to be created’, which first spread to the imperfect, then, which later became generalized as *-v-* as the passive marker. Alternatively, following Dolatian (2022), one can posit that using a redundant *u*-theme before the original *i*-theme passive caused the voice marker to switch from being encoded in the *i*-theme vowel itself to becoming grammaticalized in a single morpheme *-v-* (Karst 1901:292-298).

5 <sup>th</sup> c. (and before) – 9 <sup>th</sup> c.		10 <sup>th</sup> – 11 <sup>th</sup> c.		12 <sup>th</sup> – present	
šar-e-l	√-TH <sub>ACT</sub> -INF	šar-e-l	√-TH <sub>ACT</sub> -INF	šar-e-l	√-TH <sub>ACT</sub> -INF
šar-i-l	√-TH <sub>PASS</sub> -INF	šar-u-i-l	√-TH <sub>PASS</sub> -TH <sub>PASS</sub> -INF	šar-v-i-l	√-PASS-TH-INF

In CA, the imperative does not contrast for aspect, but the two stems are in complementary distribution; the positive or affirmative imperative is formed to the aorist stem, whilst the negative imperative (a.k.a. prohibitive) and cohortative (with a phonological change) are formed to the present stem. In the modern dialects, there is a large degree of variation, as seen in Table 41.

Dialect		CA		Hamshen		Aslanbeg		SWA	
Pers./num.		2SG	2PL	2SG	2PL	2SG	2PL	2SG	2PL
Imp.	Pres.	sir-e-a	sir-ec <sup>c</sup> -ēk <sup>c</sup>	siy-a	siy-e-c <sup>c</sup> ek <sup>c</sup>	t <sup>c</sup> eoʁ sir- ea	t <sup>c</sup> eoʁ sir- ec <sup>c</sup> -eak <sup>c</sup>	sir-e	sir-e- c <sup>c</sup> ek <sup>c</sup>
	Past	-	-	siy-et oč toʁ	siy-ek <sup>c</sup> oč toʁ	-	-	-	-
	Coh.	sir-esʃi-r	sir-esʃi-k <sup>c</sup>	-	-	-	-	-	-
Proh.	Pres.	mi sir-e-r	mi sir-ēk <sup>c</sup>	siy-e mi	siy-e mik <sup>c</sup>	mi sir- ea-r	mi sir- ea-k <sup>c</sup>	mi sir- e-r	mi sir-e- c <sup>c</sup> ek <sup>c</sup>

Table 41: Comparison of the active imperative in CA and three modern dialects

In the subjunctive, the aspectual value of the present and aorist subjunctive is not obvious (Kim n.d.2:9). Part of the reason for this lack of clear aspectual distinction may be because of the wide range of functions that the subjunctive had, as it was used for 1) wishes, exhortations, and commands (e.g. in royal letters), sometimes with *t<sup>c</sup>ol<sup>226</sup>* before (Thomson 1989:67), 2) purpose clauses, 3) certain

226 Singular active imperative of *t<sup>c</sup>olul* ‘to let, permit, allow’, with a secondary sense of ‘to abandon, resign, give in, deliver, free, remit’ (Ačarean 1973:194, Awetik<sup>c</sup>ean, Siwrmēlean & Awgerean 1836-37:817, Djahukyan 2010:270b, Petrosean 1875:227), its imperative 2SG form already grammaticalized in CA as a preposition meaning ‘save, excepting, besides that’

conditional clauses (*ibid.*:114); and 4) in a future sense (and hence why certain grammarians categorized the subjunctive as a future<sup>227</sup>, see Subsection 4.3.1). If we take the fourth category alone, then aspectual distinctions were able to be maintained early on (5<sup>th</sup> century), e.g. *gorc-ic<sup>c</sup>-em* ‘I will be working’, morphologically the present subjunctive, which bears imperfective aspect vs. *gorc-ec<sup>c</sup>-ic<sup>c</sup>* ‘I will work’, morphologically the aorist subjunctive, which bears perfective aspect (Kocharov 2023).

Aspect is not represented as a separate overt morpheme in past imperfective forms. If we assume that perfectivity is a binary feature in WA, then the imperfective simply has a negative perfective feature on its Aspect node (Karakaş et al. 2021). Hence, imperfectivity is unmarked<sup>228</sup>. In the past imperfective, the post-theme segments are again replaced by a new set of segments, which expone a sequence of Tense-Agr slots. Depending on dialect, all two, three, or four theme classes share the same exponents for these slots, with very few exceptions like in Sasun.

## 4.5 Participles

There are three (or four) participles in CA<sup>229</sup> – two are formed from the infinitive (*sirel-oc<sup>c</sup> ē* ‘he should love, he should be loved’, *sirel-i<sup>c</sup>*<sup>230</sup> ‘lovely, lovable’, usually classified as a verbal adjective (Thomson 1989)), one from the present stem (*sir-ot<sup>c</sup>*, ‘loving’), and one from the aorist stem<sup>231</sup> (*sir-ec<sup>c</sup>-eal*, often reduced to *sir-eal*, ‘loved, having loved’, traceable to the PIE verbal adjective \*-lo marker, Kim 2018b:261) which were typically used in subordinate clauses. Note that there is voice syncretism in all participial forms. The infinite-based participles are often termed “verbal adjectives”, and the -loc<sup>232</sup> participle was also used when there was an attendant sense of necessity, usually in periphrastic constructions: *dow es or galoc<sup>c</sup>n es* ‘art thou He who is to come?’ (Krause & Slocum 2022). CA had a small group of adjectives built on verb roots that received an -ac suffix, e.g. *hogac* ‘something cared for’, *arac* ‘something received’, *ararac* ‘something created, a creature’, *asac<sup>c</sup>ac* ‘something said, a saying, word’ (Djahukyan 1998:5-48), which likely became productive as a resultative participle in almost all WA dialects.

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(Petrosean 1879:227).

227 Early in the 5<sup>th</sup> century, both the present and aorist subjunctive can have future functions, but soon thereafter, only the aorist subjunctive holds this function (Meillet 1911:118, Jensen 1959:118-120, Tumanjan 1971:363-364, Meyer 2024:317) until it too becomes eclipsed by other constructions, explored in Section 5.1.4.

228 See Kocharov (2023) for a quantitative analysis of aspect markedness in CA verbs; having an unmarked present stem and marked aorist stem is by far the most common type, but having an unmarked aorist stem and marked present stem is significantly better represented in the most frequent segment of the verbal lexicon.

229 Though some grammarians insist that CA only had one true participle, formed in -eal.

230 Djahukyan (1972:178) mentions that a small number of early CA authors used this participle with a subject meaning (roughly equivalent to English verbal -er, as in *doer, maker, bather*), e.g. *arneli* ‘doer’, *kreli* ‘bearer, transporter’.

231 This is generally true but not always (Godel 1975:129).

232 -loc contains the infinitive suffix -l- (Godel 1975:129).

By the MA period, the participial system becomes significantly more complicated, as there developed additional participles and more variation and optionality enter the system (the exact conditioning factors are likely lost to time). The old *-oc* participle fell out of use<sup>233</sup>, and the *-TH-l-u* future participle develops from the dative of the inflected infinitive (since infinitives<sup>234</sup> were able to be used as substantives like in Modern German), e.g. *gr-e-l-oy* ‘write-INF-DAT’ > *gr-e-l-u*. The accusative plural of the infinitive became grammaticalized and simplified to *-is*, e.g. *i gr-e-l-is* > *gr-e-l-is*. CA *-eal* became simplified to *-el* but also confused with *-er*<sup>235</sup>, sometimes even within the same sentence as in *aprel em k’san tari u k’ašer hazar taru tam*, ‘I have lived for twenty years and strung [an instrument] for a thousand’ (Mnac’akanyan 1995:231).

There are multiple explanations as to how the *-um* participle developed (see Mkrtč’yan & Xaç’atryan 2016:245-248 for more detail) though it is worth noting that during the MA period, there are very few attestations – only one example is mentioned from the 12<sup>th</sup> century by Mkhitar Heratsi (*mašum lini*, ‘wearing out’), another example from the 13<sup>th</sup> century, *alōt’k’ en anum* ‘they are praying’. Ačařean (1951) explains that around the CA period, there developed a colloquial manner of using the *i* preverbal particle and a locative-inflected (in *-owm* [-um]) substantivized verb, as in *i gr’wown en* ‘they are in a fight’. In the Eastern dialects, we see a very quick spreading of this *-um* as the present participle starting from the 17<sup>th</sup> century (Ałayan 1975:365), yet this same participle (called “imperfective” in the context of colloquial MA) does not yield any descendants in any WA dialect.

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233 Used for the future in the Indian subdialect of New Julfa (EA).

234 See Goodluck (2020:35) for the acquisition of root infinitives and how children can use the infinitive form as the main verb for quite some time before mastering other tenses and moods. The *-l* infinitive suffix cannot be traced back to PIE, and likely has a nominal origin or root derivative, e.g. PIE *\*deh<sub>3</sub>-* ‘to give’ > PA *\*dā-lo-* ‘a giving’ > CA *tal* ‘to give’ (Godel 1975:129).

235 /r/, which is generally considered to be an alveolar flap [r] (/r/ is a separate phoneme [r] diachronically related to the flap in PA and perhaps as late as pre-CA); in Cilician dialects, rhotics often undergo significant changes and deletion and influence nearby consonants or vowels in unexpected ways, e.g. CA > Svedia dialect *aržel* ‘to be worthy’ > *ižil*, *šaržel* ‘to move’ > *žižil*, *karž* ‘short’ > *gaž*, *kurck* ‘chest’ > *gousk* (diphthong), *jrakac* ‘watermill’ > *čækus*, *targal* ‘spoon’ > *tækul*, *šnorhavor* ‘graceful’ > *šünüfür* (Hananyan 1995:54).

Verb groups	<i>e</i> -theme	<i>i</i> -theme	<i>a</i> -theme	<i>u</i> -theme
Participles				
Infinitive	V-el	V-il	V-al	V-ul
Future	V-oc <sup>c</sup> , V-el-i/u	V-el-u	V-al-u	V-el-oy/u
Past (archaic)	V-eal	V-eal	V-c <sup>c</sup> eal	V-eal
Pluperfect	V-el/-er	V-el/-er	V-c <sup>c</sup> -er/el	?
Preterperfect	V-ac [-adz̄]	V-ac	V-c <sup>c</sup> -ac	V-ac
Subjective <sup>236</sup>	V-ox <sup>237</sup>	V-ox	V-ox/c <sup>c</sup> -ox	V-ox
Negative <sup>238</sup>	č <sup>c</sup> +INF V-el/er	č <sup>c</sup> +INF V-il/ir	č <sup>c</sup> +INF V-al/ar	č <sup>c</sup> +INF V-ul/ur
Imperfective	V-um/V-is	?	?	?

Table 42: Participles in MA

SWA has a resultative or perfect participle (*-adz = ac*), a subject participle (*-ox*), an evidential participle (*-er*), and two future participles, often called converbs, one of which ending in *-lu* (a plain future) and the other ending in *-lik<sup>c</sup>* (a prospective future), each with their respective negative forms. Note the *-ts (= -c<sup>c</sup>-)* infix and theme-copying in *a*-theme verbs, which already complicated the paradigm during the MA period; also, note a degree of syncretism in *e*-theme verbs for the negative participles and the convergence of theme vowels for the future and prospective future participles in Table 43:

236 Armenian grammars use the term “ենթակայականը” *ent<sup>c</sup>akayakanə* which can variously be conveyed as ‘the subject(ive), attributive, hypostatical, constitutive.’ In the modern dialects, it generally has the semantic content closer to English *-er* as in *doer, sayer, believer*, etc.

237 Or [χ], which was originally [t̪] in the pre-CA and CA era, being primarily a variant of the lateral phoneme /l/ which developed into an independent phoneme; it was characterized by an additional velarization which, in the course of time, prevailed drawing the new phoneme into direct paradigmatic contact with the voiceless uvular spirant /x/ (Pisowicz 1995:96). The development in question was going on during the 10<sup>th</sup> and 12<sup>th</sup> centuries as was demonstrated by Ačārean (1948). In earlier Arabic loan words, dating from the 8<sup>th</sup>-9<sup>th</sup> centuries when /t̪/ was still pronounced as a lateral sonorant close to /l/, the Arabic uvular plosive /q/ was rendered in Armenian by the non-aspirated /k/ in accordance with the non-aspirated pronunciation of the Arabic consonant. Pisowicz (*ibid.*) mentions a good example: *koṭpel* ‘to lock’, pronounced [koxpel] in many EA dialects and [goxbel] in many WA dialects (Ačārean 1951:624a), borrowed from Arabic قفل *qufl* ‘lock’ (Muradyan 1967:136) with metathesis *-fl- > -tp-*. The early dating (before the 10<sup>th</sup> century) of the word is based just on the correspondence: Arabic /l/ - Armenian /t̪/ and also Arabic /f/ - Armenian /p/, as the voiceless labial spirant /f/ appeared in Armenian only later via contact with European languages during the early Cilician era. For the fate of later Arabic loanwords, see Greppin (1987).

238 For all themes, we also see the negative particle č<sup>c</sup>+INF come after the verb.

Verb groups	<i>e</i> -theme		<i>i</i> -theme		<i>a</i> -theme	
	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.
resultative/perfect	V-adz	č <sup>c</sup> -V-adz	V-adz	č <sup>c</sup> -V-adz	V-a-ts-a-dz	č <sup>c</sup> -V-a-ts-a-dz
subjective	V-oɤ	č <sup>c</sup> -V-oɤ	V-oɤ	č <sup>c</sup> -V-oɤ	V-a-ts-oɤ	č <sup>c</sup> -V-a-ts-oɤ
evidential	V-er	č <sup>c</sup> -V-er	V-er	č <sup>c</sup> -V-er	V-a-ts-er	č <sup>c</sup> -V-a-ts-er
future	V-e-lu	č <sup>c</sup> -V-e-lu	V-e-lu	č <sup>c</sup> -V-e-lu	V-a-lu	č <sup>c</sup> -V-a-lu
prospective future	V-e-lik <sup>c</sup>	č <sup>c</sup> -V-e-lik <sup>c</sup>	V-e-lik <sup>c</sup>	č <sup>c</sup> -V-e-lik <sup>c</sup>	V-a-lik <sup>c</sup>	č <sup>c</sup> -V-a-lik <sup>c</sup>
past imperf. neg.	-	V-e-r	-	V-e-r	-	V-a-r
present neg.	-	V-e-r	-	V-i-r	-	V-a-r

Table 43: Participles in SWA

These participles have a large range of possible reflexes, based on dialect. For example, in Karin, the past participle takes *-er* (thus it is cognate with the SWA evidential), but it has an *-r* allomorph when the verb is after the auxiliary (Ačarean 1911:111); in Mush, the past participle takes *-er* but passives, it requires *-uk*, whereas in Van, this same *-er* morpheme can inflect in the third person singular (*uz-ir ie-m* ‘I wanted, cf. French *j’ai voulu*’, *uz-ier i* ‘s/he wanted, cf. *il/elle a voulu*’).

One note concerning negatives – since the participial system was overhauled during the early MA period, we see the rise of the mandatory negative participle ending in *-r* (the stacked suffixes according to theme and imperfectivity are listed in the table above) also called the connegative form, which survives in most WA dialects to this day. Unlike some languages like Finnish where the connegative form changes according to tense and mood (compare *en puhu* ‘I don’t speak’, *en puhunut* ‘I didn’t speak’), in WA dialects, the verb uses a participle form, usually called the connegative, that does not bear any T/Agr markers. The T/Agr slot is replaced by a connegative suffix *-r*. Negation, tense, and agreement are marked periphrastically by adding a negated auxiliary before the verb: *č<sup>c</sup>-é-m əs-è-r* ‘I do not say’, thus the auxiliary carries all T/Agr marking (Dolatian 2023c). Noteworthy is that prosodically, the auxiliary and connegative participle form a prosodically coherent constituent, as the AUX has primary stress and the participle has secondary stress<sup>239</sup>.

An interesting detail is that *i*-neutralization (elaborated in Dolatian 2023c), i.e. the tendency for WA *i*-themes to be replaced by *-e-* in different paradigm cells (for example, we may expect \**č<sup>c</sup>-é-i xos-ì-r* ‘I did not speak’ where it surfaces as *č<sup>c</sup>-é-i xos-è-r*), unlike *e*-themes and *a*-themes, seems to have contributed to the volatility of *i*-theme verb endings in the dialects, where many simply got rid of an

239 Thus, depending on one’s framework and analysis, we can consider AUX+NEG.PTCP as a recursive prosodic word (Ito and Mester 2009; Selkirk 1996), a clitic group (Kabak and Vogel 2001; Nespors and Vogel 1986), a composite group (Vogel 2009, 2016), or some PWord group (Vigário 2010).



entire of set of endings. There appear to be two triggers for *i*-neutralization: a phonological trigger which is output-based prosody or stress, and a morphological trigger, whereby the presence of the +PAST morpheme, which can be non-adjacent to the verb, causes the shift to occur. This apparent instability explains why many dialects simply merged both *e*- and *i*-themes. In the table below, the morphological trigger is underlined, and the *i*-to-*e* neutralization is shown in bold.

Theme	<i>e</i> -theme	<i>i</i> -theme	<i>a</i> -theme	Gloss
Infinitive	bar-é-l ‘dance’	nsd-í-l <sup>240</sup> ‘sit’	mn-á-l ‘remain’	√-TH-INF
3PL subj. pres.	bar-é-n	nsd-í-n	mn-á-n	√-TH-AGR
Causative (inf.)	bar-e-tsən-é-l	nsd- <b>e</b> -tsən-é-l	mn-a-tsən-é-l	√-TH-CAUS-TH-INF
Definite-marked	bar-é-l-ə	nsd-í-l-ə	mn-á-l-ə	√-TH-AGR-DEF
Instr.-marked	bar-e-l-óv	nsd- <b>e</b> -l-óv	mn-a-l-óv	√-TH-AGR-DEF
3PL imperf. past	gə bar-é- <u>i</u> -n	gə nsd- <b>é</b> - <u>i</u> -n	gə mn-á- <u>i</u> -n	IND-√-TH- <u>PST</u> -AGR
3SG imperf. past	gə bar-é- <u>∅</u> -r	gə nsd- <b>é</b> - <u>∅</u> -r	gə mn-á- <u>∅</u> -r	IND-√-TH- <u>PST</u> -AGR
3PL neg. impf. past	č <sup>c</sup> -é- <u>i</u> -n bar-è-r	č <sup>c</sup> -é- <u>i</u> -n nsd-è-r	č <sup>c</sup> -é- <u>i</u> -n mn-à-r	NEG-AUX- <u>PST</u> -AGR √-TH-CVB
<i>ibid.</i> + ‘even’ clitic	č <sup>c</sup> -é- <u>i</u> -n=al bar-è-r	č <sup>c</sup> -é- <u>i</u> -n=al nsd-è-r	č <sup>c</sup> -é- <u>i</u> -n=al mn-à-r	NEG-AUX- <u>PST</u> -AGR-CL √-TH-CVB

Table 44: Instances of *i*-neutralization in SWA, stress shown with acute accent<sup>241</sup>

As in Hajin, the past participle has the form *-ir* in Marash, and *-iy* in Hajin and Zeytun, as in *giry e* ‘he has eaten’. The form *-odž* (< CA *-ac* [-ɑts] ωð) is more commonly used, as in *gir-odž e*. As for the passive, instead of using the *-v*- passivizing infix, Hajin uses a seemingly Greek-derived *-mon-* (-μένοϛ), such as *ip<sup>c</sup>mon e* ‘it is cooked’ (cf. coll. SWA *yep<sup>c</sup>vadz e*<sup>242</sup>) and *p<sup>c</sup>ormon e* ‘it is spread’ (Ačārean 1911:205<sup>243</sup>). Further south from Cilicia, in Aramo (Syria), a more divergent situation has occurred, whereby this resultative participle partially inflects according to person (across all themes):

240 Formed with a preverb \*ni-, PIE > \*ni-si-sd-e/o > pre-CA \*niste- > CA nst- (de Lamberterie 1986:49-57, Kim 2018b:264).

241 Secondary phrasal stress shown with a grave accent.

242 Though prescriptively considered ill-formed, speakers use this *-v*- infix passive construction as a way to avoid syncretism, *yep<sup>c</sup>il* (passive) vs. *yep<sup>c</sup>el* ‘to cook’ (active), yielding resultative *yep<sup>c</sup>adz* for both voices.

243 Vaux (2014:255, 259) states that in several dialects including New Julfa, Old Julfa, and Edesia/Urfa, this is most likely from Armenian participial *-man* (itself from *-umn*). To a limited extent, this participial form exists in Zeytun, Tigranakert, and some Syrian (Margoliouth 1898) dialects.

	√-TH <sub>c</sub> -AGR-RES AUX	√-TH <sub>a</sub> -AGR-RES AUX
1SG	baṛg-ē-yr im	əmnac <sup>c</sup> -ē-yr im
2SG	baṛg-ē-yr is	əmnac <sup>c</sup> -ē-yr is
3SG	baṛg-i-r i	əmnac <sup>c</sup> -ə-ir i
1PL	baṛg-ē-yr ink <sup>cy</sup>	əmnac <sup>c</sup> -ē-yr ink <sup>cy</sup>
2PL	baṛg-ē-yr ik <sup>cy</sup>	əmnac <sup>c</sup> -ē-yr ik <sup>cy</sup>
3PL	baṛg-ē-yr in	əmnac <sup>c</sup> -ē-yr im

Table 45: Resultative participle variation in Aramo (data from Łaribyan 1958a:41) for ‘sleep’ and ‘stay’

Some EA dialects (Ararat, Tiflis, Shamaxi, Astrakhan, Julfa, Urmia, Maragha, Khoy) form resultative perfects primarily with passives and middles; transitives lose their transitivity in this construction (Grigoryan 1957:171) and many WA dialects as well as some EA ones (Agulis, Artaskh, Ardvin, Shaghakh, Karchevan, Meghri, Hadrut), transitive verbs with the resultative participle form the pluperfect, whereas passives and intransitives can have either a resultative or a pluperfect sense (e.g. Agulis *tavec əm* = SEA *tvel em* ‘I have given/I gave’ (*ibid.*:172).

Among one of the subtler syntactic changes from CA to the dialects extant in the Middle Ages is the growing role of clausal subordination which diminished the role of the infinitive. In CA, verb clauses outside of the matrix clause and subordinates with oblique cases typically used the infinitive, e.g. *part ē bžškin*, or *imastun lini* (= *linel*) need-NOM AUX-3SG doctor-DAT-DEF.DET, SBRD wise be-SUBJ-3SG (=be-INF) ‘it is necessary for the doctor to be wise’.

A characteristic feature of the Hamshen dialect group includes the perfect tense of transitive verbs formed with resultative participle + ‘have’, and intransitives with ‘be’, in a striking parallel with many Romance languages: *giadz uim* eat.RPT have.1SG.PRES ‘I have eaten [it]’ *dəye-n k’un yeyadz* a boy-DEF sleep become.RPT be.3SG.PRS ‘the boy has fallen asleep’ (Vaux 2007:261). An alternate but theoretically and empirically sound view sees this as an opposition between unaccusatives and passives (which select ‘be’) from transitives and unergatives (which select ‘have’, Vaux 2005).

Mush has infinitive, future, past participle, relative, subjunctive, and negative participles. Verbal themes are limited to two, i.e. *-e-* and *-a-* (Barnasyan 2016:33-34), and monosyllabic verbs such as *gal* ‘to come’, *tal* ‘to give’, and *lal* ‘to cry’ require a stressed *i-* or *hi-* prefix, *ital*, *higal*, and *hilal*, respectively. No such prefixation is seen in the subjunctive. The negative converb (often called the “connegative converb”) is formed by dropping the infinitival *-l* and is conjugated solely with the negative form of the auxiliary verb, similar to how Hamshen forms negation. SWA uses the same *-er* converb for both the present and past pluperfect tenses as it does for the negative tenses (e.g. *garer em*

'I have sown', *č'em garer* 'I don't sow'), unlike Mush which has the *-er* converb for the affirmative forms but a different converb, as in *karer im* 'I have sown' but *č'em káre* 'I don't sow', paralleled in the Tehran dialect, Dolatian, Sharifzadeh & Vaux 2023b:52).

Regarding the *-adz/-ac* resultative participle, Karst (1901:340) suggested that this form had no widespread use in the near-always formal CA language, rather that such a participle ought to be derived from one of the contemporaneous dialects of late Antiquity. Mkrtč'yan & Xaç'atryan (2016:108), Ač'arean (1951:128), and Djahukyan (1969b:42-433) retrace the origins of *-adz* and mention that examples start appearing in the 6<sup>th</sup> and 7<sup>th</sup> centuries, hinting at the possibility that a sister dialect to CA had a greater distribution or frequency of *-ac*.

The disintegration of the old tense/aspect categories gave new opportunities for participles to be used – some participles replace or complement other tenses: in many Hamshen subdialects (Dzingir, Mimer, Mala, Zefanos, Martil, etc.) and other Black Sea dialects (Ordu), the past future is formed with the *-oɤ* subject participle and auxiliary, e.g. *peroɤ ey* 'I was to bring-FUT', and the plain future can be formed as *udoɤ im* 'I will eat' (Gevorgyan 2013:168), in Eudokia, the *-lik* participle has become the main way to form the future tense as they do not use *piti/bidi*; in Tigranakert, the aorist participle is equivalent to a resultative and together with the auxiliary verb form the compound predicate.

## CHAPTER 5: ANALYSIS OF MORPHOLOGICAL CHANGE

In this chapter, I offer a comprehensive analysis of morphological change as the record shows for WA dialects. The exploration starts with an examination of shared innovations (Section 5.1), which serve as pivotal points of departure in the course of morphological evolution. I attempt to distinguish the causes of change from the changes themselves. This encompasses an in-depth investigation of specific particles and elements that have undergone shifts, including the indicative particle, conditional particle, progressive particle, future particle, cohortatives, imperatives, prohibitives, and phenomena related to verbal intensifying reduplication, among others. Moving beyond shared innovations, I briefly examine the influence of Sprachbund effects and lateral transfer (Section 5.2), unraveling the fascinating narrative of linguistic convergence and interaction. The intriguing case of Cilician and Syrian dialects highlights the complexities of such influence. Additionally, I explore foreign influences (Section 5.3) that have left indelible marks on the morphological structure of certain dialects and dialect groups. I then discuss the development of agglutination (Section 5.4), analyze the intricacies of negation (Section 5.5), and uncover the nuances of tense-aspect markers (Section 5.6). To comprehend the mechanisms underlying these changes, I analyze the intricate processes that drive morphological change (Section 5.7) – these include acquisition seen through the Tolerance Principle, resegmentation, changes in concord classes, analogical extension, and the phenomenon of chain shifts. Through this multifaceted exploration, I endeavor to unravel the complex tapestry of morphological change within WA dialects, revealing the intricate threads that have woven these dialects into their modern forms.

### 5.1 Shared innovations

The primary criterion for subgrouping is the concept of shared non-trivial innovation, wherein a grammatical change departs from a trait in the proto-language and is collectively present in a subset of descendants. This shared innovation is believed to result from a change occurring in a single daughter language, which then diversified into its own offspring, each inheriting the modified trait. Consequently, this innovation is shared by the descendants of the intermediate parent but not by languages in other subgroups of the family, as they do not descend from the intermediate parent that underwent the change. The shared innovation signifies evidence of a past unified language that experienced the change and later separated into distinct languages, leaving traces of this change in its descendants (Campbell 1999:170) and is considered to be the most reliable indicator of genealogical linguistic relationships (Olander 2023:96).

Here, I will focus on only the most salient examples but I have identified more than a dozen shared innovations<sup>244</sup> among various groups of dialects. The first feature I touch upon in some detail is the indicative particle, the second is the progressive marker (SWA *gə p'ac'adrem gor*, e.g. 'I am explaining'), which is far less geographically concentrated<sup>245</sup> and has developed into a greater number of reflexes, the third is the conditional particle (coll. SWA *uzenk' ne*, 'if we want'), and the fourth is the future particle, along with competing strategies for forming future tenses. I also mention several innovations regarding the formation of various tenses of the imperative mood, verb intensification via reduplication, and other miscellaneous changes.

Since shared innovations can fool us and not all shared features can be used to diagnose clades, we need to focus on changes that appear unique – the more bizarre an innovation is, the more unlikely it is to appear by chance in two dialects. As we have learned from the many reconstruction attempts for other language groups for the past two centuries, the general tendency is that most higher-order subgrouping proposals are more controversial, because the shared innovations said to justify them are far less robust than those defining the well-established lower-order subgroups (Garrett 2006:139). On the other hand, contact and borrowing do very much complicate our calculus.

Regarding overlapping innovations, Hoenigswald (1960:154) warns that while the effect of a replacement change suffered at the proto-stage or at a sub-proto-stage is “shared” by the daughter dialects, the reverse does not hold: a replacement “shared” may owe its recurrence from sister dialect to sister dialect to the “accident” of independent identical change. A seemingly surprising innovation that can be traced to contact is simply less unusual, since it does not occur unexpectedly. So if two dialects both share some odd property, but that property can be attributed to borrowing, this could be because one of the two dialects was in contact with the same donor language and happened to independently borrow the new property.

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244 To give a phonological example, we sometimes are faced with a perplexing scenario where a hard-to-replicate phonological rule appears to have affected dialects from very different areas, though with good historical knowledge, it may be possible to see the pattern, such as this following *ruki*-rule which operated in certain areas, e.g. CA *harsanik'* 'wedding' > Nor Nakhichevan and Sivrihisar *hašnik'* (both are supposed to have migrated from Ani, Mkrtč'yan 1995:210), Hajin *hašnik'* (diminutive *haš(n)uk*, Gasparyan 1966:50), Sebastia *hašnik'* and other derivatives such as *hašnuk* (Gabikean 1952:329), Č'aharmahal (original from Ayrarat, then migrated much further south into Iran) *hašnik'* (Eremean 1923:79), rural Julfa *hašnik'* (Ač'arean 1979:62). Martirosyan (2008:538) leaves the question open as to whether this is a shared innovation or archaism.

245 Some shared innovations appear to be particularly clustered in certain geographical areas, such as the Cilician group. The Cilician, or extreme southwestern, dialects are considered to have both many archaisms and innovations – so much so that mutual intelligibility with other Western dialects is very low.

### 5.1.1 Indicative particle

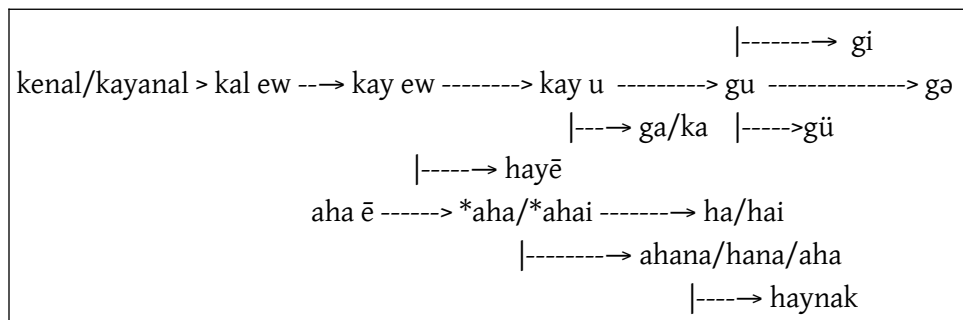


Figure 18: Relative diachronic development of indicative particles in Western dialects

Ačarean (1959:393) settles on *kenal*<sup>246</sup> ‘to stand, to remain, to wait’ as the ultimate origin of what would later become *kay u*<sup>247</sup>... as the likely origin of this particle, though semantically he provides a different explanation than what other authors give – ‘it stands and... V’ instead of ‘there exists and... V’. He then provides examples dating as far back as the 5<sup>th</sup> century of *kal* (infinitive of *kay*) being used as an intensifier or emphasis marker for verbs, such as *na kayr*<sup>248</sup> *c’owc’anēr* ‘he was showing (emphatically)’ and *kal akn ownel* ‘to have eyes, to have an excellent sense of observation’. One verb that was typically paired with *kal* was *mnal* ‘to remain, to stay, to be at rest’, with plenty of examples such as *kác’ mná dow* ‘you stay there!’, *kac’ic’ mnac’ic’ Astowcoy* ‘that I have remained with God’, *kac’ak’ mnac’ak’ irawanc’* ‘we remained with justice, we maintained uprightness’, and *kay mnay mardkan miangam meřanel* ‘there remains of mankind to die once’. Agat’angelos (5<sup>th</sup>-century biographer of Gregory the Illuminator) also offers to us an early clue of grammaticalization, as he uses the aorist *kac’* without the expected *e*-augment, yet uses *ekac’* in free constructions<sup>249</sup>. The historian of late Antiquity *Elišē* (410-475) also uses *kay ew patmē* ‘he stands and relates’. Note that texts as late as the 12<sup>th</sup> century still occasionally used *kenay* (*yete genay u kay* ‘if s/he comes’) *te ok genay u ertay ir čampovn* ‘that someone go on his road’, etc. (Karst 1901:300), which are perhaps deliberate archaisms.

246 *Kenal*, *kayanal* ‘to stand, to stay still, to halt, to establish oneself’ (inchoative form of *kal*, probably ultimately from PIE *\*g<sup>w</sup>h<sub>2</sub>-ti-*, from *\*g<sup>w</sup>eh<sub>2</sub>-*), and *kal* are etymological triplets. *Kenal* is likely the most archaic given that it is defective and requires part of its conjugation to be derived from *kal*.

247 Orthographically *ow* [u], modelled on the Ancient Greek digraph *ou*, thus was likely never a diphthong.

248 *kayr* is the third person imperfect indicative of *kal*.

249 There is a small chance that the non-use of the augment was introduced by a later copyist, as *Patmut’iwn Hayoc’* was transmitted and translated widely beginning in the 6<sup>th</sup> century, and while there are surviving versions in Greek, Arabic, Georgian, Syriac, and Amharic, the earliest complete Armenian manuscript is in Yerevan, Mařtoc’ Matenadaran, ms. 1920, and dates to 1569; the earliest surviving text is in a palimpsest, Vienna, Mechitaristenkloster, ms. 56 (9<sup>th</sup>-10<sup>th</sup> c.) (Andrews 2021).

These examples show us that before grammaticalization<sup>250</sup>, the predecessor of *kal* was able to be fully inflected and did not need a coordinating conjunction *ew* (SWA *yev*<sup>251</sup>) or *u*<sup>252</sup>. Though in the classical era, we sometimes see *ew* or *u* being used, starting from the 7<sup>th</sup> century, we see *kal* being increasingly used with *u* ‘and’. Over the next few centuries, there was a successive loss of inflection on *kal* – Ačārean (1959:394) states that the loss likely occurred in the singular present first, then the plural present, then to all numbers in the imperfect past: *kamk’ u lsemk’ > kay u lsemk’ > ku/gu lsenk’* ‘we hear’; *kayr u tesanēr > kay u tesanēr > gu desanēr* ‘s/he saw’; and *kay u berem > gu perem* ‘you (sg.) bring’. Hübschmann (1901:60) estimates the first appearance of *gu* to be from the 9<sup>th</sup> or 10<sup>th</sup> century. Ačārean admits that the *a > u* shift is unusual<sup>253</sup>, though he explains that often-used functional words can become radically phonologically eroded and partake in unusual phonological changes that the rest of the grammar does not experience (he cites French *tu n’as pas > t’as pas* as an example). Meillet (1904:26-27) gives a similar explanation for the *t’e ~ t’a* ‘that, ...and ...and’ alternation found in certain EA dialects<sup>254</sup>. A compatible explanation can be found for Fox (Goddard 1988, Ringe & Eska 2013:57) and Old English allegro forms (Jespersen 1909:201) in which clitics or function words may have sounds that are reduced and fused to a “phonetic mush” which is hard to distinguish segmentally (Brink 2013:19).

Ačārean (1959:394) hypothesizes the following steps (the dates are my estimations):

- 5<sup>th</sup> c. and likely before: fully inflected *kal/kenal* + no conjunction + inflected V
- 5<sup>th</sup> - 7<sup>th</sup> c.: fully inflected *kal/kenal* + *ew* or *u* conjunction + inflected V
- 7<sup>th</sup> - 9<sup>th</sup> c.: fully inflected *kal/kenal* + *u* conjunction + inflected V

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250 The fact that there are early variants of inflected *kal/kenal* precludes the possibility of yet another explanation to be correct – namely, that *ku/gu* is merely the full (and degrammaticalized) form of the suffix *-k/-g* (an old augmentative suffix, Djahukyan 2010:808), seen in words like *aysorik* ‘this day today’, *ēsik*, *asika*, *asikak* ‘this thing here’ (Adontz 2008:344, modern reprint of a book review of Abeghyan’s 1936 *Neuarmenische Grammatik*). Abeghyan (1936a) also derived *ku/gu* from the root verb *gol* ‘to be, exist, subsist’, which Ačārean, Adontz, and Vaux (p.c. due to the voicing being wrong) disagree with, although the semantic link and possible influence or interference is difficult to ignore.

251 In both SEA and SWA, this is a learned borrowing from CA. As an inheritance, *ew* ‘and’ survives only in the Suceava (Artial, Transylvanian) dialect.

252 This coordinating conjunction (generally used to link two objects or events in close relation) ultimately derives from PIE *\*h<sub>1</sub>op-i* (Hübschmann 1901:51f1), a locative variant of *\*h<sub>1</sub>epi*, whence came *ew*, which in CA had the function of coordinating two or more independent clauses (Ačārean 1977:589-590, Matasović 2009:10).

253 Adontz (2008:344, likely written around 1936 or 1937), points out that even synchronically, such a sound change is not as strange as it may appear – though rare, we have pairs like CA *tlay* ‘boy’ > *tlut’iwn* ‘boyhood’ and *erexay* ‘baby’ > *erexut’iwn* ‘babyhood’, though *erexayut’iwn* is about 14 times more common. To Adontz’s list, I can add *abelay* ‘hieromonk’ > *abelut’iwn*, *ark’ay* ‘king’ > *ark’uni* ‘royal, aulic’, *cařay* ‘servant’ > *cařut’rar* ‘ministry, spiritual servitorship (?)’, perhaps *p’axsteay* ‘fugitive, deserter, runaway’ > *p’axstut’iwn* ‘state of being a fugitive or deserter’, *p’esay* ‘bridegroom, groom, son-in-law’ > *p’esut’iwn* ‘groomship’, *k’ahanay* > *k’ahanut’iwn* ‘priesthood’ though none of these are remotely common words, and all of them have a much more common *-ayut’iwn* variant, thus we see both crosslinguistically typical hiatus resolution strategies – deletion and epenthesis.

254 “Il n’est jamais légitime de prendre de pareils mots pour des témoignages du traitement phonétique normale; ils sont prononcés avec une certaine négligence [...] il est illégitime d’invoquer contre cette altération les lois phonétiques générales de la phonétique arménienne.”

9 <sup>th</sup> - 10 <sup>th</sup> c.:	loss of inflection on <i>kal/kenal</i> + <i>u</i> conjunction + inflected <i>V</i> ; dialects with the <i>ka/ga</i> <sup>255</sup> variant split off earlier
10 <sup>th</sup> - 11 <sup>th</sup> c.:	reduced <i>kay</i> to <i>ku/gu</i> + inflected <i>V</i>
12 <sup>th</sup> c.:	<i>gu</i> starts having allomorphs based on phonotactics of <i>V</i> ; particle spreads to the imperfect tense
13 <sup>th</sup> - 19 <sup>th</sup> c.:	further reduction of <i>gu</i> in various dialect groups, regrammaticalization or exaptation of a <i>gu</i> reflex for other functions such as COND, PROG, etc.

Ačarean (1959:396) also explains how many dialects ended up with the need to place a mandatory particle for the indicative mood: with the decline of the subjunctive present<sup>256</sup>, speakers colloquially felt the need to distinguish between the indicative and subjunctive moods, thus *kay u...* along with further reduced forms<sup>257</sup> became a strategy to emphasize the declarative meaning of the sentence and disambiguate it from a possible subjunctive or optative interpretation. Weitenberg (1993) discusses the fact that the present subjunctive was not well-integrated within the general verbal paradigm in CA, and disappeared rather early in the Classical period, even before the subjunctive aorist (which erstwhile was being used as a general future tense). Ačarean also states that the inflected forms of *kal* and *kenal* were used interchangeably in earlier times, until the uninflectable frozen formerly third person singular *kay* took hold. Though why did the *kenal* forms disappear? Ačarean's answer is that since *kenal* birthed *kal*, which is shorter and semantically occupied a similar space, the *kal* forms won out.

Concerning the grammaticalization of the ancient *kay u* into *gə-* and its variants, it is worth noting that this prefix in most WA dialects does not apply to some verbs, cf. *k'idem*, *k'idei*, 'I know, I knew', but *\*gə k'idem*, *gə k'idei*, *ga*, *gar* 'there is, there was', *gardzem*, *gardzei* 'I consider, I thought', *?gə gardzem*, *?gə gardzei*, and *gərnəm*, *gərnai* 'I can, I was able to', never *\*gə gərnəm*, *\*gə gərnai*. This restriction in the distribution of the morpheme *gə-* appears significant, especially since it cannot be explained by reasons inherent in modality scope; consequently, the fact that today the presence of *gə-* distinguishes the indicative from the subjunctive cannot have represented the original function of the prefix. The observation that the prefix *gə-* turns out to be incompatible with stative verbs (SWA *\*g'unim* 'I have, hold, possess', *\*gə gam* 'I exist'), such as those listed just above, leads one to believe that this restriction

255 For this and the following subsections, unless otherwise relevant, I ignore the voicing quality of these particles as that has to do more with which phonological group a dialect in question falls into.

256 This pattern seems to have occurred at times within IE, for example, this can be seen in the Tocharian subjunctive, which functions synchronically as both a future tense and a subordinate verbal form. Many of the forms of the subjunctive in Tocharian derive from present tense stem forms in PIE, e.g. Tocharian B *kärnām*, '(s)he will buy', < *\*kuri-né-h<sub>2</sub>-*, cf. Vedic *krīṇāti*, Old Irish. *crenaid*, alongside recharacterized Tocharian B present *kärnā<sup>ssd</sup>/ske-* (Darling 2020:27).

257 This is an analogous development to what we know as the Jespersen cycle: "[t]he original negative adverb is first weakened, then found insufficient and therefore strengthened, generally through some additional word, and this in its turn may be felt as the negative proper and may then in course of time be subject to the same development as the original word" (Jespersen 1917:4); see Miola (2017) for a typological comparison of such negatives in Romance.



arises from a categorical value that was active at an earlier diachronic stage. Usually, stative verbs show little or no compatibility with progressive aspect, and this is the value that the morpheme *gə-* was originally meant to convey. About the unacceptability of applying progressive periphrases to stative verbs take the verb ‘know’ and compare English *I know Paul’s telephone number* vs. *\*I am knowing Paul’s telephone number* or Italian *so il numero di telefono di Paolo* vs. *\*sto sapendo il numero di telefono di Paolo*; the latter example moreover contains a progressive periphrasis of similar etymological motivation (Italian *sto* from *stare* ‘to stay’, < Latin *stāre* < PIE *\*steh<sub>2</sub>-* ‘stand’) with respect to WA, that is, with grammaticalization of the verb *kal* or *kenal* (on the subject of a similar phenomenon in Romance, cf. Squartini 1988:127-51).

Crosslinguistically, posture verbs (*stand, remain, stay, sit, lie, be at, live, reside, etc.*) are a common grammaticalization pathway for progressive markers (Bybee et al. 1994:129), with desemanticization or bleaching leading, by extension, to decategorialization and then usually phonetic erosion accompanying the last stage of full grammaticalization (*yālis* ‘sitting’ in Emirati Arabic retains its full phonetic form but became grammaticalized as a progressive marker, Ismail 2015:96). Posture verbs can be seen to evolve into progressive markers in Manhartha (Pama-Nyungan, Western Australia, Austin 1998:24), Swedish (Platzack 1979:55), Icelandic (Jóhannsdóttir 2007:361), Norwegian (Haugen 1982:158), to a lesser extent Dutch (e.g. *ik zat te lezen* ‘I was (sitting and) reading’, Lemmens 2005), Kxoe (Khoekwadi language in Botswana and Namibia, Kilian-Hatz 2002), and many other languages across the world. Interestingly, Ačarean (1959:393) remarks that prior to grammaticalization, the *kay u...* construction often occurred with an inflected form of *mnal* ‘to stay’.

What is noteworthy is the abundance of *ku/gu* forms in CivA which is intended to be a cross-dialectal standard language containing a mix of CA, WA, and EA features – Levonian (1675:99), in just one paragraph, uses *ku c’uc’ane* ‘it shows’, *k’ane* (contracted form of *ku + ane*) ‘makes’, *ku bardemk’* ‘we add up’, *ku lini* ‘becomes’, *k’avelnay* ‘increases’, *ku bazmac’nemk’* ‘we increase’, *ku šinemk’* ‘we build’. This supports the argument that the *ku/gu* form was the more conservative one, and that in the 17<sup>th</sup> century, a number of dialects that would eventually use *kə/gə* still used the older variant.

The original progressive aspectual value of *gə-* in a large number of WA dialects has weakened in diachrony and in many varieties is completely lost, as is evidenced by the emergence of new formations of progressive (Łaribyan 1953:181-187; Ačarean 1961:97-99). Let us take, for example, the morpheme *gor* (*gu/gə + (v)or*) posited after the verb in Constantinople, cf. *gə badrem gor, gə badrei gor* ‘I am ripping, I was ripping’. Above, we saw that the morphemes which mark the indicative today, in both EA (with a present participle suffix) and WA (with an indicative particle), originally had contents more of an aspectual nature and expressed the feature [+progressive]. Armenian dialects have other morphemes still to indicate the link between present and imperfect (for a review cf. Łaribyan 1953:170-181; Vaux 1995:136-137), here we can limit ourselves to recalling the participial form in *-(V)lis* (*-alis/-elis*), which is very common in the easternmost area of Armenian dialects (Ardvin, Dzmar, Keyvan,

Karчевan, Meghri, Hadrut, Gharadagh area, Maragha, etc., Łaribyan 1953:281-282). This participial form is also known to SEA as a progressive participle which has fossilized and no longer carries an explicit progressive aspect (Dum-Tragut 2009:213), but in the formation of inflected forms its use is limited to the three monoconsonantal verb bases *l-* ‘weep’ (*lalis em, lalis ei* ‘I am weeping, I was weeping’), *g-* ‘come’ (*galis em, galis ei* ‘I am coming, I was coming’), *t-* ‘give’ (*talis em, talis ei* ‘I am giving, I was giving’) (Scala 2021a:145-146).

The first written attestation of *gu* is from a 12<sup>th</sup>-century text penned by Mxit‘ar Herac‘i and the same text has *gu* written both as a separate word (*gu lini* ‘s/he becomes’) and as a fused prefix to the indicative verb (*gukay* ‘s/he comes’). This *gu* form did not seem to always be reduced to just *g’-* in front of vowel-initial verbs in most of the data, as we have examples like *gu uze* ‘s/he wants’, *gu alčem* ‘I pray’, and *gu aynē* ‘s/he receives’ (from a text by Smpad Kuntsdabli or Sparapet (military rank of general), Gulgazaryan 2019), though we also find a few examples like *g’ertas* ‘you go’. Some MA texts have both *gu* and *gay u* forms (Aytanian 1883, Ačarean 1959:395). It is also not obvious if the semantics of *gu* was ever originally progressive:

Այ վախ, գրուցածս, կու սխալիմ:

Ay vax, zrowc‘acs, kow sxalim.

O fear-NOM, ACC-spoken-about-DEM, *gu* mistake-1SG

‘O fear, the thing spoken of here, I am mistaken.

Colophon 206, 2, Line 1, 12<sup>th</sup> century (Mat‘evosyan, 1988)

Regarding the origin of *gu*, Karst (1901:307) disagreed with Petermann (1867b)’s assessment that the *gu* particle derives from the verb *kal* ‘to stand, to exist’. Petermann believed that he was hitting two birds with one stone – that the grammaticalization of *kam, kas, kay*, etc. could have led to both the phonetic erosion to *ku-Ø/gu-Ø* and a plausible semantic explanation<sup>258</sup>. Karst’s two main arguments were that 1) we do not ever see *ka-/ga-* change into *ku-/gu-*; and, 2) the *gu* particle never had an explicitly future meaning, only nonpast, and that this particle was never a tense marker, and rather was a mood marker. There was yet another explanation given the literature, one that attempted to trace back *gu* to a loan from Arabic morphology (specifically, the *ya-* third person marker verbal prefix), but Ačarean (1959:393) outright dismissed this as implausible and unwarranted.

Texts in MA show us that *gu* (or *ku* depending on phonological changes for specific dialect groups) must have preceded *gə/kə* and possibly *gi/ki*, as we have plenty of examples of *gu* being used in regular verbs, not just monosyllabic ones (Ačarean 1959:379). Assuming that many modern dialects derive from the variants that were written down in MA, this would mean that the *gu* reflex is a fossilized holdover.

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258 Petermann was also convinced that the *gu* particle initially marked the future. This particle would eventually gain the ability to mark the future in some EA-speaking areas.

Artial<sup>259</sup>, which still had a sustainable number of speakers when Hanusz (1886-88) and Ačařean (1909) studied it, has the form *gi*. Greppin & Khachaturian (1986:22) believe that *gi* is a more archaic version of the reduced *gə*, which seems correct to me; its geographical isolation from the Asia Minor chain of dialects precluded any influence from them starting from the late Middle Ages. Note the 2SG change from *-r* > *-s* by analogy with the present, which did *not* take place in the Polish subdialect (Martirosyan 2019b:210).

	Present	Imperfect
1SG	gi sir-i-m <sup>260</sup>	gi sir-e-i
2SG	gi sir-i-s	gi sir-e-i-s
3SG	gi sir-e	gi sir-e-r
1PL	gi sir-i-nk <sup>c</sup>	gi sir-e-i-nk <sup>c</sup>
2PL	gi sir-i-k <sup>c</sup>	gi sir-e-i-k <sup>c</sup>
3PL	gi sir-i-n	gi sir-e-i-n

Table 46: Indicative present and imperfect of ‘to love’ in Artial subdialects except Poland

Jahukyan (1972:190-192) reasons that since the *gu* (or *ku*) and *piti* (or *bidi*) verbal particles spread to almost all territories where Armenian dialects have historically been spoken but get grammaticalized differently (in WA dialects, *gu* usually becomes the indicative marker and sometimes the progressive, in EA dialects, *ku* usually gains the function of expressing the necessitative, or conditional, or the future tenses of the conditional mood, and in some dialects occupying a middle position), it should be thought that originally and before it appears in the written record, *gu/ku* must have had a dual value and that it must have spread before the separation of some dialects. The former point is harder to explain than the latter, which must necessarily be correct. Vaux (1995a) takes it for granted that the MA *gu* was a progressive marker.

259 Artial, borrowed from the Hungarian word for Transylvania Erdély, is a grouping of closely-related Transylvanian or extreme northwestern dialects, traditionally spoken in Poland, Hungary (later Austro-Hungarian Empire), Bukovina, Moldova, and Romania. Early migratory waves towards Eastern Europe left Armenia after the collapse of the Bagratid Dynasty (1045 CE) and migration intensified after the fall of the Kingdom of Cilicia (1375), with numbers as high as 5000 in Poland by the late 14<sup>th</sup> century (Stopka 2000). When Hanusz (1886-1887) was doing fieldwork, some Armenian communities still spoke their dialect, though assimilatory pressures and both World Wars and subsequent relocations throughout the Soviet Union appear to have killed this group of dialects. Ačařean (1911:33) mentions that Armenians in what was then Galicia spoke Polish except in Kutu, Armenians in Hungary and Transylvania spoke Hungarian except in Szamosújvár or Armenopolis and Gherla or Elisabethopolis, and Armenians in Romania spoke Romanian everywhere except in part in Bukovina (now shared between western Ukraine and Romania), and Turkish in parts of the eastern seashores to Galați with some more recent immigrants who spoke various WA dialects.

260 Greppin & Khachaturian (1986) has it as *gi sirēm*, though it must be a typo as other sources write ‘-i’.

In SWA and many dialects in Asia Minor, the indicative present and past imperfective (with no progressive connotation) are formed by adding the indicative prefixed particle before the finite verb: /gu-/ for monosyllabic verb stems (Bardakjian & Thomson 1977:23), /g-/ before vowel-initial verbs, and /gə-/ elsewhere. Most Cilician dialects use essentially the same strategy but with three major differences:

- 1) different prefix forms;
- 2) vowel harmony (e.g. Marash can have a large number of *gə* allomorphs); and,
- 3) repeating *gə* (or another reflex) in some phonological contexts, as in Kabusiye.

	Ind. pres.	Ind. imperfect	Aorist
1SG	gə kəy-i-e-m	gə kəy-i	kəy-i-ec <sup>c</sup> -i
2SG	gə kəy-i-e-s	gə kəy-i-y	kəy-i-ec <sup>c</sup> -i-y
3SG	gə kəy-e	gə kəy-e-y	kəy-i-ec <sup>c</sup>
1PL	gə kəy-i-e-nk <sup>c</sup>	gə kəy-o-nk <sup>c</sup>	kəy-i-c <sup>c</sup> -o-nk <sup>c</sup>
2PL	gə kəy-e-k <sup>c</sup>	gə kəy-i-k <sup>c</sup>	kəy-i-ec <sup>c</sup> -i-k <sup>c</sup>
3PL	gə kəy-i-e-n	gə kəy-i-n	kəy-i-ec <sup>c</sup> -i-n

Table 47: Indicative present, imperfect, and aorist of *kəyel* (cf. SWA *krel*) ‘to write’ in Hajin

In the Gelieguzan subdialect of Sasun<sup>261</sup>, the particle *g-* before a V-initial verb merges entirely, and before a C-initial verb it becomes *gə-* (Greppin & Khachaturian 1986:176). For the Hamshen subdialects, when the verb is C-initial, the particle *gu* comes after the verb, when V-initial *g-* is used as a prefix (e.g. *g-udim* ‘I eat’ but *b<sup>c</sup>erim gu* ‘I bring’), regardless of the number of syllables, e.g. *gešdon* – third person plural, present indicative of *etuš*, ‘to go’. In Van and surrounding dialects, the allomorphs *k-*, *kə-*, and *ku-* are used respectively before verbs that are V-initial, C-initial, or monosyllabic.

As positive confirmation that the *gu* particle derives from *kal*, Ačarean (1959:397) offers evidence from the Kesaria dialect has maintained its inflection (of both person and number) on the negative versions of *ga/ka*, such as *č<sup>c</sup>kam kardam* ‘I don’t read’, *č<sup>c</sup>kar grei* ‘I didn’t write’, and *č<sup>c</sup>kas greir* ‘you didn’t write’, and one also finds *č<sup>c</sup>i k<sup>c</sup>am girem* ‘I do not write’, *č<sup>c</sup>i k<sup>c</sup>as gires* ‘you do not write’

261 It was spoken in many villages of Sasun, a region in the former Ottoman Empire. A part of the population was put to the sword by the Ottoman authorities in a series of pogroms in 1894 and 1904, and in 1915, a large chunk of the Armenian population was exterminated. However, many people from Sasun managed to escape and move to Eastern Armenia, and now this dialect is used in Talin and Ashtarak regions (Katvalyan 2016). In the Sasun dialect, typical Adj-N order is reversed like in *Tavit<sup>c</sup> Sasuna* ‘David of Sasun (mythological character)’, same with attributive use of noun before noun like *Halep pirt* ‘fortress of Aleppo’.

(Ant'osyan 1961:xvii-xviii, 139). If one suspects that *ga* split off earlier than the other reflexes, it would make sense to find some dialects that have maintained the older, pre-grammaticalization pattern that would allow those grammars to inflect this morpheme.

Our dialectal analysis is complicated by the fact that a fuzzy zone exists in which the *gə* particle can exist in more than one form within the same dialect, leading to potentially two confusions: the selfsame particle being used in more than one dialect for different grammatical purposes, or the data sources not making it clear which grammatical purpose a particular particle is being used. For example, in Aramo, the use of the velar-based *gə* particle is restricted to only monosyllabic root verbs, which otherwise uses the *hay* particle for the indicative for all other verbs (e.g. *gukar a* ‘I will have come’ (past future), cf. SWA *bidi kayi, bidi yegadz allayi*, Ęaribyan 1958a:49, *hay harc'anēym* ‘I ask’, *ibid.*:43).

Mobile affix determined by:	Morphology	Morphology Phonology	Morphology Phonology Syntax	Morphology Phonology Syntax Prosody
Mobile but without known factors:				
Adapazar, Altun-Husein, Amasia, Arabkir, Baberd, Bardizag, Darende, Edesia, Hamshen (some subdialects), Prknig, Sebastia		Hamshen, Trabzon, Arabkir, Gyurin	Gyumri	Akhalkalaki, Karin, <i>Lomavren</i> <sup>262</sup>

Table 48: Cross-modular conditions on affix mobility across WA dialects

The indicative marker is also a mobile affix in some dialects, alone or in competition with the progressive marker. With very few exceptions, no dialect allows for particle stacking in the same direction (particle + verb + particle is allowed, but not particle + particle + verb<sup>263</sup> or verb + particle + particle<sup>264</sup>) – even those that tolerate mobility do not tolerate having two or more particles placed either before or after the verb. Bezrukov & Dolatian (2020) were able to do fieldwork on four varieties of Armenian – SWA, Hamshen (though unstated, it is the Canik subdialect, Bezrukov p. c.), Gyumri, and Akhalkalaki, which are both subdialects of Karin (Erzurum) – in which they tested a large variety of morphological, phonological, syntactic, and prosodic<sup>265</sup> tests to find out which factors affected speakers’

262 Also known as Bosha or Posha (Üzüüm & Demir 2023:126) a nearly extinct mixed Romani/Domari-Armenian language that arose from language contact; its grammar is based on the Karin dialect of WA and its lexicon is primarily Indic.

263 Vartenis allows for two particles to be stacked preverbally (discussed in the next section).

264 The *guni* progressive forms in Hamshen (explored in Subsection 5.1.2) seem to violate this rule unless one interprets *guni* synchronically as a single morpheme as opposed to a bimorphemic *gə + uni*.

265 Akhalkalaki, for example, is sensitive to prosodic focus. For a simple transitive sentence with a topicalized definite object, stress is on the verb; V-initial verbs take a preposed *gə* while C-initial verbs take a post-posed *gə*, with no switching. If a bare object is used instead, then the object takes stress and is adjacent to the verb. For a C-initial verb, Gyumri exhibits a switch while Akhalkalaki has enclisis. If one uses is a focused *wh*-word such as *urdeš* ‘where’, the new focused item is not adjacent to the verb – the preposed *gə* stays fixed on the verb for Gyumri but it jumps onto the focused item in

choice (Bezrukov 2022). I have incorporated their and Scala (2014)'s findings (Table 49) and expanded the number of dialects examined for this particular grammatical trait in the Table 48.

Like its predecessor *ku*, the latter formation subsequently becomes a simple present, giving Kesab *hA* and Aramo *hAy*<sup>266</sup>. Interestingly, Kesab, Aramo, Arabkir, and Eudokia use a reflex of *ha* as their indicative particle instead of *gə* – have repurposed this particle likely via exaptation<sup>267</sup> (Traugott 2004) and made it into a progressive marker. For this and related reasons, Gevorgyan (2013:11) rejects Łaribyan's classification of *ha* dialects as their own grouping. These forms can be accounted for by a straightforward diachronic development *aha*<sup>268</sup> *ē* 'here is' > *ha e* > *haye* > *ha/hai*. In both Nikomedia (said to use *yor* more often, however) and Aslanbeg, *háye*, which is a less phonologically eroded form, marks the progressive.

In the Eastern dialects, *kə/gə* (usually further shortened to just *k-*) is generally reserved for future, conditional, or hypothetical tenses, but Donabédian & Ouzounian (2008) stress that this distinction is not absolute, as for most WA dialects, *kə/gə* includes all meanings of SEA (and many other non-standard dialects) *k-*, namely a prospective meaning in independent clauses and hypothetical meaning in the apodoses of hypothetical sentences. Most EA dialects developed alternative strategies for the plain present and imperfect indicative mood via innovating various present participles (which all require auxiliarization).

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Akhalkalaki (Bezrukov & Dolatian 2020:46).

266 Uppercase /A/ denotes a low vowel which surfaces as [a] before roots whose first vowel is [+back] and [æ] before roots whose first vowel is [-back].

267 The promotion of meaningless or redundant material so that it does new grammatical (morphosyntactic or phonological) or semantic work (Lass 1990, 1997, Haeberli 2017:2), a convenient label as it singles out a specific type or refunctionalization, namely those cases where the function shift is 'unpredictable' or 'leap-like' (van de Velde & Norde 2016:8).

268 In CA, it was an interjection used to draw attention to something or someone; its etymology is unclear, though Ačarean (1971:112-113) classifies it as an onomatopoeia, for which he uses the term *բլսսծսյլս* "natural expression/sound". Most modern dialects have a derived term.

		LOMAVREN	KARIN (ACC. TO ADJARIAN, 1909)	KARIN (ACC. TO MKRTČ'YAN, 1952)	HAMSHEN/ TREBIZOND	ARABKIR	GÜRÜN
POLISYL.	[#C-] verb	... + ku	... + gə	... + kə	... + gu	gu +.../ ... + gu	go + ... / ... + go
VERB	[#V-] verb	k + ...	g + ... + gə	k + ...	g + ...	g + ... + gu	g + ... + go/ go + g + ...
MONOSYL	[#C-] verb	ku + ...	gə + ... + gə	ku + ...	... + gu	gu +.../ ... + gu	go + ... / ... + go
L. VERB	*[#V-] verb						
		<b>(Morpho)-Phonetic and (Morpho)-Prosodic context</b>			<b>(Morpho)-Phonetic context</b>		

Table 49: Scala 2014:241 (He has an error for 1909 Karin<sup>269</sup> for monosyllabic verbs)

### 5.1.2 *Progressive particle*

In this section, I first briefly go over some of the proposed theories for the progressive particle, along with their refutations by later scholars, and then I go over the one I endorse in detail. Aytənian (1866:76), whose opinion still appears dominant among modern Armenian intellectuals (non-linguists), was convinced of the Turkish origin and subsequent conversion to *kor/gor* due to phonological factors – other than the numeral ‘seven’ (CA *eawt'n* [jawt<sup>h</sup>n] > [jo:t<sup>h</sup>n]), no native word starts with *y-*; Ačārean offered counterexamples of words starting with *y-* but Donabédian & Ouzounian<sup>270</sup> (2008:6) point out that all of his counterexamples are dialectal or borrowings.

269 Ačārean (1909:47) states that monosyllabic verbs in Karin receive *gu* +V-INFL + *gə*, such as *gu lam gə* ‘I cry’, *gu dam gə* ‘I give’, *g'u g'am gə* ‘I come’ (an allomorph with a voiced aspirate), to which he also adds verbs which are not monosyllabic such as *g'əsem gə* ‘I say’, *g'enem gə* ‘I make’ (I added the apostrophes here to make it consistent with the rest of the project, as Ačārean did not in his 1909 work; these last two verbal roots are not monosyllabic, thus cannot be underlyingly \**gu əsem gə* and is rather /*gə əsem gə*/ → *g'əsem gə*. This last point may have been the source of the confusion. Furthermore, the expanded Armenian-language edition of his 1909 work (1911:110) is more phonetically accurate as he uses *ku... kə*, which shows the expected voicelessness of a Group 2 dialect for this phoneme.

270 Though unlikely, they offer an alternate explanation to *gə* + verb + *yor* – it could be possible that *y* > *g* by consonant harmony with the initial (preverbal) indicative particle *gə*.





Later on, Ačarean (1961:95-106) refines his Turkish influence hypothesis as he examines the geographical spread of this feature, as he finds that in the Caucasus and Persia such a form does not exist at all; secondly it does not exist either in Turkey proper from the borders of Persia to Karin, Kharberd, and Tigranakert. The feature starts from Baberd and Malatya and continues up to the western edge of Asia Minor in Rodosto. He points to its absence in the other WA dialects spoken in Poland, Hungary, Romania, and Crimea. A few dialects in the extreme southwestern group (Cilician and Syrian) which was especially significantly influenced by Turkic, lack such a form, however.

Ačarean (*op cit.*:108), in refuting Aytənian (1866:76)'s derivation of *kor/gor* from Turkish *-yor*<sup>275</sup>, proposes that *kor/gor* originated from a combination of the particle *kə/gə* and the subordinating particle *or* (this is the derivation which I endorse); synchronically, he had evidence available to him in Karin, in which the enclitic particle *kə* can be combined with the subordinating conjunction *or*, which results in the form *kor*; and Rodosto also provided him evidence of variation among *ko*, *or*, and the regular *kor*. Various subdialects of Hamshen also have *uni* and *guni* (also spelled *g'uni*), based on the subjunctive third-person singular of the verb 'to have' with a fused *gə* marker.

There is also another proposed source for *gor/kor* – Ghapantsyan (1939) derives this progressive marker from the Laz (a South Caucasian language spoken on the southeastern shore of the Black Sea) particle *ko* having the same function, though this is highly unlikely given what we know about the *kay*-derived particle. Also, only a few WA dialects could be said to have been spoken in areas in which Laz is spoken, thus the large geographical range that the progressive covered by the beginning of the 20<sup>th</sup> century militates against this hypothesis.

Nevertheless, even in the face of a remarkable convergence between WA *gor* and Turkish *-yor* which has been noticed by many linguists and even native speakers, I must reject the Turkish origin of *gor* for three reasons: first, we have been able to retrace the steps that lead us from CA/pre-CA *kenal/kal* to the various indicative and progressive forms, second, there was internal necessity for distinguishing the continuous present from the plain indicative marker, given the wide range of functions/features it covers (actual, generic, nonpast, future, hypothetical, etc.); and third, the consonant harmony *y > g/k* is unconvincing given that it is only restricted to this exact scenario.

Ačarean (1961:105) illustrates the difference between the regular and the continuous (I use “progressive” interchangeably with “continuous”) present, which is diachronically related to the indicative marker, as follows: the simple present expresses an action which always or generally occurs; the continuous present denotes an action which takes place at the moment of speaking, in other words, it is not the continuous, durative action which is stressed, rather the action being perpetrated at the moment of speaking, with the durative aspect only secondary (Gevorgyan 1994:44-45). It is suggestive

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275 The fact that *-yor-* or *yor* does not show up in any Armenian dialect except Nicomedia is strong but not absolute evidence against such a derivation.



- 17<sup>th</sup> - 19<sup>th</sup> c.: *gor* spreads across the dialects, possibly enhanced by Turkish influence; *gor/kor* dialects may have further reduced to *go/ko/goy/koy* or *or*;
- ? - 19<sup>th</sup> c.: independently, perhaps including from ancient times, some dialects develop a progressive from a derivation of *aha ē* > *hayē* > *hay* > *ha(i)*; some dialects may have split off with an augmentative *-na* pronominal marker > *hana* > *haynak*; another set perhaps developed as *aha ē* > *aha* + *-na* as above, or some without *-na*, with perhaps influence from *ahavasik* ‘lo, behold, here [is], Fr. voici’; and,
- ? - 19<sup>th</sup> c.: independently, some Anatolian WA and far-eastern EA dialects develop a progressive from *tay or* ‘(it) gives that’ > *tar* and its phonetic variants *dar*, *tē*, *dē*.

Particle form	Dialects and the function of the morpheme
kə, gə, ku, gu, kü, gü	Adapazar-IND, Akn-IND, Alashkert-IND, Altun-Husein-IND?, Amasia-PROG, Arabkir-IND?, Aramo-PROG, Arjesh-IND, Artial (Kuti)-IND?, Artial (Suceava)-IND?, Aslanbek-PROG?, Baberd-IND, Bitlis-IND, Charsanchag-IND, Chmshgadzak-IND, Constantinople-IND, Crimea-IND, Darende-IND, Edesia/Urfa-PROG, Erznkay-IND, Eudokia-IND, Gamakh-IND, Gelieguzan (Sasun)-IND, Gop-IND, Gyumri-IND, Gyurin-IND, Hajin-IND, Haji-Habibli-IND, Halvorig-IND, Hamshen (Mala)-IND, Hamshen (Martil)-IND, Hamshen (Zefanos)-IND, Hazzo-IND, Jerusalem-IND, Kabusiye-IND, Karin-IND, Kharberd/Dersim-IND, Malatya-IND, Manazkert-IND, Marzvan-IND, Middle-IND, Moks-IND, Mush-IND, Nicomedia-IND, Ordu-IND, Ozmi-IND, Prknig-IND, Rodosto-IND, Sebastia-IND, Şabin-Karahisar-IND, Shatakh-IND, Sivrihisar-IND, Smyrna-IND, SWA-IND, Syolyoz-IND, Tigranakert-IND, Tomarza-IND, Trabzon-IND, Van-IND, Vartenis-IND, Xlat-IND, Xnus-IND, Yoghnluk-IND, Zeytun-IND
ki, gi	Adapazar-IND, Crimea-IND, Vartenis-IND
ka, ga	Amasia-IND, Bardizag-IND, Beylan-IND, Darende-PROG, Efkere-PROG, Eudokia-PROG, Evereg-IND, Haji-Habibli-PROG, Kabusiye-PROG, Kesaria-IND, Marash-IND, Marzvan-PROG, Sivrihisar-PROG, Smyrna-PROG, Tomarza-PROG, Yozgat-Gamirk-IND, Zeytun-PROG
kor, gor (>kay or)	Constantinople-PROG, Eudokia-PROG, Jerusalem-PROG, Nicomedia-PROG, Ordu-PROG, Prknig-PROG, Rodosto-PROG, Sebastia-PROG, coll. SWA-PROG, Syolyoz-PROG
or	Rodosto-PROG, Bardizag-PROG
ko, koy, go, goy	Constantinople-PROG, Gyurin-PROG, Marash-PROG, Vartenis-PROG
kar, gar	Stanoz-IND, Sivrihisar-PROG
geu	Kabusiye-PROG, Svedia-PROG

ha (hay, hayē, haykak, aha, hana)	Adapazar-PROG, Akn-PROG, Arabkir-PROG, Aramo-IND, Aslanbek-PROG, Bardizag-PROG, Edesia/Urfa-IND, Kesab (Galaduran)-IND, Malatya-PROG, Nicomedia-PROG, Rodosto-PROG
a	Edesia-PROG
ə/ənə (<hana)	Arabkir-PROG, Severekek-PROG (ə)
e/æ (>ēr?)	Hamshen (Martil)-PROG
ēr (>ē or? >ēr-AUX?)	Arabkir-PROG, Baberd-PROG, Sivrihisar-PROG, Trabzon-PROG
uni (kuni, guni)	Aslanbek-PROG, Hamshen (Mala)-PROG, Hamshen (Zefanos)-PROG, Trabzon-PROG
yor	Nicomedia-PROG
lug	Akn-PROG
tar, dar, dē (>tay or)	Arabkir-PROG, Şabin-Karahisar-PROG
na, nē, nā, nə	Altun-Husein-PROG, Aslanbek-PROG, Charsanchag-PROG, Chmshgadzak-NOT PROG?, Erznkay-PROG, Gamakh-PROG, Halvorig-PROG, Kharberd/Dersim-PROG, MA-PROG, Nicomedia-PROG, Smyrna-PROG, Trabzon-PROG
ənge and/or ge	Baberd-PROG
Has progressive	Adapazar, Akn, Altun-Husein, Amasia, Arabkir, Aramo, Aslanbek, Baberd, Bardizag, Charsanchag, Constantinople, Edesia/Urfa, Erznkay, Eudokia, Gamakh, Gyurin, Hajin, Haji-Habibli, Halvorig, Hamshen (Mala), Hamshen (Martil), Hamshen (Zefanos), Jerusalem, Kabusiye, Kharberd/Dersim, Malatya, Marzvan, Middle, Nicomedia, Ordu, Ozmi, Prknig, Rodosto, Sebastia, Şabin-Karahisar, Smyrna, SWA, Syolyoz, Tigranakert?, Trabzon, Vartenis, Yoghnohluk?, Zeytun

Table 50: Comprehensive list of indicative and progressive markers<sup>278</sup>

Vaux agrees with this derivation as a combination of the particle *ku/gu* and the general subordinating morpheme *or* (Vaux 1995:136). However, in Trabzon, the particle has the form *er* (related to this may be the Hamshen subdialect of Mala with its *e/æ* variants), which is identified with the 3SG past auxiliary (Gevorkian 1994:49), so it is not impossible that *gor* < *gu* + *er*. The form *gor* is reminiscent of the Turkish imperfective morpheme *-iyor* (in Nikomedia, the form is actually *yor*), and Donabédian (2018) suggests that the two are connected in the minds of bilingual speakers, although their origins are certainly different. These forms are stigmatized in written or formal SWA, but common in colloquial SWA (Hodgson 2020).

<sup>278</sup> Italicized dialects represent a state which is no longer true, thus it is only true diachronically, i.e. Arabkir and Malatya used to have *ha* as their continuous particle but not any longer when subsequently sketched, audited, or surveyed by linguists.

What the progressive marker does in most dialects is block the future and hypothetical contextual meaning of the non-marked indicative present (e.g. *gə kalenk* ‘we walk’ on its own is strictly nonpast, which leaves open a future interpretation, but *gə kalenk gor* can never be referring to the future or hypothetical state<sup>279</sup>, at least for the majority of speakers<sup>280</sup>).

Trabzon, and the Hamshen subdialects of Mala and Zefanos (these two villages are within a day’s walking distance) have both the *uni* and *guni* (fused *gə + uni*) forms as well – *g’udim uni*, *g’udis uni* ‘I am eating, you (sg.) are eating’, but *b’erim guni* (*b*’= [b<sup>h</sup>]), *b’eris guni* ‘I am carrying, you (sg.) are carrying’. Gevorgyan (1994:49) believes that because *unel* (*unenal*) is a stative verb, which inherently conveys a continuous connotation, it was only natural that placing such a stative verb next to a non-stative verb would severely restrict the illocutionary force of the latter by giving it an exclusively continuous connotation. The *guni* variant which is used with C-initial verbs certainly originated by combining the indicative marker *gu + uni b’erim > b’erim gu uni > b’erim guni*, and for V-initial verbs, *gu udim + uni > g’udim uni*.

Dialect interference and a multitude of unrecoverable sociolinguistic factors must have played a role in the great selection variety seen in certain dialects like Rodosto – which has been described in the literature as having many phonetic variants of *gor* such as *yor*, *go*, or *or*, and it also uses the progressive *ha* particle (Gevorgyan 1994:48). Sivrihisar also exhibits variation between the rare *ēr* particle and *gar*. Since we lack synchronic sociolinguistic data, we can only have rough guesses as to their distribution and stylistic uses.

The *ēr* particle is found in Arabkir, Baberd, Sivrihisar, and Trabzon. Since this particle is placed *after* the verb, Ačarean (1961:98) suspects that it is a grammaticalized form of the auxiliary (which is really the *verbum existentiae*), as in Trabzon *sirim ēr* ‘I am loving’, *siris ēr* ‘you (sg.) are loving’, yet the indicative marker does show up in V-initial verbs, such as *k’arnim ēr* ‘I am taking’, *k’arnim ēr* ‘you (sg.) are taking’. The EA dialects around Lake Urmia (Maragha, Khoy, Urmia, and Salmast) also use *ēr*, but for the past tense, a strategy (past morpheme derived from the verb ‘to be’) used by other languages in the area (Ačarean 1961:192ff, Vaux 2016).

There also exists the particle *tar* with its phonetic variants *dar*, *dē*, which may have derived from *> tay or*. *Tay* may be derived from the third person singular of *tal* ‘to give’, though the grammaticalization path is not a clear one. These variants are found in Şabin-Karahisar (Xaç’atryan 1985:149-152) and Arabkir. According to Martirosyan (2019b:192), its origin is unknown.

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279 At least for the dialects that I am familiar with, the progressive cannot be used in a way parallel to English “Alright! Tomorrow, we are walking to the post office, come rain or shine” (example from Vaux, p. c.).

280 Dolatian (p. c.) reports that a few speakers can accept such a construction.

In Vartenis (also called Diyadin) from the Van region, the progressive marker *kə* (*ko*) is preposed: *kə kə g'ərem* 'I am writing', *kə kə kaıt'am* 'I am reading' (Martirosyan 2019b:220), which goes against the general tendency of avoiding more than one particle per position (pre-verbal or post-verbal, but post-verbally we sometimes see constructions like *nsde g'asen gor nē* 'if they're saying 'sit'' and *gə mdmdam gor nē* 'if I am pondering', both from a Hagop Baronian novel<sup>281</sup> where his characters often speak in a very colloquial language).

Vaux (1995b:2-3) points out that one could object that the *ku/gu* formation was in fact never a progressive, but rather directly replaced the simple present in the late classical period, mostly because this formation shows some characteristics of a progressive; for example, in SWA it normally cannot be used with stative verbs (verbs expressing a state of affairs, e.g. *unenal* 'to have', *gardzel* 'to think', *kidnal* 'to know', *allal* 'to be', *gal* 'to exist', *garnal* 'to be able'), which is a common characteristic of progressive tenses in other languages (cf. English \**I am having this book*, \**I am knowing Japanese*, etc.). Vaux thus assumes that this behavior survived from a time when the *ku/gu* formation was a progressive tense, which is in line with crosslinguistic evidence, where we see progressives lose their association with limited duration (the next postulated step in the grammaticalization cline expounded by Heine 1994:280) and develop into simple presents (Levin 2013). The opposite is likely much rarer.

Marash has an innovative present progressive, contrasting *gi sirim* 'I love' with *go sirim* 'I am loving' (compare progressive forms with *gor* discussed below), while Hajin lacks a present continuous. The Hajin subdialect lacks a progressive form, yet nearby areas have various strategies to form a *gor*-progressive, such as Marash's use of *go* (*go sirim*, 'I am loving'), which, unlike SWA *gor*, does not get reduced before a vowel-initial verb, nor does it have a special reflex for monosyllabic verbs, nor does it allow to use both the indicative and progressive forms in a single construction \**gi sirim go* or \**go sirim gi*.

Aslanbeg, Nikomedia, and Bardizag have the particle *hayē* as a progressive marker, unbothered by whether or not a verb starts with a consonant or vowel, e.g. *gə gartam hayē*, *g'udim hayē* 'I am reading, I am eating'. As explained previously, this particle likely derives from the *aha*(*vasik*) 'here, look' interjection and the third-person singular auxiliary *ē* 'is'. Ačarean (1961:107) rejects a connection with the verb *hayil* 'to regard' and takes *haykak* from Adazapar (which also uses *hay* according to Gevorgyan 1994:50) as evidence. *Haykak* likely derives from *aha* and the suffixes *-ik* and *-ak*, both of which are diminutive suffixes (Jerejian & Donigian 1992:14).

The particle *a* is used in Edesia, Ačarean (1961:107) derives it from *aha* as well, for example, *gə bak'nēm a*, *gə bak'nēs a* 'I am kissing, you are kissing' and it makes no difference if a verb is V- or C-initial

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281 Pages 14 and 21 of *Քաղաքավարութեան վնասները* 'The Harms (or Disadvantages) of Politeness', from the Der-Sahagian 1923 edition printed in France, though this satirical novel was written in 1886-1887 in the Khigar newspaper as a periodical.

(Haneyan 1982:236). Edesia is also remarkable in that it uses both *ha* and *gə*<sup>282</sup> – Łaribyan (1958:146ff) states that the simple present is formed by postposing the particle (*h*)*a*, and the continuous present is characterized by an additional *gə*, thus: *k'rem a* 'I write' vs. *gə k'rem a* 'I am writing'; removing the postposed (*h*)*a* yields a subjunctive reading *gə k'rem* 'I write-SUBJ'. If the verb is vowel-initial, both simple and continuous presents are formed with both *g(ə)* and *a*, thus: *g'assem a* can mean either 'I say' or 'I am saying' (Martirosyan 2019b:208).

As it often happens with understudied dialects, there are disagreements stemming from a lack of proper linguistic interviews or a lack of exact geographical identification, and perhaps even terminological confusion caused by various researchers using different terms for the same phenomena. According to Łaribyan (1958:154), the indicative marker in Edesia is formed with the particle *a*, e.g. *p'anim a* 'I open', whereas the continuous present is formed by adding *gə*, e.g. *gə p'anim a* 'I am opening'. According to him, the particle *gə* if used without an enclitic *a*, gives us the conditional tense! Thus *gə p'anim* according to him means 'I would open' just as in the dialects of the *-um* group and in SEA. This state of affairs was seemingly corrected by modern research (Haneyan 1982:185-186), unless of course, the variant of the speakers of the village of Karmunĵ in the Edesia area which Haneyan had access to works differently from what was previously reported. According to Haneyan, the particle *gə* is used both for the plain indicative present and the future, whereas the *a* occurs only in the progressive. In that case, the situation is as follows: *gə havnim* 'I like', and *havnim a* 'I am liking' (see also Vaux 2006b for a comparison between Urfa and Tigranakert).

The presence of a progressive present with the particle *a* is traditionally accepted for Malatya, too (Gevorgyan 1994:51). Thus, Ačarean (1961:98-99) writes: "The dialect of Malatya is [in this respect] the most interesting one. Here, the progressive present particle *a* is used with the plain present (without the particle *gə*) when the verb starts with a consonant or when it is monosyllabic. Only verbs beginning with a vowel have a prefix *gə*. This feature shows that, like the dialect of Khotorjur [see Vaux 2012b for a discussion<sup>283</sup>], the dialect of Malatya has preserved the present of Grabar unchanged." Similar views are expressed by Łaribyan (1953:181) who counts the dialect of Malatya among the dialects which possess a continuous present.

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282 However, Haneyan (1982) describes it differently: *gə k'rem* 'I write' (simple present) vs. *gə k'rem a* 'I am writing' (continuous present). Note that, as Łaribyan points out, the particle (*h*)*a* makes the progressive present in Malatya and Arabkir (cf. Djahukyan 1972:105).

283 An alternative analysis is to consider both Malatya (incompletely and subject to phonological rules) and to a greater extent, Khotorjur (see Petrosyan et al. 1975:142), as having had the *gə* particle but having lost it via various synchronic processes, which now makes it seem as though they are CA-like; though since this is unproven, for the cladistic portion of this project, I base myself on Djahukyan (1972).

Perhaps due to dialect leveling<sup>284</sup> or speaker competency decreasing because of the post-1915 situation, the situation is represented in a different way by Danielyan (1967) who finds that the then-contemporary Malatya dialect speakers do not distinguish the regular and the continuous present. Their system therefore is: for C-initial verbs *k'arim a* 'I write' or 'I am writing', and *gə k'arim* 'I would write'; for V-initial verbs *g'avlim a* 'I add, I am adding' (from the verb *avlel*) and *g'avlim* for the conditional 'I would add'. Thus Danielyan (1967) reasons that Malatya must have once possessed a progressive like almost all of its neighbors, and he gives a few hypotheses:

1) An original progressive of the type *gə* + inflected verb + (h)a has been given up because *gə* was used also for the formation of the conditional tense. To avoid a merger, *gə* specialized as a conditional tense marker and the particle *a* was generalized, completely absorbing the present indicative. In this way, the plain present and the continuous present merged. The present formation with *gə* disappeared, though it left traces in the paradigm of V-initial verbs, where it remains obligatory.

2) An alternative view is that Malatya was originally a dialect of the *ha*-branch (which forms a present of the type (verb + *ha* or *ha* + verb), and became subjected to the influence of the *gə*-branch dialects and eventually formed its present and past imperfect indicative tense as the latter do (*gə/kə* + verb), but preserved the particle *ha* for the progressive present. At a later stage, this particle expanded its usage and became the particle for the indicative mood as a whole.

3) Related to the first hypothesis, Danielyan (1967:14-20, 114ff) explains that Malatya was a regular *kə*-dialect earlier, and the *ha* particle was used for the progressive. But, as Martirosyan (2019b:198) notes, the *kə* particle was/is also used for the conditional or future (*gə p'erim* 'I will bring, I would bring'), and thus, ambiguity arose; therefore, the *kə* particle was replaced by the (h)a particle in the simple present.

Gevorgyan (1994:52) finds the second hypothesis unattractive, because she finds the mere existence of the *ha* particle as an indicative marker doubtful. In her view, the original function of the particles *aha*, *ha*, *a* is to express the progressive, and it is only in a later stage that they also acquired the meaning of a general present and assumed the function which originally was expressed by the particle

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284 Simple leveling:

earlier grammar ( $G_1$ ): generates Stem1 ~ Stem2;

later grammar ( $G_2$ ): generates only Stem1 (or Stem2).

It is important to consider what "leveling" consists of in terms of the grammar. Logically  $G_2$  must no longer contain the rules/operations or vocabulary items required to generate both stem alternants, i.e. a change, then, must consist in (a) loss (or change) in a rule that generates a stem alternation; and (b) loss (or reanalysis) of the URs of the stem (or of its alternants, if listed in some way). The study of IE linguistics emerged in the early 19<sup>th</sup> century before the concept of a synchronic grammar existed at all, so historical changes were (implicitly) construed in every case as in (b), Noyer (p.c.).



*gə/kə*. Therefore, the situation in Malatya may indeed be explained as representing the spread of *a* as a simple present marker at the expense of the original marker *gə*. Such a view is supported by the fact that, in most dialects, the particles *hayē*, *haykak*, *hay*, *ha*, *a*, and *ē* that originated from words with the meaning ‘look, here, voici’ are used only for marking the progressive. However, in Danielyan (1967:238), there are many idiomatic expressions and sayings in which the indicative present (and imperfect) is found without the particle *a* but using the particle *ga*. This fact is noted also by Haneyan, as she found that in C-initial verbs, the present formations with *gə* but without *a* are found, such as *šad xəndalə lac’ gə p’ērē* ‘laughing brings much crying’.

In Arabkir, the progressive particle is stated as *ə*. On the use of this particle Ačārean (1961:98) noticed that at the time of his fieldwork<sup>285</sup>, old speakers were still using the form *ənə*, with middle-aged adults it had become *nə*, whereas the younger generation used *ə*, which is a very stark real-time change. Near a vowel, all speakers always select the *nə* variant (Ačārean 1961:107). Here too, later research indicated that Arabkir does not, or no longer does, distinguish between the plain and progressive present (Gevorgyan 1994:53-54, where *xənim ə* can mean either ‘I drink’ or ‘I am drinking’). Whatever the original forms were, the distinction between them may have been destroyed first by apheresis (*ənə > nə*), and later apheresis (*nə > ə*).

Age categories	after C ‘I am going’	after V ‘He is going’
Old	<i>g’ert’am ənə</i>	<i>g’ert’a nə</i> <sup>286</sup>
Middle-aged	<i>g’ert’am nə</i>	<i>g’ert’a nə</i>
Young	<i>g’ert’am ə</i>	<i>g’ert’a nə</i>

Table 51: Recent changes in the progressive particle *ənə* in the Arabkir dialect

For both Arabkir and Malatya, Gevorgyan is of the opinion that there is no longer any distinction between the regular and progressive present, and that both now essentially have a circumfix for all V-initial verbs – for the first person singular present of *udel* ‘to eat’: *g’udim a* in Malatya, and *k’udim ə* for Arabkir, while C-initial verbs only get the enclitic/prefixal reflex, as *xənim a* for Malatya and *xənim ə* for Arabkir. Essentially, the old progressive became the indicative marker, as has occurred plenty of times before. The Kesaria dialect also uses *ka*, the situation is similar: just like in Malatya and Arabkir, this particle initially conveyed the meaning of a progressive and subsequently expanded its use to a general present indicative marker. In Stanoz, which is quite geographically distant from both Malatya and Arabkir, the indicative present (*g’ert’am kar* ‘I go’) is morphologically an

285 1961 is a posthumous date for the publication of this particular multivolume work; his fieldwork notes for Arabkir were likely from a number of decades before then. In his earlier work, the form he mentions is *nə* (1911:216) in but two examples, *g’ert’am nə* and *xnim nə* ‘I am drinking’ as unambiguously progressive. Note the lack of preverbal *gə* for *xnim*.

286 Note that the ‘ symbol is an apostrophe, showing vowel elision, not an aspiration symbol.

older progressive which synchronically is a simple present (Mkrtč‘yan 2006:217), though Martirosyan (2019b:197) gives the imperfect *g‘ert‘ayi kar* as ‘I was going’, which, if true, is an interesting case of only the less marked tense of the two having lost its progressive feature, as Mkrtč‘yan (his source) only mentions that *kar* has lost its progressive meaning in the present.

There are also several cases where the absence or presence of the progressive marker cannot be ascertained without further research, though sadly time has run out for nearly all of these now-dead dialects. Unfortunately, fieldwork is no longer possible for many of these dialects.

In certain cases, we may be sometimes forced to recognize parallel changes, e.g. as an explanation for how four EA dialects ended up having a reflex of *ko* as a progressive marker. In other words, if X and X appear at opposite ends of the territory, the independent creation of these forms cannot be excluded. The varieties of Artial and other European dialects are unusual for a WA dialect as they lack a progressive form.

Prog. marker	<i>ga</i>	<i>kor, gor</i>	<i>ko, koy, go, goy</i>	<i>ha, haye</i>	<i>guni, kuni</i>	special <i>gə</i> ( <i>geu</i> )	(none)
Dialects	Smyrna Marzvan Amasia Everek Tomarza Darende Beylan Kabusiyе Eudokia MA	Constantinople coll. SWA Marash-Zeytun Smyrna Sivrihisar Rodosto Sebastia	Constantinople Marash-Zeytun Rodosto Sebastia Gyurin Vardenis <i>Khoy</i> <i>Payajuk</i> <i>Urmia</i> <i>Maragha</i>	hayē: Aslanbeg Nikomedia Bardizag  haykak: Bardizag  ha: Aramo, Kesab	Aslanbeg Hamshen	Svedia (Haĵi- Habibli and Kabusiyе)	Artial Akn Hajin Karin Mush Sasun Van CA formal SWA

Table 52: Reflexes of the progressive particle (EA dialects in italics)

In Hajin, the verb system shows considerable variation between its subdialects, which show separate innovations (Hodgson 2020): Marash (another Cilician dialect) has an innovative present continuous, contrasting *gi sirim* ‘I love’ with *go sirim* ‘I am loving’ (compare progressive forms with *gor* discussed below), while Hajin lacks a present continuous. Marash has an ‘immediate future’ with the verb ‘want’: *gizim biri* ‘I want to bring = I will bring immediately’ vs. *bide birim* ‘I will bring’ (at some indeterminate point in the future). Hajin has two forms of imperfect, one adding the Turkish past morpheme *idi*:

	Hajin Simple	Hajin Complex	SWA <sup>287</sup>
1SG	gašdi	gašdi idi	g'ert <sup>c</sup> -a-i 'I went /I used to go'
2SG	gašdiy	gašdiy idi	g'ert <sup>c</sup> -a-i-r
3SG	gašdey	gašdey idi	g'ert <sup>c</sup> -a-r
1PL	gašdink <sup>c</sup>	gašdink <sup>c</sup> idi	g'ert <sup>c</sup> -a-i-nk <sup>c</sup>
2PL	gašdik <sup>c</sup>	gašdik <sup>c</sup> idi	g'ert <sup>c</sup> -a-i-k <sup>c</sup>
3PL	gašdin	gašdin idi	g'ert <sup>c</sup> -a-i-n
	IND-√ -TH.PST-AGR	IND-√ -TH.PST-AGR PST	IND-√ -TH-PST-AGR

Table 53: The two imperfect forms in Hajin as an example of borrowed morphology

In Hamshen subdialects except Martil, the continuous tenses are formed with subjunctive (present or past) and the third-person singular form of 'to have': *b'erim guni* (carry.1SG.PRS.SUBJ have.3SG.PRS) 'I am carrying' *b'ereyi guni* (carry.1SG.PST.SUBJ have.3SG.PRS) 'I was carrying' (Vaux 2007: 263).

In Sebastia, which has an otherwise regular use of both the indicative *gə* and progressive *gor* in vowel-initial verbs, has acquired a restriction with consonant initial verbs, the proclitic present particle *gə* is dropped in the presence of the postposed particle *gor*. Thus: *g'udem gor* (as expected; from the verb *udel*) 'I am eating,' next to *gartam gor* 'I am reading', but never *\*gə gartam gor*, which is the expected form in Rodosto, Constantinople, Syolyoz, Eudokia, Ordu, and a few others (Gevorgyan 1994:47).

### 5.1.3 Conditional particle

CA had no dedicated conditional morphology – a variety of undeclinable particles were used to indicate conditionality, none of which seemed to have ever been grammaticalized. Modern colloquial SWA can use both *yet<sup>c</sup>e* (attested in CA) and *ne* (attested in MA) to mark the conditional mood, often in double complementation, though the dialects overwhelmingly prefer a single complementizer<sup>288</sup>. In SWA, *ne* is proscribed by prescriptivist grammars (Der Khachadurian 1970) but speakers habitually use this construction. For the origins of the *ne* particle, see Section 4.3.2.

287 *g'* is an elision marker (*gə yer- > g'er-*), not a voiced aspirate.

288 However, it is very well possible that our dialect descriptions simply do not mention that this is a part of the grammars of the speakers they are describing.

Cond. marker	<i>ne/na/nə/əna</i>	<i>t'ox/t'əx</i>	<i>t'a</i>	special <i>gə/kə</i>
Dialects	Adapazar, Akn (nə), Arabkir, Constantinople, Aslanbeg (nə), Smyrna, Crimea (nə), Kesaria (na <sup>289</sup> ), Hamshen (Mala), Hamshen (Martil), Hamshen (Zefanos), Erznkay, Marash (nu/nü), Zeytun, Kharberd-Dersim, MA, coll. SWA	Svedia (Haĵi-Habibli), Aslanbeg	Hamshen (Abkhazia)	Mush, Kabusiye, Beylan, Xtrbek

Table 54: Conditional enclitic marker in various WA dialects

A large group of dialects from Asia Minor have adopted a variant of *ne* as their main way to form a conditional (Smyrna *baxrein lezun gə xənt'rek' ne p'erem* 'shall I give you a piece of tongue?' Vaux 2012a:8, Hamshen *b'ereyi na* 'if I brought', Ačarean 1911:188-189, etc.) - since there do not seem to be other groups of dialects that have this innovation, it is safe to say that this conditional particle represents a shared innovation. Mush and Beylan, using a morphemic split (Hoenigswald 1960:37) likely through regrammaticalization, use a special form of the *gə* particle to denote the conditional. This appears to be an instance of exaptation (Willis 2016, Hopper & Traugott 2003), a reanalysis within the acquisition of *gə*.

Svedia (Haĵi-Habibli subdialect) and Aslanbeg have *t'ox/t'əx* (as well as a particular reflex of *ne* for the latter) to mark the conditional, yet in many other dialects, *t'ox* marks the cohortative imperative, not the conditional, thus this represents a morphological conservatism with a semantic shift. This shift may be a parallel development, or evidence of affinity as I suspect that some of the dialects in the western part of Asia Minor may have had their origins in Cilicia. In SWA, *t'ox* is an exhortative particle, e.g. *t'ox mis k'nē* 'may s/he buy meat, s/he (really should) buy meat'.

Parallel to how we saw unusual sound changes in often-used particles such as *kay* to *ku*, *piti* to *bid*, *bi*, *di*, or *d-*, Ačarean (1951:394-395) holds that the same logic applies to unusually shortened forms of *t'ox* in numerous dialects, such as *t'əx* and *t'*. The use of *t'ox* as a conditional particle represents an interesting case of degrammaticalization (since it diachronically derives from *t'oxul* 'to let, allow').

Most Asia Minor dialects had a similar development towards analyticity for particles or markers for mood (conditional particle, indicative *gə* which is blocked in the aorist everywhere, various imperative particles) and the future. EA dialects are quite different with respect to each of these, though there was an even greater attraction to analyticity - because of the existence of the present participle, SEA and most EA dialects have several more periphrastic verb tenses than their Western counterparts.

289 Perhaps by analogy with *ga* (indicative particle).

As seen in the Table below, the negative conditionals show more variation across dialects, as a consequence of being composed of more parts than many other tenses.

	Aslanbeg	cf. SWA	cf. CA
Neg. cond. pres. 1SG ‘if I don’t like’	(ör) č̣i sir-i-m nã	yet <sup>č̣</sup> e č̣ <sup>č̣</sup> -sir-e-m (ne)	et <sup>č̣</sup> ē oč̣ <sup>č̣</sup> sir-e-m
Neg. cond. past. 1SG ‘if I didn’t like’	(ör) č̣i sir-e-i nã	yet <sup>č̣</sup> e č̣ <sup>č̣</sup> -sir-e-i (ne)	et <sup>č̣</sup> ē oč̣ <sup>č̣</sup> sir-ē-i

Table 55: Comparing the negative conditional present and past in various variants

### 5.1.4 Future particle

Diachronically derived from an Iranian borrowing (Proto-Iranian \**upaita* (Ač̣arean 1926b:79), Middle Persian *abāyēd* ‘it is necessary, fitting; must’ (MacKenzie 1971), cf. ModPers *bāyad* ‘particle expressing necessity’) > CmA \**peyt* > CA *pēt* ‘need’, from which CA had several derived verbs such as *pital* ‘to want, to be in want of, to be necessary or useful’, *pitanal* (alternative form of *pital* with an inchoative infix, also *pitānāl*), *pītil* ‘to be useful’, *pitoyānāl* ‘to be needy’ (Ač̣arean 1979:79-80, Awetik<sup>č̣</sup>ean, Siwrmēlean & Awgerean 1836–1837:647). *Piti* is a particle (as in, an indeclinable morpheme) we start seeing in writing only in the MA period, and it had a “coercive” flavor according to Mkrtč̣<sup>č̣</sup>yan & Xač̣<sup>č̣</sup>atryan (2016:257), meaning it is extremely likely that it was a necessitative mood marker initially. In most WA dialects, *piti* ends up having two sets of meanings – simple future or necessitative, with some dialects straddling the middle ground – dialects can either be grouped as having a necessitative tense *and* a simple future, or just a simple future; and morphosyntactically, it exhibits a range of behavior as a mobile particle in certain dialects like Hamshen or fuses with the verb like in Hajin.

The obligatory formation survives in many WA dialects, including SWA, e.g. *bēdk<sup>č̣</sup> e grgnem* ‘I must repeat’, and a few EA dialects such as New Julfa *pətka sirem* ‘I must love’ (Vaux 1995a). Borrowing an obligatory formation is not unheard of in this general region – the EA Karchevan dialect borrows *mællæ* from southwestern Turkic *-mAlI* (capital /i/), and Maragha (EA) similarly borrows *g<sup>č̣</sup>æræh<sup>č̣</sup>* from Turkic *kæræak* ‘it is necessary’.

Ač̣arean (1951:394) mentions that *piti* came about from a grammaticalization of a formerly third person singular form of *pītil*<sup>290</sup> which spread throughout the verbal paradigm, analogous to how the third person singular form of *ēr* (< PIE \**h<sub>1</sub>ést*, ‘he was’) spread throughout the paradigm in the EA Maragha dialect *üzelim er, üzelis er* ‘I wanted, you wanted’. During the MA period in Cilicia, there developed an obligatory mood with *piti* (likely pronounced *bidi* in many areas), though Karst (1901:405)

290 This is the pregrammaticalized verb, different from various EA forms which surface later as *pītil* (New Julfa)/*bidæl* (Hadrut), which are augmented versions of *piti/bidi*.

points out that this construction developed from a more full-fledged impersonal construction in late CA that used a relativizer or, e.g. *piti or hasane* ‘it is necessary that he reach’. Many EA dialects have preserved this construction at this stage, or with various innovations such as having it post-posed, augmented with another particle, or degrammaticalized (i.e. having gained regular inflectional verbal morphology). Thus in many WA dialects, the obligatory marker became a simple future, and a few dialects are at an intermediate stage, in which *bidi* indicates either an obligatory future (an action that must happen in the future) or in rare cases, like New Julfa (EA, Ačarean 1951:262), an indefinite future (indicates that an action might take place in the future, Vaux 1995a).

In MA (and to a far lesser extent, CA), the future was able to be expressed with a periphrastic combination of the verb *kamil* ‘to want’ plus the infinitive (Karst 1901:306). Such a construction is well-attested cross-linguistically (cf. English, Modern Greek, Persian, Balkan Romani (Boretzky & Iglá 2004)), but does not survive as such in the modern dialects (Vaux 1995a), though another verb root for ‘to want’ *uzel* does serve as the future marker in some dialects like Artial (Suceava), New Julfa, Marash<sup>291</sup> (*gizim siri* ‘I will love’ (Galustean 1934:386), and Hajin.

In Akn, the first syllable deletes, leaving only *di*, which before a vowel it becomes *d*, for example: *di berim* ‘I will bring’, *düdeik* ‘you (pl.) will eat’, etc. (Ačarean 1911:223-224, including for the table below, also note that theme vowel shift to *-i-* before nasals). A sizable number of dialects behave the same way (Sasun, Kharberd-Dersim, Hajin, Marzvan, Moks, Ozmi, and Shatakh).

	Akn (future ind.)	cf. SWA	Akn (future past)	cf. SWA
1SG	di b‘er-i-m	bidi p‘er-e-m	d-üd-e-i	bidi ud-e-i <sup>292</sup>
2SG	di b‘er-e-s	bidi p‘er-e-s	d-üd-e-i-r	bidi ud-e-i-r
3SG	di b‘er-e	bidi p‘er-e	d-üd-e-r	bidi ud-e-r
1PL	di b‘er-i-nk <sup>c</sup>	bidi p‘er-e-nk <sup>c</sup>	d-üd-e-a-nk <sup>c</sup>	bidi ud-e-i-nk <sup>c</sup>
2PL	di b‘er-e-k <sup>c</sup>	bidi p‘er-e-k <sup>c</sup>	d-üd-e-i-k <sup>c</sup>	bidi ud-e-i-k <sup>c</sup>
3PL	di b‘er-i-n	bidi p‘er-e-n	d-üd-e-i-n	bidi ud-e-i-n

Table 56: Future indicative of the verb ‘to bring’ and past future indicative of ‘to eat’

For the future, we have several innovations in Hajin. *Bi* is the contracted form of the particle *bidi* (<*piti*) which denotes obligation. Note that Hajin also has a *di* particle that denotes a neutral future.

291 There are two future forms in Marash – the “ordinary future” (հասարակ ապանի) is formed with the typical formative *bide* and the “immediate future” (անմիջական ապանի) (Ačarean 1911:204) which is formed with the verb *izil* ‘to want’, note the shifted theme vowel (< *uzel*) (Dolatian 2024a:620).

292 In SWA, all vocalic segments before /-i-/ receive an epenthetic glide; thus in our comparison, we could just as well have segmented the SWA forms with their glides, e.g. *ud-e-yi* or *ud-e-(y)i*.

When added to the verbs beginning with stops<sup>293</sup>, there is gemination: *big<sup>ç</sup>gom* (<*bidi gam*) ‘I will come’, *bid<sup>ç</sup>dom* (<*bidi dam*) ‘I will give’, *biggayti idi* ‘I will have read’ (Gasparyan 1966:17), *binno* (<*bi anel*) ‘what should be done’ (Greppin & Khachaturian 1986:63), *bišdoy* (~*bi ištol*) future of *ištol* ‘to go’ (cf. SWA *yert<sup>ç</sup>al* – every segment except the infinitival suffix has undergone several sound changes). This phenomenon is probably the result of partial assimilation according to the place of articulation of the earlier *-di*.

	Hajin ‘to go’	cf. SWA ‘to go’	Hajin ‘to come’	cf. SWA ‘to come’	cf. Kabusiye ‘to come’
1SG	b-išd-i idi	bidi yert-ay-i	b-ig <sup>ç</sup> g-o-m	bidi k <sup>ç</sup> -a-m	uk-il-woə <sup>294</sup> ya-ym ir
2SG	b-išd-i-y idi	bidi yert-ay-i-r	b-ig <sup>ç</sup> g-o-s	bidi k <sup>ç</sup> -a-s	uk-il-woə ya-yr ir
3SG	b-išd-e-y idi	bidi yert-a-r	b-ig <sup>ç</sup> g-o	bidi k <sup>ç</sup> -a	uk-il-woə yi-r <sup>295</sup>
1PL	b-išd-o-nk <sup>ç</sup> idi	bidi yert-ay-i-nk <sup>ç</sup>	b-ig <sup>ç</sup> g-o-nk	bidi k <sup>ç</sup> -a-nk <sup>ç</sup>	uk-il-woə ya-yk <sup>ç</sup> ir
2PL	b-išd-e-k <sup>ç</sup> idi	bidi yert-ay-i-k <sup>ç</sup>	b-ig <sup>ç</sup> g-e-k	bidi k <sup>ç</sup> -a-k <sup>ç</sup>	uk-il-woə yä-k <sup>ç</sup> ir
3PL	b-išd-i-n idi	bidi yert-ay-i-n	b-ig <sup>ç</sup> g-o-n	bidi k <sup>ç</sup> -a-n	uk-il-woə ya-yn ir

Table 57: Past future of the verbs ‘to go’ and ‘to come’ in the Cilician dialect of Hajin (Açarean 1911:205), compared with Kabusiye (Łaribyan 1958a:113)

Essentially, more than two dozen reflexes are possible, plus more than a dozen other strategies:

Future particle form	Dialects
bidi/piti	All other WA dialects
bidi (v)or/piti (v)or	<i>Certain EA dialects</i>
bidi/bid/pidi/peti	<i>Goris, Karin, SWA</i>
pti/bdi/pta	<i>Mush, Ararat, New Julfa (obligatory future)</i>
bidæ	<i>Aramo (debitive)</i>
pla	<i>New Julfa (indefinite future)</i>
bidor (<bidi vor)	<i>Artial (Kuty), Artial (Suceava)</i>
bər (<bidi vor)	<i>Haji-Habibli (Svedia)</i>
bər ~ mər (<bidi vor)	<i>Kesab, Bitias</i>
piti (<pital?)	<i>New Julfa</i>

293 I have seen insufficient data to determine if this applies to all consonants.

294 Underlyingly *uk-il-uor*.

295 The diachronic development likely was *ya-r ir* > *yayir* > *yir*; notice the synchronically missing 3SG auxiliary, typically considered the default, mirrored in a number of dialects.

bidæl (<pital?)	<i>Hadrut</i>
p(i)t(i)r (<piti vor)	Marzvan
(v)di (<vor bidi?)	Dersim
kiptæ (<ku piti)	<i>Maragha (obligatory)</i>
uzel 'to want' particle	Artial (Suceava), Hajin, Marash, MA, <i>New Julfa</i>
-an, -ag/kan, - ac'ag/kan, -ag/kun PTCP + AUX	<i>Certain EA dialects</i>
-ac'ug/k PTCP + AUX	<i>Certain EA dialects (Aresh, Havarik)</i>
-loc <sup>c</sup> , lyac <sup>c</sup> PTCP + AUX	CA, Constantinople
-li PTCP + AUX	Haji-Habibli, Kesab (Galaduran), Kabusiye, Vartenis, Yogh noluk
bidi > bi/pi	Adapazar, Artial (Kuty), Artial (Suceava), Bardizag, Beylan, Erznkay, Haji-Habibli, Kesab (Galaduran), Kabusiye, Nicomedia, Prknig, Yogh noluk, Zeytun
bidi > b	Ordu
bidi > bær/mær	Kesab (debitive)
bidi > idi	Hamshen (Christian subdialect)
bidi > bə/pə	Beylan
bidi > bədə	Kesaria
matil	<i>Karchevan</i>
metil	<i>Meghri</i>
-lu PTCP + AUX	Karin
-ll <sup>296</sup> PTCP + AUX	Sivrihisar
mən (< bəd < piti?)	Tigranakert
pedma/petma/ mætæm (<piti + m(a))	<i>Artsakh, Kakavaberd, Agulis</i>
-o(n) <sup>c</sup> PTCP + AUX	<i>Certain EA dialects</i>
-oʙ PTCP + AUX	Khodorjur, Hamshen (Mala), Hamshen (Martil), Hamshen (Zefanos), Samson, Ordu
bidi > di/ti	Akn, Altun-Husein, Arabkir, Charsanchag, Chmshgadzak, Gelieguzan (Sasun),

296 This is a rare instance of a word-final geminate (Mkrtč'yan 1995:207).



	Hajin, Halvorig, Hazzo, Kharberd-Dersim, Krzen, Malatya, Marzvan, Moks, Ozmi, Shatakh, Khoy
bidi > də/tə	Sasun
-uš + AUX + bidi	Hamshen (Mala), Hamshen (Martil), Hamshen (Zefanos)
-lik PTCP + AUX	Eudokia
-ilæ	Kesab
-ilwor PTCP + AUX	Kabusiye
dem, des, di...	<i>Certain EA dialects (Nuzger, Shamshadin-Dilijan)</i>
dəm, dəs, di...	<i>Certain EA dialects (Kirzan)</i>

Table 58: Reflexes of the future in all dialects

The future form in Kesab is *ilæ* (Č'olak'ean 1986:127), and Kabusiye uses a cliticized *-ilwor* (Łaribyan 1958a:104) surfacing as *-ilwoə*, which seems to come from an older dative infinitive *\*-eli* is parallel to the form *-elu* found in some future meanings in SEA (Vaux 1995a).

Here, we have evidence of a gradient in terms of the semantic shades of futurity – the impersonal *piti* comes to be conjugated in the dialects of Krzen, Lori, Nuzger, and Tiflis (Vaux 1995a), and this formation shifts in semantics in many of these dialects, becoming a simple future tense, as in SWA, and some dialects have an intermediary stage between an obligatory and a future, as in the New Julfa obligatory future, which indicates actions which must take place in the future (Ač'arean 1940a:264) or something different from both of these, such as the New Julfa indefinite future, which indicates that an action might take place in the future (Ač'arean 1940a:262); in many EA dialects, a reflex of *piti* indicates the necessitative. In Van, the obligatory future coincides in form with the regular future forms, and the distinction is made through context (Van also lacks a future participle).

In the Kesaria dialect, the particle *bədə* (which still retains the necessitative as its primary meaning) has an allomorph *budu* before monosyllabic verbs (*gal, lal, tal*) (Ant'osyan 1974:54). Interestingly, like the Jerusalem dialect, by surface analysis, these verbs receive an *u*-prefix in the affirmative – *uk'am* 'I come-SUBJ', *uk'as* 'you (sg.) come-SUBJ' which seems to change both schwas of *bədə* to *budu* – thus *budu lam, budu dam* 'I must cry, give', and a spread of this vowel harmonic feature to the vowel nucleus of the negative marker – thus we get *č'ubudu dam, č'ubudu lam*, etc. Ant'osyan (1961:135-136) further records that for the plain future negative, these forms have spread to all verbs – *č'ubudu dirēm, č'ubudu girēs* 'I will not see, you will not write'.

In some EA dialects, which I will not deal with, *piti* (either on its own or augmented with other particles or relativizers) becomes the basis for the future tense (e.g. in Krzen, the future marker is *di*, inflected for both person and tense, such as *kʰak̄ē(l) čʰədēyi* ‘I will not have picked’, Bařramyan 1958:84).

### 5.1.5 Cohortatives & imperatives & prohibitives

The synthetic cohortative as seen in CA in Section 4.3.5 disappears in all dialects; in the prohibitive (e.g. ‘don’t go!’), the expected second person desinence -TH-r (e.g. SWA *mí tʰader* ‘don’t judge!’ *mí abriř* ‘don’t live!’ *mí banar* ‘don’t open [it]!’) drops the -r in most dialects. In a small number of dialects<sup>297</sup>, the prohibitive *mi* appears to be mobile (Trabzon and Van), and it is typically postposed in a few dialects such as Old Julfa, e.g. *gn-a-l mí √go-TH-INF.PROH* ‘don’t go!’, with the prohibitive gaining personal inflection for the second plural form, *gn-a-l m-ekʰ √go-TH-INF.PROH-2PL* (Ačarean 1911:89, morphemic breakdown based on Dolatian 2024a:282), Agulis *káp-i-l má* ‘don’t tie [it]!’ (Ačarean 1911:99). If a Van speaker chooses to use a preposed prohibitive, it acts like a fused proclitic capable of being inflected for number and person, e.g. *m-uz-ie*<sup>298</sup> ‘don’t want!’ but *m-ekʰ uz-ie* (Ačarean 1911:145).

The nearby dialect Ozmi (Vozim, traditionally considered a Van subdialect) acts in a similar way for the second person singular, but uses the aorist stem for the second person plural, as many dialects do (though note that CA used the aorist stem for the imperative, not prohibitive, e.g. *grecʰékʰ* ‘(pl.) write!’ vs. *mí grēkʰ* ‘(you all) don’t write!’), as in *m-óuz-ı* ‘don’t want!’ and *m-óuz-e-cʰ-ekʰ* (PROH-√want-TH-AOR-IMP.2PL, Ačarean 1911:149).

In some dialects, such as Maragha, there is a complete disappearance of the aorist stem in 2PL for both the plain imperative and the prohibitive, e.g. *uz-ı*<sup>299</sup> ‘want!’, plural *uz-ekʰ*; prohibitive *mí uz-ı*, plural *mí uz-ekʰ* (Ačarean 1911:283).

In the Jerusalem dialect, another morphological construction that has parallels in a few WA dialects is the imperative of monosyllabic verbs which receive a prefix with *u-* (Vaux 2002a:19): *u-kʰas* ‘come (here)!’ (SWA (*hos*) *yegur*), *u-das* ‘give!’ (SWA *dur*). Kesaria uses a *u-* infix as monosyllabic verbs (Alboyadjian 1937:1664, Antʰosyan 1961:128, Vaux 2012c:5) and the Tigranakert dialect employs *i-* with monosyllabic infinitives (Haneyan 1978:104), and the older Istanbul dialect employs *i-* with the negative imperfective of monosyllabic verbs (Kazanjian 1924:214). Table 59 below shows both allomorphy and the *-u-* infix used in the imperative present and prohibitive.

297 For a deeper morphological analysis of Karin, Hamshen, and Lori (EA) prohibitives, see Bezrukov 2022:181-185.

298 This *-ie* desinence is not found in the imperative – *uz-i* ‘want!’, *uz-ekʰ* ‘(pl.) want!’ (Ačarean 1911:145).

299 In my transcription, IPA [ɣ] = ɯ (near-high front rounded vowel).

Verbform	'you (sg.) love'	'you (sg.) come'	'you (sg.) don't come'	'don't come!'
Tomarza	ga sir-e-s	gav <sup>300</sup> k-a-s	č <sup>c</sup> -u-k-a	m-u-k-a
Gloss	IND.√love-TH <sub>e</sub> -2SG	IND.u-√come-TH <sub>a</sub> -2SG	NEG.u-√come-2SG <sup>301</sup>	PROH.u-√come-2SG
Cf. SWA	gə sir-e-s	gu k <sup>c</sup> -a-s	č <sup>c</sup> e-s k-a-r	mi k-a-r
Gloss	IND.√love-TH <sub>e</sub> -2SG	IND.√come-TH <sub>a</sub> -2SG	NEG.2SG-√come-TH <sub>a</sub> -CNEG	PROH.√come-TH <sub>a</sub> -CNEG

Table 59: Tomarza imperative mood (Kesaria subdialect)

### 5.1.6. Innovative uses of the infinitive

Except for Hamshen (which uses *-uš* for all four themes), all dialects use a word- and suffix-final *-l* to denote an infinitive verb. In various dialects, moreso in the eastern ones, the infinitive could be used as a sort of indefinite participle with an inflected auxiliary. We saw in the section above that dialects like Old Julfa and Agulis use the infinitive form in the prohibitive, instead of a connegative participle ending in *-r* or just a verb stem and theme vowel (e.g. SWA *mí uder*, 'don't eat!', Tiflis *mí siri*, 'don't love!', Ačařean 1911:56).

Infinitive				
Indicative, present or imperfect	Negative indicative, present or imperfect	Conditional, future or past future	Necessitative, future or past future	Imperative or prohibitive
mənal əm	č <sup>c</sup> im/č <sup>c</sup> eyə kəril	xəmil əm	ləvanal dēm (-(bi)di + ēm)	mənal mē
'I stay' (Artsakh, Hadrut, Meghri)	'I don't/didn't write' (Hamshen, Trabzon <sup>302</sup> )	'I would drink' (Shaghakh <sup>303</sup> , Karchevan <sup>304</sup> )	'I must wash' (Lori, Shamshadi-Dilijan <sup>305</sup> )	'don't stay!' (Nakhichevan, Aznaberd <sup>306</sup> )

Table 60: Examples of innovative uses of the infinitival forms, adapted from Gevorgyan (2013:67-68)

300 Allomorph of indicative particle *ga*. This may actually be a voiced labiodental approximant [v] as Alboyadjian chose to transcribe it as Լ (the Armenian letter, not a voiced velar lateral approximant [ɮ]) and not the expected ԝ if it were a typical voiced labiodental fricative [v]. Լ = [w] in CA.

301 Alternatively, NEG.u-√come-TH<sub>a</sub>-∅.

302 Gevorgyan 2013:138-139.

303 Sargsyan 2009:65.

304 Muradyan 1979:329.

305 Łarıbyan 1953:190-198.

306 Gevorgyan 2013:140.

Both SWA and SEA have both a future converb form ending in *-lu*, which is a grammaticalized dative ending of the plain infinitive, and both permit the use of a dative substantivized infinitive (their surface forms are identical).

### 5.1.7 Intensifying reduplication

Several strategies have arisen in WA dialects for intensifying the meaning of certain verbs – I place these under “intensifying reduplication” because I am unsure to what extent these synchronically show intensification, but I can be somewhat more certain that the origin of these strategies would have been to intensify the meaning, as what happened to the famous French *pas* example, which lost its intensive force and became grammaticalized as the regular negation. I mean reduplication is a morphosyntactic sense, and not a purely phonological process. For discussion and opinions on IE-derived reduplicated verb classes, see Djahukyan (1987), Martirosyan (2010:766-767), who argues for the continuation of IE-derived reduplicative constructions, and Greppin (1981), who argues that the productivity of IE verbal reduplication had ceased early in PA and was reintroduced into PA through the influence of Hittite, Luwian, and perhaps also Hurro-Urartian.

Based on dialectal data of reduplicated-only forms, it is often possible to reconstruct the CmA simplex form (see footnote below for some examples – though sometimes it is hard to tell, such as a simplex *\*mur* ‘moss (?)’, from PIE *\*meus-* (or *\*mews*) > (PIE reduplication, first step *\*me-méus-* > (second step) *\*mḡéus-* > (primary nominal suffixation with concomitant vowel reduction) *\*mḡusró-* > (PA normal outcome of syllable nasal after *m*, word-internally (or in open syllable)) *\*mamusró-* > (PA regular sound change *\*sr > r*) *\*mamuró-* > (PA stress shift to penult) *\*mamúro-* > (PA-to-CmA apocope) *mamur* (Cohen 2014). A good example is *mur*<sup>307</sup> ‘mute, silent’ as a noun along with its verb *\*mrel* ‘to listen to one’s word, to be obedient, compliant’ (CA has only appears to have *mrmal* ‘to murmur, grumble’, Awetik‘ean, Siwrmēlean & Awgerean 1836-37), found at least in Akn, Aslanbeg, Yerevan, Geyve (Nikomedia), Kesaria, Constantinople, Sivrihisar, with occasionally some other non-verbal reflexes such as Baberd having *mruk* ‘obedient, compliant, good listener’ (Ačārean 1977:361).

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307 This assumes a PIE sound-symbolic *\*mū-* derivation, related to CA *munj* ‘dumb, mute, silent, speechless’, Greek *μυνδός*, Latin *mutus*, Sanskrit *मूक* *mūka* ‘dumb’ (Ačārean 1977:359). Otherwise, a rhyme-formation from *luṛ* ‘silent’, usually used in tandem *luṛ-mur* ‘silent(ly)’.

There are dozens of intensifying reduplication examples (of different kinds) found in both CA<sup>308</sup> and dialectal data. In CA, intensive reduplication occurred not only to form new words, but also merely as a repetition, or in distributive function, or to express the meaning ‘every’ (Martirosyan 2010:767), a prominent example being: *isk yaysm žamanaki awerec’in zk’alak’sn, ew gerec’in zbnakealsn and; ew zamenayn erkirn Hayoc’ ew zamenayn gawařn and nmin gereal, xalac’uc’eal ew zayl gerut’iwns gawařac’ gawařac’, kołmanc’ kołmanc’, p’ori p’ori, zařxarhi ařxarhi, acin žolovec’in i k’alak’n Naxčawan; zi and ēr zōražolov’ zōrac’n* ‘but at this time, [the Persians] destroyed the cities and took the inhabitants captive, as well as the entire land of Armenia and all its districts. They also took away captives from **every district, region, valley, and realm**, and collected them in the city of Naxčawan [Nakhichevan], for that was the gathering place for their army’ (quoted from a text written by P’awstos Buzand, a.k.a. Faustus of Byzantium, 5<sup>th</sup>-century historian, translation by Garsoian 1989:176).

Two strategies only occur in negation – the doubling of the auxiliary verb (*č’e-m k’r-e-r e-m*, ‘I do not write’, see Table 61 below for dialects that do this, instead not having a participle as one would in SWA, *č’em k’rer*), and the doubling of inflection with only a single auxiliary (*č’e-m k’r-e-m*, ‘I do not write’ instead of some participle like the connegative *-r* (surface syncretism with evidential *-r*), as in *č’em k’r-e-r* or resultative *k’r-adz*). Trabzon and Kesaria allow for both strategies – the fine-grain stylistic or sociolinguistic details of which are left unexplored here. Karin allows for phrasal verbs with reduplicated negation – *č’em u č’em kēnē* ‘I don’t buy’.

NEG-AUX-INFL + V-PTCP + AUX-INFL	NEG-AUX-INFL + V-INFL	NEG-AUX-INFL V-PTCP
Alashkert, Arjesh, Bitlis, Crimea, Darende, Evereg, Gop, Kesaria, Malatya, Manazkert, Mush, Ordu, Tigranakert, Tomarza, Trabzon, Vartenis, Xlat, Xnus	Bardizag, Charsanchag, Eudokia, Kesaria, Trabzon	all other dialects

Table 61: Strategies used for negation in various dialects

308 PA *\*(h)imp-*, from PIE *\*pimb-* reflecting the i-reduplicated root thematic present *\*píph<sub>3</sub>eti* with analogical nasal infix of the root *\*peh<sub>3</sub>-* ‘to drink’ (Ačarean 1977:599, Martirosyan 2010:277-279). In CA, the verb was suppletive, with part of the conjugation is filled by forms of *\*arbanem*, ‘to drink’, from the root *arb-* (itself from PIE *\*sṛbh-*, zero-grade aorist of *\*srebh-* ‘to sip, gulp, suck in’); most dialects do not have an inherited form (except Nor Nakhichevan and Kharberd *umb* ‘a drink’, Arabkir *əmbig* ‘tiny droplet’, child vocabulary *bu, bua, biva, pu*, and *əmbu* as either the noun or verb in some dialects, and Svedia *əmbäg* ‘drink (n.)’ (Ačarean 1977:600) – both SEA and SWA forms have become entirely regularized. Without going through each etymology, other IE-derived reduplicated pairs are *ker-* ‘eat’ (suppletive) and *kokord* ‘throat’ (the unreduplicated variant with the original ‘throat’ meaning, as opposed to the *kul tal* ‘to swallow’ light verb variant, survives only in certain dialects as *kul* in Van and Ghazakh, *kōl* in Arstakh, *kēl* in Agulis, *kulkap* ‘neck shawl’ in Shamakhi), CmA *\*mul* ‘dust, ground’ (cf. *mašel*, ‘to sieve, sift, drizzle’ in some WA dialects) and *mamu-l/r* ‘press/sawdust’, CmA *\*muř* and *mamuř* ‘moss’, CmA *\*tatarm* (or unmetasthesized *tatram*, older *\*dre-*) and *tartam* ‘sluggish, irresolute’, CmA *\*gow* ‘small round object’ and *ənkoyz* ‘walnut’ and *kokovank’* ‘testicles’, *bal* ‘to speak’ and *papič* ‘sorcerer’, CmA *\*xut-it* or *\*xit-it*, CA reduplicated *xtilit* ‘to tickle, exicte’, which may be related to Proto-Germanic *\*kit-l-*, *\*kitilōnq* (> PIE *\*geyd-* ‘to sting, prick, tickle’, see Martisoyan 2010:334-335), etc.

In Hajin, verbs can undergo various forms of emphatic or intensifying reduplication by doubling or fortifying the second consonant of the root, such as *kačjek* ‘go!’, *hassav* ‘he has (finally) arrived’, *hiyyal* ‘to look at intently’, *əssac* ‘s/he definitely said’, etc. We see two related phenomena in neighboring Zeytun, which has both reduplicated (found in all dialects, including CA (Klingenschmitt 1982:284) and SWA) and frequentative verbs (found in quite a few dialects, such as Constantinople), examples of which can be seen in the Table below.

Frequentative verb	Origin/meaning (in CA)
gə̀rvə̀dal <sup>309</sup>	< kŗuil/kŗuel ‘to take hold of, adhere, contend, fight’
hafk‘ədil	< hawak‘el ‘to gather, collect, clean up’
badə̀rdil	< patàrel ‘to rip up, tear to pieces’
gə̀drə̀dil	< kotorel ‘to break (transitive)’
gə̀də̀ydil	< ktrel ‘to cut, divide into parts, clip’
k‘ə̀svə̀rdə̀gil	(unknown) < MA *k‘svil ‘to be rubbed, rub oneself’
ḕrḕnjgḕdol	< yawranjēl ‘to yawn’

Table 62: Frequentative verbs in Zeytun (Ačārean 2003:271-272)

### 5.1.8 Other changes

Many dialects developed elaborate systems of phrasal verbs, with the extended use of light verbs or Turkish nouns or noun phrases mixed in with a native light verb. For example, Akn uses Armenian-derived phrasal verbs (e.g. *tnklik kaxel* ‘to find fault in someone, to object’, *tnklik* ‘carriage’, *kaxel* as a full verb is ‘to hang’, Čanikean 1985:390) but instead of a verb with an adposition, we see a noun with a verb or an adposition with a verb with the development of auxiliary *anel* ‘to do’, *dal* ‘to give’, *ellel* ‘to be’, *k‘nel* ‘to buy’, etc. Gabriēlean (1912).

We see a parallel development in SWA heritage language speakers, which is to be expected since the smaller Armenian vocabulary base encourages the use of borrowed verbs, and speakers rely on inflecting light verbs as to integrate that part of the lexicon with the rest of the grammar. A light verb thus turns an otherwise non-verbal element (the loanword), such as a noun or an adjective, into a verbal predicate, which can then host tense, aspect or modality markers, a process which is quite

309 For Hajin and Zeytun, which appear to be the only dialects with this phoneme, Ačārean (2003:18) uses the grave accent on schwa (ɿ) to mean (my translation of his exact words) “an open degree... is between the [ə] and [a] vowels, more open than the conventional Armenian [ə]” – so likely [ɜ] (an open-mid central unrounded vowel, or low-mid central unrounded vowel) or [ɛ] (a near-open or near-low central vowel).

common crosslinguistically and especially in heritage speakers, such as Turkish (e.g. *arkadaş-ım mesaj-ım-a reageren yap-tı*, ‘my friend responded to my message’, with ‘message’ being an English loan and *reageren* ‘to react, respond’ a Dutch loan, and *yap-* acting as the light verb, Tat 2020), heritage Inuktitut (Sherkina-Lieber & Murasugi 2015), heritage Russian (Polinsky 2008, Mikhaylova 2012), etc.

Another area that sees great variation across dialects is the modification, retention, or spread of rules regarding vowel reduction – destressed high-vowel reduction is sensitive to different diachronic, morphosyntactic, and prosodic factors across different dialects, and this interacts with various vowel harmony systems extant in many dialects, as to produce a complicated set of rules. Many cases of syncope targeting unstressed vowels come from causatives (Johnson 1954:185; Gharagowlyan 1979:42), inchoatives (Galstyan 2004), reduplicated verbs (Abrahamyan 1959), and compound linking-vowels (Eloyan 1972:82). Although syncope was a sporadic diachronic process and it affects only idiosyncratic sets of words in the two standard dialects (Dolatian 2020:39), some non-standard dialects have generalized medial syncope into synchronic destressed *a*-reduction (in Karin, for example, see Mkrtčyan 1952).

## 5.2 Sprachbund – Lateral transfer/areal influence

This section cursorily covers contact effects of the earlier parts of Armenian history (post-IE breakup to PA to CA) and the various contact effects of the Byzantine and later Ottoman Turkish Sprachbünde on the Western dialects.

When speaking of a Sprachbund, one must exclude universals (Tuite 1999), geographic proximity is generally required<sup>310</sup>, and one needs to demonstrate close linguistic contact or prolonged bilingualism, which is easy enough in the case of WA dialect speakers. Simple lexical borrowing is never enough, though consistent lexical borrowing from a single source by multiple unrelated languages may be one factor that can aid us in determining whether a Sprachbund exists. Essentially, the central property of a Sprachbund is that there be a conspiracy<sup>311</sup> to produce similar or identical surface effects, such as vowel harmony, palatalized consonants, or ergativity (Vaux 2002b), thus demonstrating

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310 In some cases, it is not strictly necessary so long as there is some far-distance interaction, influence, or communication, such as the spread of uvular R across Europe in recent centuries and certain sound shifts simultaneously occurring in urban communities far from each other, e.g. Detroit (Travelet & Zumstein 2020).

311 “Conspiracy” refers to a situation where different languages or dialects, through prolonged contact and interaction, independently develop similar or identical linguistic features. This convergence happens not because the languages are consciously or deliberately mimicking each other, but because the intense and close contact among the speech communities leads to a natural alignment of certain linguistic properties. Thus, multiple languages or dialects end up having similar surface features – such as postpositions, want-futures, SOV word order, palatalized consonants, or a particular merger of two nominal cases – not due to a coordinated effort but as a result of the shared linguistic environment and the influence they exert on each other. This demonstrates a process of linguistic convergence driven by close and sustained interaction between the speech communities involved.

linguistic convergence over a period of intense, close contact amongst different speech communities (Joseph 1992:154). There are also typically common substrate or adstrate languages (Sandfeld 1930, Joseph 1983, Greenberg 2001) whose grammatical traits may have lingered or influenced a set of languages. Various authors have attempted to give a more precise definition (such as Tomic 2001) though with limited success.

Regarding the criterion of bundling areal characteristics, certain researchers previously believed that such clustering along the peripheries of a linguistic region might be essential for accurately delineating Sprachbünde. However, this notion is inaccurate. Similar to traditional dialects, linguistic areas often exhibit a pattern where one characteristic spreads across a larger region, while another remains confined to a smaller area, resulting in non-coincident boundaries between them (Campbell 1999:306).

According to Hoenigswald (1960:59), to have the complete picture, one would need to have a close-range, minute investigation of idiolects and subdialects, of population movements, bilingualism/bidialectalism, and the conscious and unconscious attitudes toward bilingualism or bidialectalism, but he recognizes that such studies are few and far between even for better-studied contemporary language communities, and that they are necessarily absent for the periods of past history. The crucial zone where synchronic variability and diachronic changeability meet must be approached by interpolation and extrapolation from the data accidentally vouchsafed to us. He then proposes that one pay special attention to analogical creation, disturbances in productive patterns, the productivity of allomorphs, reinterpretation of dialect borrowings as a mechanism of morphological change<sup>312</sup>, social taboo, and hyperforms. The advantage of looking at a foreign language-dominant Sprachbund is that it is much easier to pick out the influences, as opposed to interdialectal borrowings (unexpected or unexplainable semantic drift being perhaps the hardest to pin down).

Regarding the areal interpretation of overlapping innovations Hoenigswald (1960:155) makes an interesting remark that the overlapping subgroups, when plotted on a geographical map, are likely to occupy contiguous areas – a characteristic trait, in any synchronic picture, of isoglosses marking innovations and that isoglosses marking mere retentions may, on the contrary, be of the discontinuous, “relic” type. Hock (1991:440) states that “relic areas tend to be geographically or sociolinguistically outlying or otherwise remote areas.”

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312 An example he provides is Greek στήτη in Theocritus, *Syrinx* 14, which is distilled out of Homer's *Iliad* Book 1. line 6: διαστήτην ἐρίσαντε ‘both fell out quarreling’, misread as διά στήτην ἐρίσαντο ‘they quarreled about X’, X being ‘woman’ which is supplied from context. The process presupposes the obsolescence of the dual morpheme which is represented in the endings of διαστήτην and of the original ἐρίσαντε (Hoenigswald 1960:65FN12).



We can separate three major periods of interaction with Greek – prehistorical interaction (possibility of a Helleno-Phrygian-Armenian<sup>313</sup> clade within IE: Clackson 1994), interactions with the ancient Hellenic world (for extensive evidence of contact and bilingualism, see Vaux 2009), and later the medieval Byzantine sphere of influence (Sandfeld 1930). It is clear that Greek (and arguably older, now extinct local IE languages) is the substrate language and Turkish the adstrate (donor) language (Friedman 2000).

Features	CA	SWA	WA dial.	Turkish
mid-to-high central vowel [ə] ~ [ɘ] ~ [i]	+	+	+	+
absence of overlay phonological features	+	+	+ <sup>314</sup>	+
palatalized consonants	-	-	+ <sup>315</sup>	+
diphthongization of initial mid vowels	-	+	+	-
genitive/dative merger (except in pronouns)	-	+	+	-
evidential/mediative	-	+	+	+
enclitic article	-	+	+	+
want-future	-	-	+ <sup>316</sup>	-
have-perfect	-	-	+ <sup>317</sup>	-
analytic adjectival comparative structures	+	+	+	+
SOV	-	+	+	+
infinitive loss in subordinate clauses	-	+	+	+
factive vs. nonfactive subordinators ( <i>vor</i> vs. <i>t'e</i> )	-	+	+	+
extensive Greek loans <sup>318</sup>	+	+	+	+

313 For a thorough, but dated, opinion on the historical possibility of a partial Phrygian origin, see Adontz (1946:44-54, 125, 275-279, 311-334, 373-385); for an opposing viewpoint, see Dressler (1964) and Kim (2018b, especially references in FN2); for a mixed take, see Haas (1961) and de Lamberterie (2013); for genetic studies see Hovhannisyann et al. (2020), Movsesian et al. (2020), and Lazaridis et al. (2022). For an exposition of structural similarities between Greek and Armenian verbal nasal classes and embedded lexical matches, see Kocharov (2019:279-282). For an opinion backed by evidence for such a grouping which may also include Albanian, Olsen & Thorsø (2022:209-216), and negative opinions by van Beek (2022:193-196), Piwowarczyk (2022:45), and Kim (2018). Ačarean (1937)'s article may also be of interest.

314 With the exception of Aslanbeg which does have phonemic nasalization (Vaux 1993a).

315 Many dialects have phonemic contrasts in native words as well: Syolyoz [Sölöz], Martil, Zeytun, Beylan, Kesab, Kabusiye, Aramo, Xarper region, Urfa, Diyarbakir, Van region, Ardvin, most eastern dialects (Vaux 2002b, citing Djahukyan 1972).

316 Only a few dialects, such as Suceava, Hajin, Marash, MA (Djahukyan 1972).

317 Found only in Hamshen subdialects (Ačarean 1947:144-145).

318 Some WA dialects around the Black Sea and especially those deep within Asia Minor (away from the traditional homeland), such as the Kayseri-area dialects, are replete with Greek lexical loans (see, as an illustration, the Kesaria

“there was and there wasn’t”	-	+	+	+
“to eat a beating”	-	+	+	+
V-not-V	-	+	+	+

Table 63: Comparing areal features in CA, SWA, WA dialects, and Turkish, based on Vaux 2002b

The evidential verbal mood, almost omnipresent in Western dialects and usually taking an *-er* participle plus auxiliary, appears to be of Turkic origin<sup>319</sup> (Friedman 1981 & 1999). However, the verbal form itself does not appear to be a borrowing from Turkic, given that most Turkic languages use the *-mİş* or *-İb-dİr* suffix(es) added onto a root (e.g. Turkish *gül-müş* ‘X (has) evidently/apparently laughed’, Uyghur *yez-ip-tu*, ‘X has evidently written’, Kazakh *tüs-ip-ti* ‘X has evidently fallen/evidently fell’, Turkmen *gid-ip-dir* ‘X has evidently gone’: Johanson 2003). CA had an *-er* form as a perfect, and in fact it may be the origin of the later evidential use of this morpheme, and may also explain why this marker only exists in the completed past (Donabédian 2001a:423).

The typical development chain for this *-er* is usually given as CA participle *-eal* > *-el* > *-er*, but this *l* > *r* mutation is not predictable by internal rules (Karst 1901:§415), hence why contact-induced explanations have been proposed – bilingual speakers would have associated the Turkish aorist *-r/-ir* (e.g. *diril-ir-im* √-AOR-1SG ‘I have come alive’), which may explain why the modern dialects usually only have a past evidential (using *-er*), though periphrastically, many dialects can also form a present and future evidential. If this is true, then it is a good example of exaptation. As evidence that this *-er* participle is indeed of native origin (hence why I have included it as an important feature in my internal reconstruction and analysis), Karst proposes the following: the CA prohibitive *-r* was extended by analogy to the negative perfect through the intermediary of using the *č’i greal* ‘to not write’ > *č’i grel* > *č’i grer*, with an internal facilitating factor being the homonymy between negative participle (a.k.a. the connegative) *grer* and indicative imperfect 3SG *grēr* (Donabédian & Ouzounian 2008 also point out that the orthographic distinction was fluctuating in MA), and a contact-facilitating factor being the aforementioned Turkish aorist<sup>320</sup>.

Other than the elements mentioned in Table 63, the elements which must have come from Ottoman Turkish include the interrogative particle *mə* (or *mi/mü*/etc. if there’s vowel harmony), the evidential construction with *-mİş* (a generic nonfinite form) + light verb, e.g. Hamshen *kazan-miş g-əll-a-k’* (earn-PTCP IND-be-TH-2PL ‘we earn’, Ačarean 1911:190, Dolatian 2024a:517), the past tense marker from *iti/idi* like in Hajin *gaš-d-i-y idi* ‘you (sg.) were going’ (Martirosyan 2019a:74), and the infinitival ending

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dialect’s extent of Greek influence, in Alboyadjian 1937:1612-1616).

319 Though this is sometimes stated in the literature, one cannot exclude the possibility that Armenian dialects may have developed evidential constructions on their own, given how common they are cross-linguistically.

320 Another striking point raised by Donabédian & Ouzounian (2008:4) is that both the WA connegative *-er* and the 3SG aorist in Turkish happen to be the most indeterminate verbal form within each respective system.

-uš instead of the expected *-e/a/i/u-l* (Hamshen) (Ačarean 1947:11, 156–158; Ačarean 1965:46–47, Martirosyan 2019b:205).

In the subdialect of Mala (also in Trabzon), the auxiliary ‘to have’ is used as a progressive marker: *b’erim uni* or *g’uni* ‘I am bringing’, *b’ereyā g’uni* ‘I was carrying’ (the exact distribution of the indicative particle is difficult to determine, depending on context). The Čanik (or Canik/Djanik, immediately south of Samsun) subdialect uses a different pattern involving the infinitive and third person singular copula: *yēs eguš ä* ‘I am coming’, *tun eguš ä* ‘you are coming’, and so on, or with a nominal or pronominal subject in the genitive, as in: *imā/ims eguš ä* ‘I am coming’, *k’ugā(d) eguš ä* ‘you are coming’, etc. (Ačarean 1947:11, 140–141, Vaux 2007:263, Martirosyan 2019b:205). In SWA and most other WA dialects, translating such constructions verbatim would produce outright ungrammatical results. Though such *have*-constructions are rare in the region but quite common crosslinguistically elsewhere, this could have been an independent innovation.

The native Armenian numerals ‘70’, ‘80’, ‘90’ have been replaced by Turkish forms in the dialect groups of Cilicia, Svedia, Van (but not Moks), Tigranakert, and many Asia Minor dialects, but by Arabic ones in Aramo (Martirosyan 2019b:185). Crosslinguistically, though there exists a large degree of randomness as to which numerals get borrowed (in Pare, a Bantu language in Tanzania, the numerals one, two, three, four, and six are borrowed from English, but dozens of ordinal and cardinal numerals are borrowed from Swahili, with a few overlaps having different sociolinguistically-determined uses, Sebonde 2014:72; in Japanese, both native and Chinese-derived numerals are used between 1 and 10, but native numerals are not used beyond 10), a stable system develops where one set of either native or borrowed numerals are used in some domains but not others, with inherited numerals sometimes entirely replaced (like in Omotic, Cushitic, and Chadic branches of Afro-Asiatic, which replaced almost all of the originally inherited numerals from one to five by borrowings from substratal languages or local innovations, Blažek 1999:52).

SEA, which like most other Eastern dialects evolved first in the Iranian area (then the Russian area, though this was much later and was centered primarily in Tiflis, then Yerevan, which only became dominant in the 20<sup>th</sup> century), can use the aorist in hypothetical clauses, such as *č’gnac’ir, kspanem...* (‘If you don’t go, I’ll kill you.’ lit. ‘You didn’t go...’), and though it is not used in SWA<sup>321</sup>, it remains interpretable. Donabédian (2016:34–35) suggests that areal phenomena may also play a role in these differences: in Ottoman/Modern Turkish, the main contact language for the Western dialects<sup>322</sup> since at least the 13<sup>th</sup> century, there is no parallel to the hypothetical aorist. By contrast, in the Iranian area, there is one<sup>323</sup>.

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321 The aorist can be found in aphorisms in various WA dialects, but there is a tendency for it to be supplanted by the evidential in these uses (Donabédian 2016:FN34).

322 And most EA dialects to a considerable extent.

Sprachbund effects may help explain why certain features, such as the evidential, are shared in various members of different subgroups of languages. Some features are only found in one or a handful of dialects – such as Tigranakert having a *mən* debitive particle<sup>324</sup>, or Suceava, Hajin, Marash, MA, and New Julfa having an *uzel* ‘want’ future particle, or Svedia, Aramo, and Mush having maintained or spread the *e*-augment (based on scribal errors in the T<sup>c</sup>alin manuscript, we know that at least in some areas, the augment had dropped out of use by the year 953, Djahukyan 1997). Further examination is required to figure out which ones are inherited, and which ones were traded or areally influenced, as retention alone is not a safe example of a Sprachbund effect, for the reasons I mentioned earlier when discussing subgrouping.

Contrasting doublets, such as Italian *plebe* ‘plebeian, commoner’ and *pieve* ‘parish’, typically reflect direct borrowing (Hoenigswald 1960:68)<sup>325</sup>. Luckily for the comparative dialectologist, there are relatively few such doublets in the non-standard WA dialects, though there are hundreds in SWA, e.g. *jamp’a* ‘road’ and CA learned borrowing *čanaparh*<sup>326</sup> ‘voyage, journey’ pronounced *janabar* [dʒana'bar], cf. MA *čanpah* or *čanbah*), *arc'unk'* ‘tear’ and learned *artasuk'* (cf. MA *artasunk'*), *pernayin* ‘oral’, learned *peranayin*, pseudo-doublet *ənel* ‘to do’<sup>327</sup>, inherited from CA or pre-CA *ərnel* ‘to make’, yet CA had *ərnul* ‘to receive, take, accept’, which has been inherited in SWA and other WA dialects, generally with a modified theme vowel *ərnel* ‘to take’. In Van, Ačārean (1952a:72, 104, 290, 1979:164) pointed out a few learned borrowings from SWA, such as *p'ar* ‘word’ (instead of the expected *par*), though the Van area (Van<sup>328</sup>, Moks, ec.) seems to have exported more words than borrowed, as Martirosyan (2010:694) explains, due to the influence of famous wool-carders and felt-makers from that area who used to

323 This would be particularly true of dialects that have always been under Persian control, such as the ones around Lake Urmia, Gharadagh, New Julfa and its colonies (Shiraz, Yazd, etc.), Peria, Tabriz, Tehran, etc.

324 E.g. *mən p'erim* ‘I have to bring’. Ačārean (1911:163) considers the origin of this particle as unknown. Haneyan (1978:146) cautiously suggests a derivation from *piti* > *bəd* and notes the parallel forms in K<sup>c</sup>esab, *bər* / *mər* (Martirosyan 2019b:214).

325 Perhaps the most famous case is CA *kov* ‘cow’ vis-à-vis *gawazan* ‘stick for driving animals’ from Middle Iranian \**gāwāzan* ‘spiked stick used for driving oxen’, cf. Classical Persian گواز (gawāza), گاوزنه (gāwzana), Avestan گاووازان gauuāza, ‘ox-goad’ (see Ačārean 1971a:525-526), which Hübschmann (1875:9) used to deduce that Armenian had at least two strata – a native one and an Iranian one.

326 By haplology from CmA \**čaranaparh*, from Iranian \**čarana-parθ*, composed of \**čarana-* ‘to go’ and \**parθ* ‘passage’, Ačārean 1977:183.

327 They both ultimately derive from the same IE root, \**h<sub>2</sub>er-* ‘to fix, put together’ (Hübschmann 1897:420), though the *u*-theme variant more specifically derives from \**h<sub>2</sub>r-n(u)-* (de Vaan 2003:371, same as for Avestan 𐬀𐬀𐬀 *arəm*, and Sanskrit 𑖀𑖄𑖆𑖇 *ṛtá*). For CA *ərnel*, we have MA *arnel*, *ayrnel*, *aynel*, *anel*, Civa *ēnel*, *ənel* (as in SWA), Indian subdialect of New Julfa *arəl*, *arari* (aor., cf. Greek ἤραρον ‘I fixed’), New Julfa, Suceava, Van *anel*, Agulis, Akn, Shamakhi, Trabzon *anil* (with *kōnim* as the future in Trabzon), Yerevan, Goris, Artsakh, New Nakhichevan, Rodosto *anēl*, Salmast *änel*, Maragha *änēl*, Moks *anil/ēnil*, Alashkert, Hajin, Mush *ēnel*, Akhaltskha, Karin *ēnēl*, Zeytun, Kharberd *ēnil*, Ozmi *yēnil*, Constantinople, Sebastia, Tigranakert *ənēl*, Aslanbeg *ənēl*, Hamshen *ənil*, *ənul*, *əri*, Meghri *aril*, Haravik *älil*, (Ačārean 1971a:262). For CA *ərnul*, have the following dialectal reflexes: Zeytun and Artial (Suceava) *ərnul*, Alashkert, Mush, New Julfa, Salmast, Van *ərnel*, Akhaltskha, Karin, Meghri, New Nakhichevan, Constantinople, Rodosto, Sebastia *ərnel*, Yerevan *ärnel*, Aslanbeg *ärnel*, Agulis, Akn, Kharberd, Moks, Shamakhi, Ozmi, Tigranakert *ərnil*, Hajin *arnel*, Trabzon *ärnil*, Hamshen *ärnuš*, Indian subdialect of New Julfa *arul*, Artsakh *ink'yōnēl* (*yink'n arnul* ‘to take or receive oneself’) (Ačārean 1971a:248).

travel quite far to sell their wares, hence why we find an unexpected *x-* in *xemk'* (instead of *h-*) ‘wooden frame of a sieve’ in some EA dialects such as Šamšadin, Łazax, and adjacent areas. Less mountainous regions and cities appear to have been more susceptible to interdialectal borrowings – see Bałdasaryan-T‘ap‘alc‘yan (1976) for details on the interdialectal contacts in the Ararat valley.

### 5.2.1 *The curious case of Cilician dialects*

An area that defies these trends is Cilicia – Armenians have had a presence in Cilicia since at least the first century BCE, with evidence of migration dating to the 6<sup>th</sup> century CE. Armenians settled in large numbers in this area in the 10<sup>th</sup> century, fleeing the Seljuk incursions into the Caucasus and especially Anatolia. Their numbers augmented after the demise of the Bagratuni kingdom in the mid-11<sup>th</sup> century, and during the three Armenian dynasties (the Rubenids 1080-1219, the Hethumids 1226-1341, and an offshoot of the French Lusignans 1341-1374) which ruled the expatriate kingdom of Cilicia. The Mameluks conquered Cilicia in 1375, but were unable to hold it as their new gains were taken by the Timurids, Aq Qoyunlu, and Kara Qoyunlu tribal confederations, then absorbed into the growing Ottoman Empire in 1516. Throughout this entire period, CA was used in its written form in parallel with MA. CA was continuously taught at church and in schools, whereas MA was more of an administrative language, and it represented more or less how Cilician Armenians at the time actually spoke. CA and MA had different spheres of operation – MA was the language of royal proclamations, poems, works on scientific, historical, and medical topics of the Kingdom of Cilicia, whereas CA continued to be used in church ceremonies, Catholicos proclamations, philosophical, interpretative, grammatical and other works (Ačařean 1951:235). MA of the 12<sup>th</sup> – 14<sup>th</sup> centuries was more unified and standardized than later MA texts 15<sup>th</sup> – 16<sup>th</sup> centuries, which is used by an increasingly globalized and spread out series of communities (Mkrtč‘yan & Xaç‘atryan 2016:133), though neither period shows complete homogeneity.

The Cilician<sup>329</sup>, or extreme southwestern, dialects are considered to have both many archaisms and innovations – so much so that mutual intelligibility with other Western dialects is very low<sup>330</sup>, even

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328 Van also has a few words with initial *h-* (unexpected in Van, since CA/CmA *h* > *x*, CA/CmA *y* >  $\emptyset$ ), though these are dialectal borrowings from Shatak or a nearby dialect (Weitenberg 2008:612), such as *hōranāl* ‘to fatten’, *hōk<sup>o</sup>* ‘(for) help’, though the latter also has a *ōk<sup>o</sup>* variant.

329 Sometimes used synonymously with “Musadagh dialects” (Armenian Musa Leř, Turkish Musa Dağ, Arabic Jebel Musa, Mousadaghian, etc.) but that is more of a geographically tight but linguistically rather diverse group of southern Cilician dialects which bleed into the Syrian territory, which comprises of Vakəf, Xtrbek, Yoghunoluk, Haji-Habibli, Kabusiye, Bitias, Amaž, Veri Azzir, Vari Azzir, and Zeglig, the former six of which (a large part of Vakəf having stayed behind what would later be annexed by Turkey in 1939, Dumézil 1968) were transplanted into Lebanon in Anjar, where the villages were preserved in six different quarters, where their mix of dialects are sometimes collectively called Anjari lizu, Anjartseren, or Anjartseneg (Vaux 2011).

330 Anecdotally, whenever Musaler speakers spoke, Armenians around me would wonder if what they were hearing was Armenian; on one of the few YouTube videos available where a Cilician dialect speaker from Anjar (Lebanon) is being interviewed, a commenter from the Republic of Armenia confusingly asks *kesə t‘urk‘eren e xosum?* ‘is half of what he’s

ones nearby (Vaux 2011). These archaisms are often shared with pockets of dialects at the fringes, very reminiscent of Hock's (1991:440) discontinuous relic type of retention<sup>331</sup>. Numerous lexical elements have this pattern, for which I only give two examples as illustrations: 1) numerous dialectal reflexes (here, Sasun, Hajin, and EA Artsakh/Araratian dialects) of *acul* 'coal, soot' (which was reanalyzed as *acux* under the influence of *cux* 'smoke' even during the classical era) seem to derive from *\*anjoł*, which, if indeed old, the nasal may have resulted from a generalization of the full-grade nominative *\*h<sub>1</sub>ong<sup>w</sup>-ōl(-o)-* (PA *\*anwcuło*) (Martirosyan 2010:21); and 2) CmA *\*hort* 'calf, fawn', as opposed to CA *ort*, which has dialectal forms with the initial *h-* (not produced by other sound changes), in numerous dialect pockets, ranging from the fringes of the (north)western Asia Minor Group (Aslanbek, Hamshen), the northern Caucasus (T<sup>h</sup>iflis and nearby dialects) to the extreme southwestern group (Svedia), parts of the southeastern fringe (Kak<sup>h</sup>avaberd), as well as to the center (Alashkert and nearby dialects) of the Armenian plateau. There are some dialects that have an *f*-initial form which in turn likely derives from *\*h-* (*ibid.*:713 for a full list and explanation); furthermore, Martirosyan (*ibid.*:537) makes a convincing case that the immediate ancestor of CA generalized the nominative-accusative form (PA nominative singular *\*órd-a- > ort*), and the other dialects generalized the oblique form (oblique PA *\*hart<sup>h</sup>- > dial. hort*)<sup>332</sup>.

In terms of the development of stops, many of these extreme southwestern dialects belong to Group 1 (see Table 5), which is a sister branch to Group 6 (the group that CA belongs to, see Figures 11, 12, and 13 of Subsection 3.1.2). This does not necessarily imply that Group 1 is contemporaneous with Group 6, as we lack knowledge of the exact status of the intermediate stage between PIE and the advent of Groups 1, 2, and 6. Specifically, the Syrian dialects (Antioch, Aramo, Kabusiye, Kesab, Svedia) and some Cilician dialects (Marash, Zeytun), including MA, belong to Group 4, which are derived from Group 1 (PIE voiced stops remain unchanged in both of these groups, the original PIE breathy voiced stops are unchanged<sup>333</sup> in Group 1 but lose breathiness and voicing in Group 4, and the original PIE unaspirated stops become aspirated in both groups).

Lexically, there are many borrowings from Arabic, Modern Persian, early Anatolian Turkic dialects, and European languages, particularly from French (due to political and cultural contact during the Crusader era), which other dialect groups generally do not have. There are numerous semantic

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saying Turkish?', even though the Anjar speaker used relatively few loanwords.

331 This can also guide us for lexical issues – for example, *cicatil* 'to laugh' is widely attested in the literature, but not its base noun, *\*cical* 'laughter', other than in one alliterative play in the 10<sup>th</sup> or 11<sup>th</sup> century with *cawal* 'spreading' and *cov* 'sea' (K<sup>h</sup>yoškeryan 1981:69, 114, see Martirosyan 2010:340-341 for discussion), yet the geographical distribution (Suceava, New Nakhichevan, Akhatskha, Tiflis, Ararat, Artsakh, Shamakhi, Agulis, Julfa, Hajin, all very spread apart) in the dialects would lead us to believe that the noun form is the base on which the verb was innovated, thus the noun is the archaic form.

332 See Muradyan (1982:274-275) for an assumption of the opposite direction (*o- > vo- > fo-*), Ačarean (1951:411, 2003:106-107)'s analysis is essentially identical to Martirosyan's.

333 For a discussion and references, see Khachaturian 1983; Pisowicz 1997; Vaux 1997a, 1998:7-12, 211-241; Weitenberg 2002:146-151; Ałabekyan 2009; Haneyan 2010; Weitenberg 2017:1138-1140; Sayeed & Vaux 2017:1151f.

archaisms which are sometimes shared with divergent EA dialects, such as *kor* as ‘scorpion’ preserved throughout Cilicia, also in Svedia, Xarberd, Akn, Arabkir, Karin/Širak, yet also preserved in extreme southeasterly dialects such as Maragha and Salmast (Martirosyan 2010:375), the *sinj* form of *sin* ‘sorb, serviceberry’ (Martirosyan 2010:576) preserved in the southernmost belt of dialects (from west to east, Cilicia, Svedia, Moks and nearby subdialects, Jugha, Agulis, with Shamakhi and Ghazakh being stranded at the northeastern edge), and the semantic shade of *lurj* ‘light, clearheaded, serious’ meaning ‘blue’ in Svedia *lurč* ‘blue’ (Ačarean 2003:570), or *laurč/č* ‘violet’ (Andreasyan 1967:149, 363b), Kesab *lorj* ‘light blue’ (also in derivatives) (Č’olak’ean 1986:204a, 244), Aramo *laurč* ‘blue’ (Ĭaribyan 1958a:54, 65a). Mush *lurč* ‘a kind of blue canvas that is made in Haleb’ form has probably been borrowed from the Syrian dialects according to Martirosyan (2010:322-323, 569). Zeytun in particular has many words found in the MA corpus which are not used by any other dialect (except sometimes adjacent dialects), such as *alik* ‘fodder’, *apri* ‘fishnet’, *dastišon* ‘basin’ (Ačarean 2003:12-13).

These dialects have a surprising number of differences among themselves. What could explain their significant divergence from one another and the wider array of Armenian dialects is a modified Wave Theory model which posits that these unique dialects are remnants of isolated pockets of Armenian speakers resulting from cycles of expansions and retractions throughout history. This would complement the prevailing assumption that the linguistic disparities observed in these dialects are solely due to geographical isolation and long-term contact with neighboring languages. Emigration from this region then seeded various features we see in Asia Minor dialects. An idea that is explored later is the Cilician influence on other (usually northwestern) Asia Minor dialects, and eventually Constantinople, due to migration. One obvious influence is the *i* particle used in the negative (e.g. *čem i gar* ‘I don’t come’), but Constantinople only uses this form for monosyllabic verbs, whereas MA (Vaux 2006c:3, Kazanjian 1924:214) employed this particle for verbs of any number of syllables *čem i hasanel* ‘I don’t arrive’). SWA did not absorb this feature.

It is tempting to propose an early split from CmA, which would explain both inconsistencies in the MA data and the archaic features in this cluster, as it does have features not seen anywhere else, such as emphatic consonantal doubling in verbs, a uvular plosive phoneme [q] seemingly independent of Arabic contact, a *gə* conditional marker, the unique *ha* indicative marker and its derivatives, abundant ablauting phenomena, and elements that are traceable to PIE directly (Vaux 2021). However, repeated population movements from the Armenian plateau into Cilicia complicate the matter.

These dialects participated in the same morphological innovation that changed the simplex synthetic construction of CA/CmA in the non-aorist indicative, by adding a reflex of the prefix *gə* (Marash *gə gart<sup>t</sup>-o-m* IND.read-TH-1SG, ‘I read’), *ga*, or *ha*, with some dialects having more than one reflex based on lexical or morphophonological factors, e.g. *gu-* before monosyllabic roots, *g-* before vowels, *gə-* doubling, and *gə-* elsewhere before consonants. The Cilician and Syrian dialects, though geographically

close, exhibit some very diverse patterns, which would require great time depths to explain the degree of differentiation.

Unlike many other nearby dialects, Zeytun and Hajin are clearly *gə*-dialects. In Hajin, which does not appear to have vowel harmony as a general part of its grammar, the particle *gə* is repeated when the verb starts with a vowel: *gə g'arnum* 'I take', *gə g'rni* 'I was taking' (Gasparyan 1966:103f). There are, however, reflexes of *gə* which are reminiscent of vowel harmony seen in that area, as seen in Table 64. In nearby Zeytun, such verbs are formed as those starting with a consonant, but in some of them the initial vowel drops, e.g. *gə arnum* 'I take' vs. *gə-dim* 'I eat' < *utem* 'I eat', *gə-sim* 'I say' < *asem* 'to say'. The future is formed differently: *g-arnum*, future *g-udim*, and with an exceptional vocalism: *g-isim*. In this dialect double particles are used for making the progressive present: *gə g-arnum* 'I am taking'; polysyllabic consonant-initial verbs do not distinguish between the simple and progressive present (Ačārean 2003:246-252). Monosyllabic verbs act like vowel-initial verbs: *gu-l-ə-m* 'I cry', *gə-l-ə-m* 'I will cry', *gə-g-ul-ə-m* 'I am crying', *g-uyhn-i-m* 'I bless', *gə-uyhn-i-m* 'I will bless', and *gə-g-uyhn-i-m* 'I am blessing' (< CA *awrhnem*, < pre-CA *\*awhrnem* < CmA *\*awhrinem* < Middle Iranian *\*āfrīnam*<sup>334</sup>, from Proto-Iranian *\*aHfriHnāHti* < Proto-Indo-Iranian *\*priHnāHti* < PIE *\*priH-n-éh<sub>1</sub>(ye)-ti*). Compare *g-ert'am gər* 'I am going' in Constantinople, *b'erem gər* 'I am bringing' and *g-udeyi gər* 'I was eating' in Sebastia, in the typical Asia Minor dialects (Martirosyan 2019b:187).

Hajin	SWA	Gloss
<i>gə gart<sup>c</sup>-o-m</i>	<i>gə gart<sup>c</sup>-a-m</i>	'I read'
<i>gi sir-i-m</i>	<i>gə sir-e-m</i>	'I love'
<i>gu xum-i-m</i>	<i>gə xəm-e-m</i>	'I drink'

Table 64: The different reflexes of the *gə* preverbal indicative particle in Hajin

The progressive marker is equally unhelpful in establishing subrelationships. The Marash dialect, for example, cannot tolerate both the indicative *gə* and progressive *gor* marker, e.g. *go sirim* 'I am liking', cf. Zeytun *gə g'aməc'nənk*<sup>335</sup> 'we are feeling ashamed' (*g'* being an elided form of *gə*). Some dialects exhibit more than one reflex based on lexical or morphophonological factors, and there are variations in their distribution. Investigating these variations did not straightforwardly contribute to a greater understanding of the divergence within the dialects. Reconstructing ancestral common forms for these many reflexes of the progressives is difficult, and perhaps we are looking at parallel

334 A related Middle Iranian or Northwestern Iranian word *\*fra-pāḍaka-* 'public place' is attested as CA *hraparak* (also sometimes used as 'market', 'tribunal', or 'assembly', Benveniste 1957-1958:62-63, Olsen 1999:248), though the older CmA form must have been *\*whraparak* as we have Old Georgian ურაქპარაკი (*uraḳparaḳi*) and ჰურაქპარაკი (*huraḳparaḳi*) which Ačārean (1977:132-133) believes was borrowed before the CA era from a dialectal form that had experienced long-distance partial reduplication *\*wr(a)ḳparak* (Meghri *hərkəparak*).

335 The variant *aməšnol* is also found (Ačārean 2003:296) – note that nearby Hajin indeed has *aməšnol* (*ibid.*).



development that result from cycles of expansions and retractions – functionally similar forms coming from newer waves of speakers were repurposed via exaptation or regrammaticalization.

Note that there are quite a number of additional Syrian dialects from the Antioch and Kesab groups that I have not added here due to a paucity of data – Vakif (Dumézil 1968 exists, but insufficient data), Veri Azzir, Nerki Azzir, Manzhelak, Ghezhterlek, Magharachik, Chelavlik, Magharnen, and Chevlik in the former, and Chinar (Chnarceg), Kyorkina, Igiz-Olug (Ēkʻiz-Ōlukʻ), Asgyura (Ēskürēn), Sewağbyur, Fakhasan, Bağçağaz (Pağçağaz), Dyuzagačʻ (Tüzağačʻ) and Bašurt (Pašuört) in the latter.

Another oddity is the dialect of Ayntab – while clearly a Western dialect (Vaux 2000a), one might expect from its geographic location to group with Cilician, but Kʻasuni (1953:325-327) notes that it has not undergone the phonological changes that characterize the Cilician dialects,<sup>336</sup> and Vaux has been hesitant to say anything more specific than that due to insufficient data (he only had access to one old woman from there who did not speak the dialect, and an informant’s grandfather’s diary).

Concerning Svedia and Syrian subdialects cursorily – according to Łaribyan (1953:444-445; 1955:196, 201-202) and Čʻolakʻean (1986:122), in Kesab (Galaduran village) the present indicative is formed with the particle *ha* or *hay*, as seen in Table 66 (interestingly, Arabkir also used to have a *ha* progressive particle, but this was replaced by *ēr* (Gevorgyan 2013)). Grammatical descriptions of Kesab write this morpheme separate from the lexical part of the verb, but since it’s impossible to insert anything between *ha(i)* and the present or imperfect indicative, and it cannot be postposed, it could probably be interpreted as a bound morpheme (Scala 2021b:162). In the village of Galaduran, this particle forms both the simple and continuous presents (this is unusual, given that for other dialects without an explicit continuous, the bare form may be interpreted as either simple or continuous). The particle *kə* is used for the subjunctive. Unlike the neighboring Kesab, the Beylan subdialect forms the indicative present and imperfect with the particle *gä* and therefore belongs to the *gä/kə*-group. The imperfect is also marked by a postposed particle *di* throughout the paradigm excluding the third-singular form (*gä garter di* ‘you (sg.) read (past)’ vs. *gä garter* ‘s/he/it read (past)').

	Present indicative			Imperfect		
	CA	Haji-Habibli	Xtrbek	CA	Haji-Habibli	Xtrbek
1SG	sir-e-m, gr-e-m	gə sir-i-m	gēu kər-i-m	sir-ē-i, gr-ē-i	gə sir-e-r e	gēu kər-ō-r
2SG	sir-e-s, gr-e-s	gə sir-i-s	gēu kər-i-s	sir-ē-ir, gr-ē-i-r	gə sir-e-r	gēu kər-e-r
3SG	sir-ē, gr-ē	gə sir-e	gēu kər-i	sir-ē-r, gr-ē	gə sir-i-r	gēu kər-i-r

336 It preserves the original plain voiced stops (unlike what we see in the other Cilician dialects, where they become voiceless); it does not diphthongize initial *e-* and *o-*; and it loses initial *y-* (Vaux 2000a:8-9), and lexically it matches closely with Akn, Arabkir, and Balu (Palu).

1PL	sir-e-mk <sup>c</sup> gr-e-mk <sup>c</sup>	gə sir-i-nk <sup>c</sup>	gēu kər-ə-nk	sir-ē-a-k <sup>c</sup> gr-ē-a-k <sup>c</sup>	gə sir-e-r i-nk <sup>c</sup>	gēu kər-äy-r-ənk
2PL	sir-ē-k <sup>c</sup> gr-ē-k <sup>c</sup>	gə sir-i-k <sup>c</sup>	gēu kər-ə-k	sir-ē-i-k <sup>c</sup> gr-ē-i-k <sup>c</sup>	gə sir-e-r i-k <sup>c</sup>	gēu kər-äy-r-ək
3PL	sir-e-n gr-e-n	gə sir-i-n	gēu kər-i-n	sir-ē-i-n gr-ē-i-n	gə sir-e-r i-n	gēu kər-äy-r-ən

Table 65: Present and imperfect paradigms of *sirel* ‘to love’ in the Haĵi-Habibli subdialect (Aĉarean 2003:482–490) and *grel* ‘to write’ in the Xtrbek subdialect (Hananyan 1995:125–126), adapted from Martirosyan (2019:69)

The Kesab subdialect consistently has a null auxiliary for 3SG, as seen in the table below. The outcomes of the 3SG and 2PL for *u*-themed verb (there is but one) are difficult to explain on a phonetic basis; Scala (2021b:162) suggests that it might have arisen through analogical alignment with the *a*-theme paradigm, and the 3SG may have been based on *i*-theme endings. The four conjugations for the four themes are clearly distinct in the present indicative inflection, but merge in just one morphological pattern in the imperfect indicative.

Present				
	CA	Kesab	CA	Kesab
1SG	kard-a-m	ha gart <sup>c</sup> -u-m	gr-e-m	ha <sup>337</sup> kr-i-m
2SG	kard-a-s	ha gart <sup>c</sup> -u <sup>e</sup> -s <sup>338</sup>	gr-e-s	ha kr-i-s
3SG	kard-a-y	ha gart <sup>c</sup> -u	gr-ē	ha kr-i
1PL	kard-a-mk <sup>c</sup>	ha gart <sup>c</sup> -u-nk <sup>c</sup>	gr-e-mk <sup>c</sup>	ha kr-i-nk <sup>c</sup>
2PL	kard-a-yk <sup>c</sup>	ha gart <sup>c</sup> -ä-k <sup>c</sup>	gr-ē-k <sup>c</sup>	ha kr-i-k <sup>c</sup>
3PL	kard-a-n	ha gart <sup>c</sup> -u-n	gr-e-n	ha kr-i-n
Imperfect				
1SG	kard-ay-i	ha gart <sup>c</sup> -er e-m	gr-ē-i	ha kr-er e-m
2SG	kard-ay-i-r	ha gart <sup>c</sup> -er e-s	gr-ē-i-r	ha kr-er e-s
3SG	kard-ay-r	ha gart <sup>c</sup> -er <sup>339</sup>	gr-ē	ha kr-er <sup>340</sup>

337 The *ha* particle is in free variation with *hai* (Čolak<sup>c</sup>ean 2009:135fn2) in this dialect.

338 Also transcribed as [ha(i) gar<sup>t</sup>h<sup>h</sup>wos] in Scala (2021b), though this may be due to transcribers dealing with different subdialect speakers. Kesab has a [a] to [u] rule in closed syllables before nasals and in final position, whereas e outcome [u<sup>e</sup>] ~ [wo] prevails in syllables ending in other consonants (Čolak<sup>c</sup>ean 2009:31).

339 Also seen with the *-yer-* allomorph.

1PL	kard-ay-a-k <sup>c</sup>	ha gart <sup>c</sup> -er e-nk <sup>c</sup>	gr-ē-a-k <sup>c</sup>	ha kr-er e-nk <sup>c</sup>
2PL	kard-ay-i-k <sup>c</sup>	ha gart <sup>c</sup> -er e-k <sup>cy</sup>	gr-ē-i-k <sup>c</sup>	ha kr-er e-k <sup>cy</sup>
3PL	kard-ay-i-n	ha gart <sup>c</sup> -er e-n	gr-ē-i-n	ha kr-er e-n

Table 66: Present and imperfect verbs in the Galaduran subdialect (Martirosyan 2019:69)

The aorist paradigm of the verb *tal* ‘to give’ in MA (Karst 1901:333, Ant’osyan 1975:213; Hovsep’yan 1997:68-69) is given below in a historical chart, with three subdialects – Aramo (Ġaribyan 1958a:47), Svedia (Ačarean 2003:494,498), and Zeytun (Ačarean 2003:243), along with Martirosyan’s reconstructions (2019:71) of Proto-Aramo, Proto-Svedia, and Proto-Zeytun intermediate forms. Note the various developments of the PIE *e*-augment.

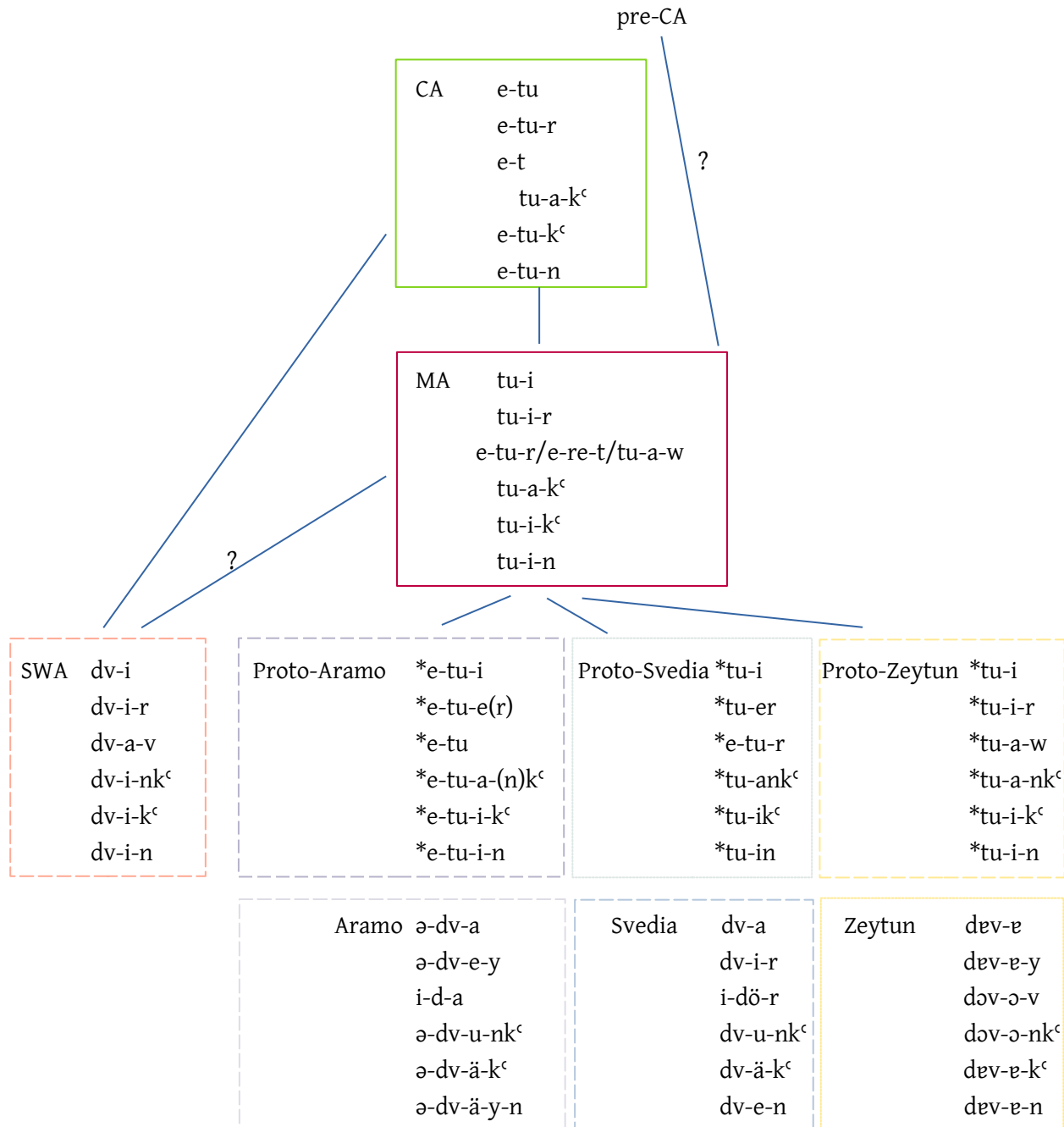


Figure 20: Historical reconstruction of *tal* ‘to give’, based on Martirosyan (2019b)

Present indicative						
	CA	Beylan	CA	Beylan	CA	Beylan
1SG	kardam	gä gartəm	grem	gä kərim	tesanem	gä disnum
2SG	kardas	gä gartəs	gres	gä kəris	tesanes	gä disnus
3SG	karday	gä gartə	grē	gä kərə	tesanē	gä disnu
1PL	kardamk <sup>ç</sup>	gä gartənk <sup>ç</sup>	gremk <sup>ç</sup>	gä kərink <sup>çy</sup>	tesanemk <sup>ç</sup>	gä disnunk <sup>ç</sup>
2PL	kardayk <sup>ç</sup>	gä gartək <sup>çy</sup>	grēk <sup>ç</sup>	gä kərik <sup>çy</sup>	tesanēk <sup>ç</sup>	gä disnuk <sup>ç</sup>
3PL	kardan	gä gartən	gren	gä kərin	tesanen	gä disnun
Imperfect indicative						
1SG	kardayi	gä garti di	grēi	gä kəri di	tesanēi	gä disni di
2SG	kardayir	gä gartər di	grēir	gä kərir di	tesanēir	gä disnir di
3SG	kardayr	gä gartər	grēr	gä kərər	tesanēr	gä disnər
1PL	kardayak <sup>ç</sup>	gä gartink <sup>ç</sup> di	grēak <sup>ç</sup>	gä kərink <sup>ç</sup> di	tesanēak <sup>ç</sup>	gä disnink <sup>ç</sup> di
2PL	kardayik <sup>ç</sup>	gä gartik <sup>ç</sup> di	grēik <sup>ç</sup>	gä kərik <sup>ç</sup> di	tesanēik <sup>ç</sup>	gä disnik <sup>ç</sup> di
3PL	kardayin	gä gartin di	grēin	gä kərin di	tesanēin	gä disnin di

Table 67: Comparing Beylan with CA (Martirosyan 2019b:186)

Beylan is yet another interesting Cilician dialect, this time using the *gä* indicative particle, which likely split off before the vowel was further reduced or is a conservative form without the conjunction *kay + u*. Without the particle *gä*, the forms are used for the subjunctive, thus: *gartəm* ‘I may read, that I read’, cf. CA *kardam* ‘I read, I am reading’. Łaribyan (1955:229) explicitly distinguishes between *gä* and *gə*, as the latter is repurposed in Beylan for the conditional and *bə/bədə* for the debitive: *gə gartəm* ‘if I (will) read’ and *bə/bədə gartəm* ‘I have to read, I must read, I need to read’ (Martirosyan 2019b:186).

Though I do not examine phonology, an important clue we have is Ačarean’s Law, which is such a unique, non-repeatable phonological innovation as it involves fronting vowels ([+ATR]) after originally voiced obstruents – one suspects that any two dialects could not have developed it independently, but rather inherited it from a linguistic ancestor shared with Agulis, Karabagh, Karchevan, Krzen, Maragha, Meghri, Salmast, Shamakhi, Shatakh, Van, Varhavar, and Khoy (notice that these are primarily found in the southcentral and southeastern extreme of the historical Armenian-speaking areas), along with two “islands” much farther west – one in Musaler (this claim requires further investigation), and the other in Malatya. Although we do not have much information on the

origins of the Armenian community in Malatya, deeper in Asia Minor, which has Ačarean's Law (Vaux n.d.), there is some evidence that the Musaler community was founded in part by immigrants from the Karabagh (Artsakh) region (Andreasyan 1967), which dovetails nicely with the fact that the peculiar vowel shift they underwent appears to be related to the ones found in Artsakh (Karabakh) and Agulis (Vaux 1998).

As Hoenigswald (1960:157) mentions, where no simple replacement pattern is involved, the presence of a form in one group of daughter dialects and its absence in another usually permits two contradictory interpretations: 1) the ancestor language possessed the form, and it was lost through obsolescence in one group, and 2) the ancestor language did not possess the form; it emerged in a number of daughter languages through the usual processes: neologism or borrowing from a common source.

### 5.3 Foreign influences

For the purposes of cladistics, morphological borrowings from foreign sources that affect different dialects must be excluded, though I am including changes like the aforementioned evidential, since the morphological material is from an inherited source. Morphemic material from a foreign source (generally Turkish but may also be Persian, Arabic, Russian, or a variety of Eastern European languages for the Transylvania (Artial) subdialects) are excluded, though if a borrowing occurred at a stage of a language before it broke up, it could perhaps hold probative value.

For example, in many WA varieties formerly spoken in the Ottoman Empire, Turkish verbs are borrowed in some participle form ending in /-miš/, which corresponds to the Modern Turkish suffix /-miş/. This suffix is used to mark evidentiality in Turkish (Gül 2009). But when used as borrowings in most dialects, the suffix has no evidential meaning; the suffix is used to create a generic nonfinite form (essentially an infinitive or meaningless participle) that can be used in colloquial speech, usually alongside a light verb like 'to be' or 'to do'<sup>341</sup>, as in Hamshen *kazan-miš g-əll-a-kʻ* (earn-PTCP IND-be-TH-2PL 'we earn', Dolatian 2023a:481) and Jerusalem *buš-ux ən-e-l* (urine [Arabic loanword] do-INF 'to urinate', Vaux 2002a). Another common particle is the interrogative particle *mə*, borrowed from Turkish *mI*, which is even seen in colloquial SWA (e.g. *həbardut'yun uni mə?* 'does s/he have pride?', *sa č'oj'uxə xelok' ē mə?* 'is this child well-behaved?'). For a comprehensive overview of lexical loans, see Ačarean (1951:255-295).

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341 See Vaux 2005 for an exploration of how the argument structure of the verb plays a role here, cf. Basque expresses agentive unergatives with light verb construction headed by 'do' or 'make' + noun (Levin & Rappaport Hovav 1995:140). In Turkish, unaccusatives take *olmak* 'be', unergatives take *etmek* 'do' (Özkaragöz 1986).

Turkish (or nearby Turkic languages) also influenced the adoption of the *-idi* or *-(y)-di* past tense suffixes, which generally denote remoteness. In Ayntab, there are attested forms of the past participle plus the dialectal Turkish verbal auxiliary *edi* ‘did’ (Standard Turkish *-(y)di*, Vaux 2000a). Hajin, seen in Table 68, has two forms of imperfect, one adding the Turkish past morpheme *-idi*, which also appears in the eastern Hamshen subdialects, e.g. *koş-di*, cf. Turkish *koş-tu* ‘he/she ran’, Ačařean 1911:190, sometimes with the *-yd(ə) / -di* reflex in the northern Hamshen subdialects depending on the phonological environment (Martirosyan 2019:74). Vaux, however, claims that these two forms descend from a common source *\*-di*, which in turn derives via metathesis<sup>342</sup> from CmA *\*-ir* (cf. SWA *gə krēir* ‘you were writing’). A supporting argument for this position is that this same metathesis may be observed in the plural forms of the imperfect in Hamshen. The other innovation in this suffix is the change of *r* to *d*, which remains unexplained (Vaux 2007:268), though crosslinguistically we have fairly convincing evidence that these two sounds can be derived from one another (e.g. Proto-Italic *\*krūros* > Latin *crūdus*, Proto-Chadic *\*ydn* > Dera *yero*, but Hausa *ido*, Newman 1970:44).

	Hajin Simple	Hajin Complex	SWA
1SG	gašdi	gašdi idi	g’ert <sup>c</sup> -a-i ‘I was going/I used to go’
2SG	gašdiy	gašdiy idi	g’ert <sup>c</sup> -a-i-r
3SG	gašdey	gašdey idi	g’ert <sup>c</sup> -a-r
1PL	gašdink <sup>c</sup>	gašdink <sup>c</sup> idi	g’ert <sup>c</sup> -a-i-nk
2PL	gašdik <sup>c</sup>	gašdik <sup>c</sup> idi	g’ert <sup>c</sup> -a-i-k
3PL	gašdin	gašdin idi	g’ert <sup>c</sup> -a-i-n
	IND-√ -TH.PST-AGR	IND-√ -TH.PST-AGR PST	IND-√ -TH-PST-AGR

Table 68: The two imperfect forms in Hajin as an example of borrowed morphology

In Kesab (in northwestern Syria, Č<sup>c</sup>olak<sup>c</sup>ean 2009), the pluperfect has the innovative formation (aorist i.e. definite past + postposed remoteness morpheme) with clear reproduction of the Turkish structure with postposed *idi*<sup>343</sup>, while in the imperfect the remoteness morpheme, which is also *-er* with

342 Metathesis affecting different sounds is common among the dialects and may help to group together dialects. For example, all the dialectal forms representing the consonant shift *t > d*, viz. Kharberd, Sebastia, and Dersim, have undergone a metathesis: *dərzug, dərjug* ‘leech’. Martirosyan assumes that the metathesis was a shared innovation in these closely related dialects rather than a recent sound change having taken place in each of these dialects independently. For a certain stage prior to the consonant shift, he reconstructs *\*trzuk*. If the Iranian dialectal sound law *\*-rz- > -l-* was still operative then, then older *\*trzuk* may have been borrowed into an Iranian dialect as *\*tuluk* and borrowed back into Armenian *tuk*. Note that both *tuk* and the metathesized variant of *trzuk* are geographically confined to more or less the same areas, viz. Sebastia and its eastern surroundings (Martirosyan 2008:467).

343 In Turkish, the third-person singular indicative simple past of *imek* ‘(auxiliary, defective) to be’; Ottoman Turkish ایدی *idi* ‘was’, from Proto-Turkic *\*er-ti* ‘was’, third person past participle of Proto-Turkic *\*er-* ‘to be’ (Krueger 1961:144, Erdal

the allomorph *-yer*, is placed before the desinences of person and number, exactly as happens with Turkish (*i*-*di*, cf. aorist *ḍzar-i-c<sup>c</sup>-a* ‘I served’ vs. pluperfect *ḍzar-i-c<sup>c</sup>-a-yer* ‘I had served’, but present *ha ḍzar-i-m* ‘I serve’ vs. imperfect *ha ḍzar-er-em* ‘I served’ (Scala 2021a:159-160), thus Kesab is entirely consistent with the Turkish model (*gel-di i-di-m*, *gel-di-ydi-m*, *gel-di-m (i)-di* ‘I came’, representing the three pluperfect variants). Still other WA dialects have innovations concerning the expression of remoteness which it may be useful to recall for their remarkable adherence to the Turkish model: in the Cilician dialect of Beylan, the remoteness morpheme is *di* (Łaribyan 1953:421-3) and *idi* in that of Hajin (Greppin & Khachaturian 1986:57-8). An identical process occurred with the use of *ēr* ‘was’ to mark the past tense in the Lake Urmia dialects (Vaux 2015).

Such adoption of Turkish-based verbal material is likely an areal feature, given that similar patterns exist in EA dialects spoken much further east like Urmia *lis*-dialect, and non-Armenian dialects like that of Aksó (a Cappadocian Greek subdialect), which are suspected to have had their verbal systems recast due to Turkic influence (Dawkins 1916:140-2, Mavrochalyvídis & Kesísoglu 1960, Janse 2009:101-2, and especially Karatsareas 2011 which problematizes the latter). Just sticking to two postposed auxiliary forms of the type *idi* and *imiş* (cf. Schoenig 1998:256), with which Urmia forms the imperfect, pluperfect, and future anterior and other tenses characterized by a remoteness morpheme would have been exemplified on a Turkic model in which a zero-marked form of the imperfect of the verb ‘to be’ could be placed at the end of an inflected form (*\*kapelis em > \*kapes em > kapes-em-er* ‘I bind, I tie’, with both *-em* and *-er* being enclitic, cf. SWA *gə gab-e-m*). The *-er* morpheme of remoteness has its origin in the third person singular imperfect of ‘to be’ (in WA dialects, *-er* is typically an evidential participial suffix and has a different origin) and could therefore represent the Armenian replica of a Turkic form of the type *idi*, *imiş*, which also represent be-3SG-IMPF. The expansion of this strategy to other Armenian tenses and modes could also be the result of internal generalization, though in the varieties mentioned here (including in Aksó), the presence of a morpheme dedicated to the expression of remoteness alone appears in dependence on a Turkic pattern.

In Hamshen, the CA infinitive ending *-(V)l* has been replaced by *-uš* (probably of Turkish origin<sup>344</sup>, Ačārean 1947:157) in all four conjugations, e.g. *berel* ‘to bring’ > *b<sup>c</sup>eruš*, *ert<sup>c</sup>al* ‘to go’ > *εštuš*, etc. (Ačārean 1947:11, 156–158; Ačārean 1965:46–47), though it has kept all four theme vowels separate, unlike most dialects. The second-person singular imperfect ending *-yd(ə) / -di* of Hamshen is comparable with *-idi* (of Turkish origin) seen throughout the whole imperfect paradigm in Hajin (Martirosyan 2019b:74, Ačārean 1959:568–569, Vaux 2007:268).

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2004:238).

344 An opposing view is that of Abrahamyan (1953:60), further developed by Gevorgyan (2013:67), which determines the language-internal source of change to be the *-č<sup>c</sup>*- infix (a present stem extension found in frequently used verbs), *p<sup>c</sup>ax<sup>c</sup>č<sup>c</sup>ul* ‘to run away, flee, escape’, *urč<sup>c</sup>ul* ‘to swell’, which influenced the *-l* infinitival suffix and changed it to *-š*, which then spread to other themes.



The infinitive is formed with the ending *-uš*, probably borrowed either from the Turkish participial marker *-Iş*, or the genitive of the Laz infinitival suffix *-uš* (Vaux 2007:268). It is used with the 3SG present auxiliary to form another progressive form, where the subject may appear in the genitive, possibly linked to contact with the ergative language Laz: *imə eguš ä* 1SG.GEN come.INF be.3SG.PRS ‘I am coming (literally ‘my come is’)’ *k’ugə eguš ä* 2SG.GEN come.INF be.3SG.PRS ‘you are coming’ (Martirosyan 2019:51). Phonologically, a characteristic feature is *a > o* before nasals: *ban* ‘thing’ > *b’on/pon* (depending on subdialect). Dumézil (1964:15-17) objects that the Homshetsma vowel should not be *-u-* if the suffix is borrowed from Turkish and prefers the Laz borrowing hypothesis, but Vaux notes that the vocalism ought not to be a challenge to Ačārean’s hypothesis since we find parallel changes of *i* to *u* before *š* eastern Hamshen *šuše* ‘bottle’, from Turkish *şişe* and *pompuš* from earlier *\*bambišn* (a female personal name in Hamshen but meant ‘queen’ in CA, Vaux 2007:267).

Regarding the *-uš* infinitival ending, there is an alternate point of view expressed by Abrahamyan (1953:60) and Gevorgyan (2013:67) who say that this was a language-internal change caused first by a generalization of the *u*-theme to all verbs, and secondly, starting with or based on the model of certain verbs containing a *-č’ul* ending such as *p’axč’ul* ‘to flee’ and *urč’ul*<sup>345</sup> ‘to be(come) swollen, swell, puff up, bloat’, which would have caused *-l* to be influenced by the aspirated voiceless postalveolar affricate and become the voiceless postalveolar fricative [ʃ] we see in all Hamshen subdialects.

In Hajin and nearby dialects, there are more Arabic and Turkish elements than what we typically see in other Western dialects, e.g. *dəzəmiš eniel* ‘to get angry’ from Turkish *darılmak*<sup>346</sup> ‘to get offended, sulk’, *dayəlmış ielev* ‘to meditate, to think’; hybrid phrasal verb with *linel* ‘to be’, *xayy-xer* ‘use, profit’ < Turkish *kar*, *bekjutin gə gene* – hybrid phrasal verb ‘to guard’ (Turkish *bekçi* ‘guard, caretaker, watchman, keeper, warden, gatekeeper’).

For most dialects, their syntax remains distinct from Turkish syntax in many ways: for example, most dialects do not allow nominalized complements in many of the situations where Turkish does, non-accusative objects cannot become the subjects of passive constructions, impersonal passives are generally dispreferred, elements cannot raise out of nominalized subordinate clauses, and tense and agreement markers precede rather than follow the marker of yes-no questions (Vaux & Hopkins, *under review*).

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345 However, note that Ačārean (1977:607)’s etymological dictionary cites the Hamshen (subdialect unspecified) form as *uruš*.

346 Turkish loan data from Greppin & Khachaturian (1986:50-64), though this particular word is likely not the source of *dəzəmiš* as *r > z* would be inexplicable.

## 5.4 Development of agglutination

When one speaks of an “agglutinative” language, one generally conflates two properties: first, morphology that seems to express properties more individually in clearly differentiated affixes, often really assembled by the syntax; and second, an absence of complicating morphophonology that obscures the picture that affixes are just being glued onto stems. In this sense, we can say that Finnish is more classically agglutinative than its closely-related sister Estonian, because the latter does contain some complicating morphophonology which clouds the 1-to-1 morpheme-to-meaning mold.

Throughout the history of Armenian, we see both a structural change, in which properties became expressed individually by morphemes<sup>347</sup> versus being bundled into morphemes which “fuse” the expression of several properties (hence “fusional” which describes CA), and also a change towards less complication in the morphophonology or allomorphy (Schmidt 1992:36-37). The agglutinative character of MA and the modern dialects was presaged in the first millennium (Donabédian 2000, Scala 2010, Ovsepyan & Gevorgyan 2013:325). Crosslinguistically, we see that across vast time spans, a fusional system can often become quirkiest and more opaque, until eventually the system collapses and speakers reinterpreted elements agglutinatively or analytically, depending on the direction of change regarding the word-to-morpheme ratio.

On top of having fusional inflection as seen in Figure 21, CA (and to a lesser extent, MA) was also head-initial, featured an unmarked SVO word order, prepositions, and adjectives usually followed the head noun (e.g. թագաւորն մեծ, *t’agaworn mec*, king-great, ‘great king’, from Faustos Buzand’s *The Epic Histories*, Book IV, ch. 5). Most dialects, partly due to contact phenomena which I explore later, have transitioned to being head-final, with an unmarked SOV word order, postpositions, preposed modifiers, and noticeably agglutinative inflection.



Figure 21: Demonstration of fusional (CA) vs. agglutinative nominal inflection (SWA) for the plural genitive of *šah* (profit, interest, gain, etymology unknown (Ačarean 1971-79))

Donabédian & Ouzounian (2008) have remarked that although Turkish (or other Turkic languages, depending on period and region) is often considered the main source of typological change due to the massive influence it held starting from the 11<sup>th</sup> century, CA or its predecessors was already a non-typical IE language, as it lacked gender everywhere including pronouns, adjective agreement was

<sup>347</sup> Which might be syntactic heads even, but I leave this question aside.

not obligatory if the noun phrase (NP)'s order was adjective-noun, but obligatory under a N.-Adj. order), and it already had some elements of agglutination in both its verbal and nominal morphology, such as *-kʷ* being used as a plural marker in the first person verbal flexion (1PL = 1SG + *-kʷ*, e.g. *btemkʷ* 'we feed'), and as a plural marker in the instrumental (N-INSTR-PL = N-INST + *-kʷ*, e.g. *hecanawkʷ* 'with/by means of beams, logs'). They hypothesize that these elements are evidence of a substratum interference<sup>348</sup> by Urartian, facilitating later typological convergence with Turkish.

During the MA period, there is an increased use of affixes, and conjugational suffixes bearing more than one feature diminish (without ever disappearing, e.g. *-s* contains at least [2] and [SG], and [PRES]). Nominal case endings become significantly simplified in the sense that declensions collapse and the six or seven cases end up using overwhelmingly the same suffixes. Syntactic headedness also shifts and some CA prepositions become obsolete and their functions are taken over by postpositions, although this process is not fully complete even today (see Balabanian (2018) for an overview of the morphosyntactic properties of SWA adpositions). The constant borrowing of erstwhile nonproductive patterns from written CA sources slowed down or interrupted this process.

When faced with certain diachronic changes, one can always attempt to explain the changes by language-internal processes and not ascribe them to mere contact effects. The parallel Asia Minor Greek (Cappadocian, Pontic, Phrasiot, Silliot) case is instructive to us, given a very similar historical and geographical context to most WA dialects, as its tendency towards agglutinative inflectional patterns and differential object marking could be thought to have developed through the replication of Turkish grammatical patterns (Karatsareas 2011:34), but its innovations in noun inflection (*ibid.*:208) and the loss of gender distinctions (*ibid.*:205) are best explained as language-internal changes, despite the typological similarity of their outcomes to Turkish structural features from a synchronic point of view (*ibid.*:34).

Putting aside methodological and philosophical issues regarding the syntheticity-analyticity continuum<sup>349</sup> (see Schwegler 1990 and Ledgeway 2012 for a complete discussion), we see a general tendency of greater roles being played by particles and participles, as well as new forms thereof, leading to greater overall analyticity of the system. However, there is a countervailing diachronic

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348 In the sense used by Thomason & Kaufman 1988, 2001, and Thomason 1997, 2001, 2009.

349 The relationship between the rise and fall of analyticity and syntheticity has typically been shown to be due to processes of morphophonological weakening and erosion (Bourciez 1956; Zamboni 2000:102). The erosion of the case system is considered a trigger for an increased use of prepositions. However, claims that such grammatical changes do not happen unless they are rendered necessary by concomitant changes in phonology are not borne out by the Latin or Romance evidence. The increased use of prepositions is attested long before the phonetic changes usually cited in this connection took place. Latin prepositions had already developed specific uses and characteristics of their own, and were not simply analytic alternatives to the morphological case system. No dialect of Armenian went the route of Germanic or Romance, as they are still at least moderately heavily inflected.

tendency against which it must be balanced – namely, the typological areal trend across the Armenian-speaking continuum of Turkish-influenced agglutination, which we explore in Section 8.1.

With minor differences, the combination of aspect, tense, and agreement creates complex paradigms. Depending on what is being conveyed in the verb, some of these paradigm cells do not have clearly separable morphs for all three categories, such that the surface inflection seems fusional. Despite the appearance of fusional morphology, Karakaş et al. (2023) make a convincing case that verbal inflection with separate Asp-T-Agr nodes that sometimes fuse, sometimes surface as zero morphs, and sometimes are cleanly segmentable, the result being that the superficially fusional nature of Armenian inflection is underlyingly an agglutinative system.

As is well known, however, in morphological systems the dialectic between history and cognitively based structural needs constitutes a line of tension that constantly operates in the transformation of grammar. If the agglutination of once free forms constitutes a process that is strongly historical in its linearity, the morphological iconicity of placing close to the lexical base what is most relevant to it is a cognitive-based instance that should not be overlooked. In rare cases this second thrust triggers further shifts, reshaping the order of the morphemes, and reestablishing a greater peripherality of contextual inflection than inherent (Scala 2021a:165).

Variants\Tenses	Indicative	Negation	Future	Conditional	Cohortative
CA	aɾn-e-s	oč <sup>c</sup> aɾn-e-s	ar-as-c <sup>c</sup> -e-s <sup>350</sup>	et <sup>c</sup> ē aɾn-e-s	ar-as-ǰ-ír
Sasun	gə kr-ə-m	č <sup>c</sup> -ə-m kr-iy	də kr-ə-m	xos-a-m nē	(t <sup>c</sup> oɤ ērt <sup>c</sup> a)
Hamshen	b <sup>c</sup> er-i-m gu <sup>351</sup>	kiy-e č-i-m	b <sup>c</sup> er-i-m idi <sup>352</sup>	b <sup>c</sup> er-i-m na <sup>353</sup>	-
SWA	g <sup>c</sup> -ən-em	č <sup>c</sup> -e-m ən-er	bidi ən-e-m	yete ən-e-m	(t <sup>c</sup> oɤ ən-e-m)
SEA	an-um e-m	č <sup>c</sup> -e-m an-um	an-e-lu e-m	yete k-an-em	-

Table 69: Various tenses and moods showing the different developments of particles

Some of the Syrio-Cilician dialects (Hajin, Svedia, etc.) even developed past tenses formed with periphrastic construction with various particles. Most Asia Minor dialects had a similar development towards analyticity for particles or markers for mood (conditional particle, indicative *gə* which is blocked in the aorist everywhere, various imperative particles) and the future. EA dialects are quite

350 Morphologically, the subjunctive aorist.

351 Mala form shown; some other Hamshen subdialects have *perim gu* (Ačārean 1947:138).

352 The *b-* of *bidi* drops off in 1SG but remains for all other persons (Ačārean 1947:142); for 1SG also, some speakers also replace *idi* with *ini*.

353 It is also possible to add the preverbal conditional particles *ta*, *t<sup>c</sup>a*, or *egerem* (borrowed from Turkish), such as *ta sirey na* ‘if I loved’; on its own, *na* also has “persuasive or mildly imperative” connotation, as noted by Ačārean (1947:146), so that *b<sup>c</sup>eres na* can also mean ‘if it’s possible, (you (sg.)) bring (it)’.

different vis-à-vis each of these, though there was an even greater attraction to analyticity – because of the existence of the present participle, SEA and most EA dialects have several more periphrastic verb tenses than their Western counterparts.

	Aslanbeg	cf. SWA	cf. CA
Neg. cond. pres. 1SG ‘if I don’t like’	(ör) č̣i sir-i-m nã	yet <sup>e</sup> č̣ <sup>e</sup> -sir-e-m (ne)	et <sup>e</sup> oč̣ <sup>e</sup> sir-e-m
Neg. cond. past. 1SG ‘if I didn’t like’	(ör) č̣i sir-e-i nã	yet <sup>e</sup> č̣ <sup>e</sup> -sir-e-i (ne)	et <sup>e</sup> oč̣ <sup>e</sup> sir-ē-i

Table 70: Comparing the negative conditional present and past in various variants

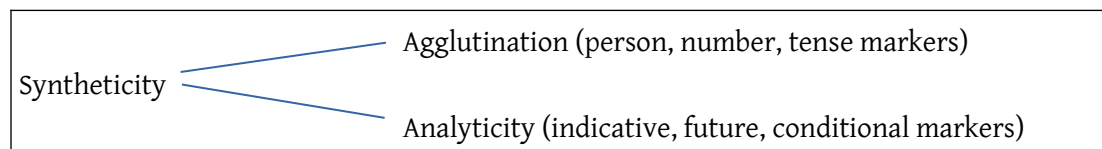


Figure 22: Breakdown of the opposing typological trends in diachronic WA verbal morphology

In some dialects, we see the opposite pull – Karin, for example, particles postposed (like indefinite *mə*) are fused with the word completely, and for the future particle in Hajin, we see a fusion with the verb (e.g. *biggəyiem* ‘I will write’).

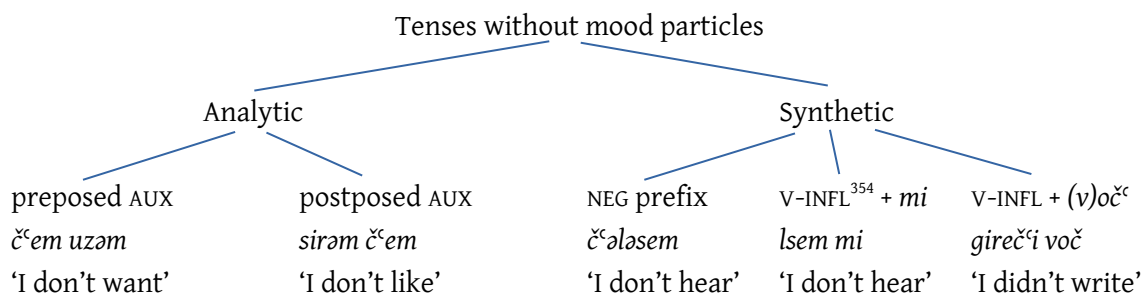


Figure 23: Breakdown of strategies used in various dialects

Kesab’s agglutinative past tense markers (in final position in the pluperfect, before of the desinences of person and number in the imperfect) follow the Turkish model, including the borrowing of the morpheme (*i*-*di*) as in Beylan and Hajin. The exogenous source (borrowed from Turkish or some closely-related Turkic variety) therefore seems adequate to explain, for example, also the new agglutinative pluperfect of Urmia. In the imperfect on the other hand, in the absence of persuasive Turkic patterns except for 3SG and 3PL, it is perhaps more prudent to think of phenomena of expansion in the various persons of the morpheme *-er*. If one follows this exogenous hypothesis, by attributing a strong role to contact, the reinterpretation of 3SG as a zero-marked form no longer constitutes the sole

354 Inflected verb. The prohibitive *mi* particle in this case is a clitic.

cornerstone of the process of remaking the verbal system of the Urmia dialect, and the imperfect would no longer be the absolute starting point of the innovation. The endogenous source remains possible overall, but, as a single explanation, it appears perhaps uneconomical, in that it would assume a process that would be isolated from the long history of contact between Armenian and Turkish, while almost identical paths in other Armenian (and Greek) dialects clearly show that they depend on the long bilingualism with Turkic varieties, which so many signs also left on the lexicon and phonology of many Armenian dialects.

In any case, even the change hypothesized by Łaribyan (1953:351-2) and Asatryan (1962:7-14) and taken as correct by Scala (2021a:151)<sup>355</sup> would need a trigger that would justify the use of the 3SG of the present indicative without an auxiliary, that is, as a zero-marked form. Only then can the process hypothesized by Łaribyan have begun. The influential role of bilingualism with Turkic languages seems very likely, since the forms of the 3SG in Turkic languages are always at zero-marked. At this point, the pressure of the Turkic pattern must be considered the fundamental force that, possibly acting even at different points in the system, led to the emergence of the new *-er* morpheme of remoteness in the Urmia dialect (further analysis must be done to determine if the inflectable *-er* morphemes in Van and Xtrbek came about via identical or similar processes). Possible endogenous processes, may have only coagulated or conspired, in a kind of multiple causality (Thomason & Kaufman 1988:57), toward the new form of encoding this stretch of time. Looking at the outcome, what is observed today in Urmia is a structure of the verbal inflection that is more transparent both from a morphosyntactic and morphosemantic point of view, in which the remoteness trait always appears to be expressed with an agglutinative strategy. All this represents an obvious convergence with the morphological typology of the equivalent Turkic verbal forms, of which the specific morphemic chain of some tenses is also partly reproduced. Thus, one could assume also for morphology what has been found elsewhere for the phonological level (Scala 2018): any diachronic analysis concerning structural innovations in modern Armenian dialects can hardly disregard the consideration of the centuries-old Turkic-Armenian bilingualism, the probable input, co-input or catalyst of many changes (Scala 2021a:161).

## 5.5 Negation

The imperative present is only used in prohibitions and it uses a *mi* (< PIE *\*meh<sub>1</sub>*, cf. Skt. मी *mā*, Alb. *mo*, Greek μή, etc.) preverbal particle. In CA positive imperative sentences, the aorist stem is used, as exemplified in Tables 37 and 38. The combination of a special prohibitive verbal form and the special prohibitive negation is typical of Caucasian languages, and in all varieties of Armenian. However, CA did have another way to negate – which is usually considered the unmarked default, and that was by

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355 For Urmia in particular, though the same explanation may hold true for a small number of WA dialects, Scala reconstructs the intermediate forms *\*ka'pes e'i*, *\*ka'pes e'ir*, *\*ka'pes er*, *\*ka'pes e'ij<sup>h</sup>*, *\*ka'pes e'ik<sup>h</sup>*, *\*ka'pes e'in*, for the imperfect past of 'to tie', showing stress everywhere on both the verb and auxiliary except 3SG.

the *oč* ‘no, not’ particle, for which there are two competing etymological hypotheses – one views it as a PIE inheritance and believes it to be cognate with Greek<sup>356</sup> *οὐχί* (whence *όχι* ‘no, not’) or *οὐκί* < \*(*ne*)...*h<sub>2</sub>óyu k<sup>w</sup>íd* ‘(not)...in a lifetime, (not) ever, (not) on your life’ and probably Alb. *as*, ‘s (Meillet 1936:143, Cowgill 1960, Djahukyan 1987:134, 177, Kortlandt 2003, Beekes 2003, Matasović 2019:37), and others view it as an Armenian-internal innovation (Clackson 1994:158, 2005:155-156, Martirosyan 2010:531, Kim 2016:45). I hold no firm opinion on either.

For the first hypothesis, it is assumed that over time, the *oč* particle became fused and reduced to a *č*- prefix, often seen in the negative form of the auxiliary. Texts as early as the 5<sup>th</sup> century show evidence of the latter (the Bible has 819 occurrences of *č*- and 7982 occurrences of *oč*<sup>357</sup>), albeit in these early texts, even vowel-initial verbs often still take *oč*, such as *ew oč egit zkowrsn* ‘and he found not the images’ (Genesis 31:35), and *apa tē zeris zaysosik oč arnicē<sup>358</sup> nma* ‘if he does not provide her with these three things’ (Exodus 21:11). In CA texts from the 8<sup>th</sup> – 11<sup>th</sup> centuries, a few telling examples are attested, where we see increased usage of the reduced form and the development of the *č*’i allomorph (Ačařean 1961:162-176, Antosyan 1975, Mkrtč’yan & Xaç’atryan 2016:126):

*č’ēr čanač’el* – ‘s/he was not acquainted with’

*ēr č’i yišes* – ‘you do not remember’ or ‘s/he does not remember’<sup>359</sup>

*zmtaw č’ēac<sup>360</sup>* – ‘s/he did not think, lit. did not fetch with a thought [INST]’

*č’i darnank’* – ‘we did not turn’

For the second hypothesis (an Armenian-internal innovation), the following etymology is proposed: the interrogative pronoun *o-* ‘who’ (also seen in compounds such as *o-k’* ‘(indefinite) someone, somebody, anyone; some, one, certain’ and *o-mn* ‘(indefinite) some, certain, someone, one (of animate objects)’) with negative *č*- < PIE *\*k<sup>w</sup>id/\*k<sup>w</sup>os* originally used in conjunction with *\*ne* which later fell out of use; cf. the fossilized phrase *č’-ik’* ‘(there is) nothing’. Ačařean (1977:561b) connects the first component *o-* of *oč* ‘not’ with Sanskrit अति *áti* ‘beyond, over’; Martirosyan (2010:531) believes that this Armenian-internal interpretation is most probable, mostly due to the fact that *č*- functioned as a negative also without the *o-* is seen not only in *č’ik’<sup>361</sup>* but also in *č’ē* ‘not’ which is dialectally ubiquitous.

356 For the *-kí* part reflecting *\*-k<sup>w</sup>íd*, see Cowgill 1960, and Joseph 2022:303. Note that *où* ‘not’ also exists.

357 Data acquired from the wordform frequency table at [https://arak29.org/bible/book/index\\_w\\_az.htm](https://arak29.org/bible/book/index_w_az.htm).

358 Morphologically, the 3<sup>rd</sup> person singular aorist subjunctive, but interpreted as a conditional because of the *tē* ‘if, that’ particle.

359 Because inflection was often applied twice (once on the verb, once on the auxiliary or converb) in this transitional period, it is difficult to interpret which inflection carries the main person feature – analogously to how many languages, including Armenian as covered in Section 5.1.1, the use the third person form as a neutral form is somewhat common, therefore we can more safely say that *ēr* (AUX-3SG) here is devoid of an actual person feature.

360 Here, the 3<sup>rd</sup> person aorist form *ēac* has the *e*-augment (*acem* ‘I carry, fetch’), before which is placed a reduced negative prefix *č*’.

361 The antonym of *č’ik’* is *goy* ‘exist’ (:1105)

The only major weakness in this hypothesis is that it presupposes that č<sup>c</sup>- existed independently from oč<sup>c</sup> at a very early stage.

In most modern dialects, however, a whole new series of negative tenses developed, leading to some interesting clashes in the verbal morphology. Karst (1901:353-360) posits that some time before MA, the *gu/ku*-containing present and past indicative tenses did not allow negative particles to be simultaneously used (*\*gu č<sup>c</sup>i xosim* or *\*oč<sup>c</sup> gu xosim* ‘I don’t speak’), hence why a repair strategy was creating in compound tenses consisting of the present or past tense of the auxiliary verb, along with the infinitive form of the corresponding verb with the help of the preposition, e.g. *č<sup>c</sup>ēir i xosel* ‘you weren’t speaking’. Gevorgyan (2013:6) finds such an explanation debatable, since it does not take into account the fact that before the formation of the construction type of the present tense combined with the indicative particle and the adverbial verb form, the present tense did previously combine with an infinitive verb and an auxiliary verb; therefore, the newly formed forms of the present negative conjugation probably had to be formed from the present positive conjugation with a wide semantic function, that is, out of the uses of the infinitive.

Donabédian & Ouzounian (2008) remark that because *kə/gə* may not be negated, auxiliarization is required in the negative, which produces an affirmation/negation asymmetry. This raises the question – why did the WA dialects select this seemingly uneconomic way of grammaticalizing *kə/gə*? The answer may lie in a combination of phonetic constraints – given that the preposition *i* was unstable (as it becomes prefixed as *y-* before vowel-initial words and in many dialects, a *y-* in this position becomes realized [h] or another fricative or palatal), the negation particle č<sup>c</sup> > č<sup>c</sup>-*i* may elide to č<sup>c</sup> and remain unidentifiable – and system constraints, whereby a present tense realized with an auxiliary would take the same form as the present perfect for *e*-theme and *i*-theme verbs.

Many dialects, including SWA, have the ability to either inflect the negative auxiliary (*č<sup>c</sup>em sirem* ‘I don’t love-IND’) or to use the negative as an undetachable prefix (*č<sup>c</sup>sirem* ‘I don’t love-SUBJ’), and doing so distinguishes the indicative from the subjunctive or optative, depending on dialect. Some dialects such as Ordu and Tigranakert have a double copula in negation *č<sup>c</sup>-em dēs-er em* ‘I have not seen’ (Ordu, with an evidential participle, Martirosyan 2019b:196) and *č<sup>c</sup>-im dēsir im* ‘I have not seen’ (Tigranakert, Haneyan 1978:130). The Kesaria area too had widespread double negative marking, such as Tomarza *č<sup>c</sup>em sirem, č<sup>c</sup>es sires, č<sup>c</sup>i sirē, č<sup>c</sup>enk<sup>c</sup> sirenk<sup>c</sup>, č<sup>c</sup>ēk<sup>c</sup> sirēk<sup>c</sup>, č<sup>c</sup>enk<sup>c</sup> siren* (Alboyadjian 1937:1665).



Dialect	Xtrbek (Svedia)		SWA	
Tense	Conditional pres.	Subjunctive pres. <sup>362</sup>	Conditional pres.	Subjunctive pres.
1SG	č <sup>c</sup> -əm k-ər-i	č <sup>c</sup> -kəri-m	yet <sup>e</sup> č <sup>c</sup> -em k <sup>r</sup> -er	č <sup>c</sup> -k <sup>r</sup> -em
2SG	č <sup>c</sup> -əs kər-i	č <sup>c</sup> -kəri-s	yet <sup>e</sup> č <sup>c</sup> -es k <sup>r</sup> -er	č <sup>c</sup> -k <sup>r</sup> -es
3SG	č <sup>c</sup> -ə kər-i-r	č <sup>c</sup> -kər-i	yet <sup>e</sup> č <sup>c</sup> -i k <sup>r</sup> -er	č <sup>c</sup> -k <sup>r</sup> -ē
Template	NEG-INFL √CNEG-INFL <sup>363</sup>	NEG-√INFL	COND NEG-INFL √CNEG	NEG-√INFL

Table 71: Comparing the conditional and subjunctive present in Xtrbek and SWA

In the Hamshenic group, the negation particle *či/čə* can be merged with certain verbs like in *čunim* ‘I don’t have’, *čəgəyim* ‘I don’t come’, *čəkidi* ‘I don’t know’, etc.; yet another, perhaps older strategy is also available by postposing the particle *oč* ‘no’ on the positive tenses, to make them negative. For many past tenses, they use the negated version of the auxiliarized ‘have’<sup>364</sup> – *kiyadz čunim* ‘I have not written’, *kiyadz čunis* ‘you (sg.) have not written’, etc. and *kiyadz čune*, *čunet*, *čuni*, *čunak<sup>c</sup>*, *čunek<sup>c</sup>*, *čunen* ‘(all six grammatical persons) had not written’. Interestingly, Hamshen allows all six persons (as opposed to just 2SG and 2PL) to be conjugated for the imperative past, with a stacked set of two postposed particles *oč tox* for the negative.

Mush also has an innovative stress system in the negative, as it stresses the first syllable of the negative converb, as in *čem érta* ‘I don’t go’, *čas xáskəna* ‘you (sg.) don’t understand’. There is also a voiced allomorph of the č- [tʃ] negative marker, j- [dʒ] in the negative paradigms of the subjunctive and necessitative moods, such as *ja mánam* ‘I don’t remain’, *j’úzim* ‘I don’t want’, *bədi ja gəri* ‘he/she must not write’ (Bařnasyan 2016:34<sup>365</sup>). Nearby dialects exhibit some of the same traits.

In some dialects, such as Constantinople, the *mi* imperative particle is reduced to *mə* or *m-*, as in *mə xosir* ‘don’t speak’, with a transference of stress to the next syllable if the verb starts with a semiconsonant or vowel, such as *m’értar* (< *mí yertar*, ‘don’t go’), *m’áser* (< *mí əser*, ‘don’t say’), *m’úder* (< *mí uder*, ‘don’t eat’). SWA does not have this peculiarity<sup>366</sup>, which may be another minor argument against the common belief that SWA is merely a standardized version of the Constantinople dialect.

362 For Xtrbek, generally seen as a true optative and not a subjunctive.

363 Only for 3SG, otherwise the connegative participle does not inflect (Hananyan 1995:140).

364 The use of *have* is for perfects and their derivatives, whether positive or negative. I bring it up here to show that a prefixed negative *have* form is used, as opposed to a standalone negation particle.

365 Because the data presented in Bařnasyan only uses vowel-initial or voiced consonant-initial verbs, one wonders if the same allomorph would appear before a verb that starts with a voiceless consonant.

366 A minority of speakers have a few fossilized reduced prohibitives, such as *m’úder* ‘don’t eat!’, *mi’ser* (< *mi əser*) ‘don’t say!’.

## 5.6 Tense-aspect markers

At first glance, we appear to have a number of instances where the affix *x* sees<sup>367</sup> *y*, but if there's *z*, it blocks *x* from seeing *y* or causes *x* to fail to see *y*. Keeping in mind that contextual allomorphy requires three conditions (cyclic locality, linear adjacency, insertion proceeding from the inside-out (Embick 2010:178-180)), the first of which is sensitive to locality domains that are defined by syntactic computation, we can start with a preliminary analysis for the SWA passive infinitive *kaḡ-v-i-l* and causative infinitive *kt-a-tsn-el*, both based on the “inherently” *e*-themed *kaḡ-e-l* in its underived transitive form.

For brevity, I excluded verbal roots that show other phenomena<sup>368</sup>, suppletive verbs (all WA dialects have quite a few), inchoative and deadjectival verbs, verbs of ambiguous<sup>369</sup> or mixed class<sup>370</sup>, and I limited my exploration and analysis to the infinitive, aorist 3PL, imperative 2SG and 2PL, across most available valencies, using SWA as my main reference point.

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367 In morphosyntactic theory, the term “see” is used metaphorically to describe the relationship where one element in a syntactic structure can influence or be aware of another element. This “visibility” is subject to certain conditions and constraints, such as cyclic locality (elements can only “see” each other if they are within the same locality domain, which is defined by the phases of syntactic computation; an element in one phase cannot see elements in a different, non-overlapping phase), linear adjacency (for one element to see another, they often need to be linearly adjacent in the syntactic structure; thus, there should be no intervening elements between them), and the order of insertion (this principle states that morphological insertion happens from the most embedded elements (inside) to the less embedded elements (outside)); thus, an outer element can see inner elements but not the other way around), as described by Embick (2010, 2013a, 2013b). In this context, “*x* sees *y*” means that the element *x* can access or interact with the element *y* within the given syntactic framework. For examples with explicit trees, see Ingason (2016:49, 156, and 200-201).

368 For example, WA has extensive destressed high vowel reduction phenomena (/i/ and /u/, along with /uj/ and /ju/, become a schwa), one of which occurs from noun roots that are used to create verbs, such as *kir* ‘letter (of the alphabet)’ → *kaḡ-el* ‘to write’, *dzin* ‘birth, deliverance’ → *dzən-il* ‘to be born’.

369 Given that heritage language speakers tend to exhibit greater individual variability (Montrul 2016), there is bound to be some considerable disagreement at the edges of grammar.

370 Like the elusive “third class” of conjugation in Modern French which is really a grab-bag of lots of irregular closed classes, WA has, outside of the three classes treated here, a number of archaic or unusual verbs that appear to mix up many elements of these three classes. Some of these, such as *yergnč-i-l* ‘to fear’, *gbč-i-l* ‘to stick to, to apply closely to, to fasten on’, *garen-a-l* ‘to be able to’, *grn-a-l* ‘to be able to (competing variant of the previous verb)’, *yerev-i-l* ‘to appear’, *unen-a-l* ‘to hold, to possess’, *kidn-a-l* ‘to know’ (note the nasal infix already in use as a variant in the classical era *gitenal*, < CA *gitel* < \*wóyd- one of the only IE perfects left), *əll-a-l* ‘to be’, are defective.

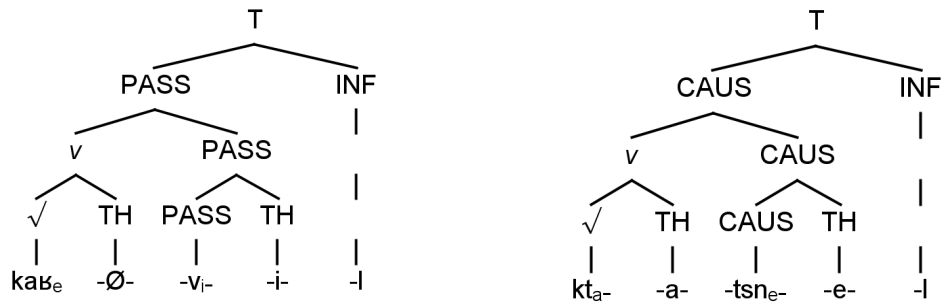


Figure 24: Morphemic analysis of the passive and causative (partly based on Dolatian 2020)

This leads us to say that only the last valency-changing suffix determines the conjugation class of the entire verb, and because of this, we can posit that the *PASS/CAUS* selects a theme vowel anew, and this selection carries over backward in the derivation, thus we have contextual allomorphy showing linear intervention effects. The change in theme vowels is a case of outwards-sensitive allomorphy (cf. Bobaljik 2000).  $\sqrt{kaʁ}$ - and *T*[+*INF*/+*AOR*/etc.] can see each other in these linear representations because concatenation, as a linear notion, is not sensitive to syntactic brackets (Embick 2010:190). For the aorist 3PL *tapar-e-ts-a-n*, shown below, the tense+person marker *-a-n* is an allomorph selected when it is in contact (even at longer distances) with an *i*-theme<sup>371</sup> root or *PASS/CAUS* suffix. Notice that in the passive for all three verbal classes, we only see *-a-n* for the third person past tense marker, but *-in* for all three verbal classes in the causative. For the passivized causatives (*kaʁ-e-ts-v-e-ts-a-n*, *tapar-e-ts-v-e-ts-a-n*), we once again see *-a-n*.

371 It was suggested by Sarah Payne (p.c.) that one could come up with a series of impoverishment rules as to make one of the theme vowels the default, but this would require many changes to our present analysis, and a set of different assumptions.

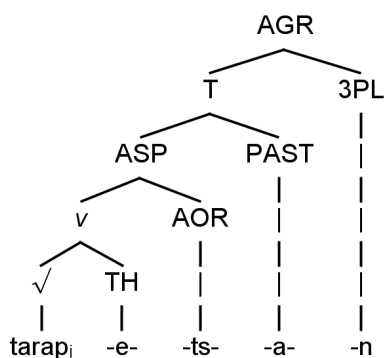


Figure 25: Morphemic analysis of tense and person agreement

The data we have seems to bear out that roots have a diacritic (or feature) which triggers the right theme vowel (Oltra-Massuet 1999). Synchronically, since speakers do not have access to previously valency-sensitive grammaticalized themes, class membership must be learned along with a root (Svenonius 2008), which differs among the dialects both as stored lexical values and in terms of class collapse in certain environments.

The aorist *-ts-/-c<sup>c</sup>-* suffix is heavily integrated into the morphotactics of WA, hence its numerous allomorphs, as it can feed or bleed other morphological rules (Dolatian 2023c) – for example, the various participle suffixes trigger the deletion of theme vowels (*kaʒ-e-l* → *kaʒ-∅-oʒ*, *kaʒ-∅-adz*), but if the aorist suffix intervenes between the theme vowel and participle suffix as it does in the third conjugation class (*a*-theme), deletion is bled (*kt-a-l* → *kt-a-ts-oʒ*, *kt-a-ts-a-dz*). The aorist always implies an already-completed action, perfects are a result which is unspecified for aspect. The weirdness we see with the aorist (or we may call it an aorist-like suffix which is identically *-ts-*) here is likewise blocking the insertion of a passive after a causative, hence the blocked use of *\*kt-a-ts-v-i-l* as a passivized causative. The presence of this *-ts-* in the passives of *a*-theme verbs does not block an additional, or “real” aorist *-ts-* from being suffixed, as in *kt-a-ts-v-e-ts-a-n*. There is also the fact that synchronically, the CAUS *-ts-* has yet another allomorph, *-tsn-*, in the infinitive.

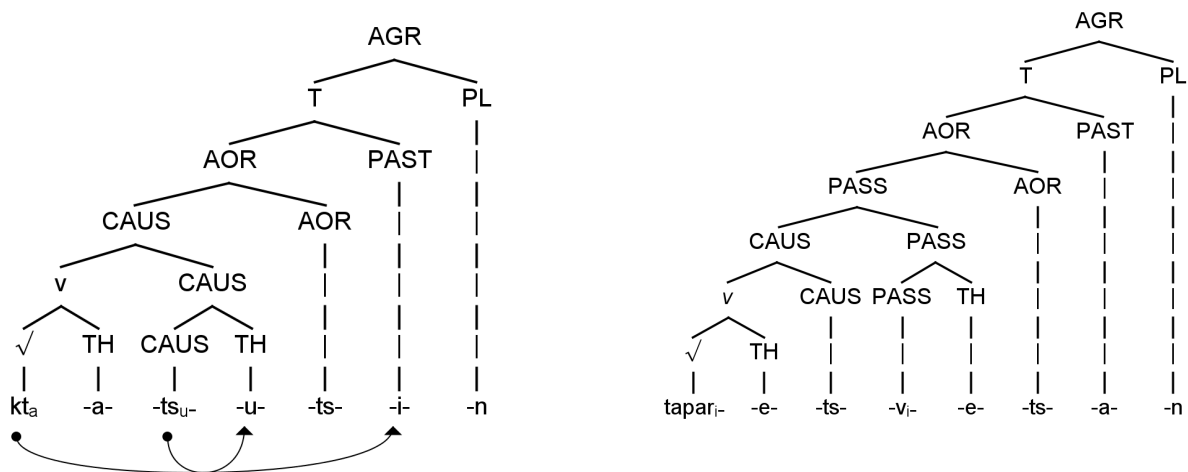


Figure 26: Morphemic analysis and interaction of the aorist marker

For *kt-a-t-s-u-t-s-i-n* (causative aorist 3PL), we see both a strictly local interaction – the CAUS *-ts-* selecting an immediate *-u-* theme vowel, and a long-distance interaction, with the verb root selecting the expected *-a-* theme vowel, and the expected *-i-* past marker (recall *kt-a-t-s-i-n* and *kt-a-t-s-i-n*). Another complication is the fact that the aorist *-ts-* suffix is required to form the second person plural (but not any other person) in the imperative, regardless of verb class or theme. The arrows in our illustration represent long-distance and local interactions, not movement. Our explanations remain the same for *e-* and *i-* theme verb classes, as seen in the trees drawn above and below (note the *-a-* allomorph of PAST in *tapar-e-t-s-v-e-t-s-a-n*, which is the predicted form since PASS *-v-* is the closest, i.e., thus it gets to select the theme vowel).

I have shown that the WA verbal system, especially regarding valency, makes use of morphologically-conditioned rules in its suffixal concatenation, which produce both allomorphy and some unusual cases of blocking. But these are actually two competing processes – verbal class-granting is strictly adjacency-respecting – verbal roots can be divided into classes on grounds that are not transparently semantic nor phonological in synchronic terms, and a suffix can be specified to attach only to a root of a given class – but this system is not unrestricted, insofar as only the last valency-changing suffix can determine the conjugation class of the entire verb; whilst the second process is the aorist *-ts-* agreement, which show long-distance morphologically-triggered allomorphy<sup>372</sup>. Both of these clash when it comes to any form of a passivized causative for *a*-themed transitive verbs, where we

372 There are a number of long-distance interactions. Even in periphrastic negative verb forms as seen in the sections above, the theme vowel and past morpheme are not adjacent, whether linearly or structurally, which reinforces the long-distance nature of *i*-neutralization, regardless of the number of intervening segments or morphemes (Dolatian 2023c), such as in coll. SWA *č'-é-i-n al mə nsd-è-r gor?* ‘were they not even sitting?’, where we have the clitic *al* ‘even, moreover’ and the Turkish-derived interrogative marker *mə* between the negated auxiliary and the connegative participle exhibiting *i*-neutralization.

simply see blocking. The account given here does not require much to be stored in the lexicon except for the theme vowel selection (either of the root or rightmost valency-changing suffix, which is a phase head) and the *-ts-* suffix's (depending on what it is acting as) own locally-constrained theme vowel selection. Other WA dialects differ as to the exact details we have seen in this subsection.

From CA/CmA, we can observe that the dialects shifted, reused (exaptation), deleted, or gained new TAM functions. Such significant changes in verbal systems is not unheard of – crosslinguistically and even in the history of IE itself between Proto-Indo-Anatolian and Proto-Anatolian whose gap is an estimated 1200 years (Kloekhorst 2023:45-46), which is centuries fewer than CA to the modern dialects, we see a major reshuffling of the verbal system, including the loss of the optative and subjunctive categories, the loss of the present-aorist distinction, probably the transformation of the perfect into the *hi*-conjugation (Oettinger 2017:264-267; Kloekhorst 2018a, 2018b), and the creation of sentence-initial particle chains.

The aorist plays a special role here, as it is the only tense to occupy a totally asymmetrical position in the verbal system (Donabédian 2016), given that it has no imperfective counterpart in terms of aspect, and no pair opposition of present/past, a fact which has been variously explained (Plungian 2006, Giorgi & Harutunyan 2011) by proposing that the aorist exists outside the system of temporal past, or analyzing the aorist as a perfective without temporal marking, to account for future tense functions of the aorist in SWA or SEA. The aorist also has an eventive feature: the aorist is telic, in that it contrasts with the resultative perfect, which recategorizes the event into a state (Donabédian 2016:35). Except a few WA dialects, almost all varieties of Armenian have a synthetic aorist.

In the participial system, there arose a new opposition between *-ac* [-ad̥z̥] (stative perfect or resultative) and *-er* (evidential perfect), through a combination of language-internal and contact-induced factors (Turkish distinguishes evidential past from testimonial past, Donabédian & Ouzounian 2008). In the former category, CA only used this suffix of limited productivity as a deverbal adjective, yet in the modern WA dialects, it typically becomes fully productive as a resultative and it appears to fill in a gap because of the growing evidential meaning of the *-er* perfect.

The stem of the Armenian aorist marks aspectual contrast, distinguishing the imperfective (or present stem) from the perfective (or aorist stem). A variety of moods can be formed from the present stem, while only declarative moods are formed from the aorist stem. Inflection marks the temporal contrast between past and present, and all tenses except aorist and imperative are organized into present/past pairs. In the modern dialects, formation, either synthetic (stem + inflection in most WA dialects) or analytic (particle + inflected form, or auxiliary + non-finite form, in most EA dialects), is associated with modal marking. The aorist occupies a unique position in the Armenian verbal system as it does not exhibit pair opposition of present/past, yet it has the same weight as a subjunctive, which is

non-assertive. This paradox has been noted in other languages (e.g. Hindi, Montaut 2006a, 2006b:188), as well.

## 5.7 Mechanisms of change

### 5.7.1 *Individual variation and the Tolerance Principle*

Most of the mechanisms of change mentioned in the following sections have, at some level, acquisition as a driver of actuation (actuation here means innovation paired with a sociolinguistic model of propagation as per Labov et al. 1972). We now have a series of theoretically powerful tools acquired from the native language acquisition field to help guide our understanding of historical change.

Yang's Tolerance Principle (for background, see Yang 2016, Yang & Montrul 2017, Sneller, Fruehwald & Yang 2019) is a concrete model for the acquisition of linguistic generalization, an evaluation metric over linguistic hypotheses, and was developed in the context of the English irregular past tense acquisition debate, but has since been applied across many levels of the grammar. It is aptly capable of explaining some of the differences we see across the verbal morphology of Armenian dialects. Over-regularization may occur when a learner lexicon supports alternative productive patterns not supported in adult lexicons. This is tantamount to actuation if it gets a foothold in the population.

To recapitulate the Tolerance Principle as applied to the acquisition of the verbal system, let us remind ourselves of the following (adapted from Kodner & Dolatian 2023 and Dolatian 2023d):

Tolerance threshold  $\theta = N / \ln N$ :

$N$  = number of verbs learned so far exhibiting pattern R;

$e$  = number of verbs learned so far predicted to exhibit R but don't;

Thus, learn productive R if: few enough verbs that do not obey the pattern ( $e < \theta$ ); and,

Memorize R if: too many known verbs do not obey the pattern R ( $e > \theta$ ).

Essentially, exceptions are tolerable and thus diachronically potentially stable if  $e < \theta$ ,  $\theta = N / \ln N$ . But as  $N$  grows over a child's development, the tolerance threshold  $\theta$  grows more slowly (this observation is empirically very well established. When dealing with populations across a fairly large geographical area, one has to keep in mind that  $N$  and  $e$  vary over each individual, since both are properties of the internal language of each person, and as  $N$ , which is the number of class members a

child has learned so far, and as  $N$  and  $e$  grow as the learner's vocabulary grows, the exact rate is variable from person to person and community to community (Fenson et al. 1994, Hart & Risley 2003, Bornstein et al. 2004, Szagun et al. 2006). Thus, the precise sequence of verbs and verb forms learned varies from person to person and group to group, to the point where we can be on certain mathematical grounds that variation will begin to surface.

The Tolerance Principle suggests that languages may tolerate variation in verbal morphology to a certain extent, allowing for the coexistence of multiple forms within the language system. Though we do not have comprehensive lists of all verbs and verb forms except for the two standard dialects and CA, one can easily observe that a sizable number of high-frequency verbs which are quite irregular, thus contain multiple inflectional patterns (in colloquial SWA, there are some very high-frequency verbs which must not take the usual aorist marker, such as *p'erav* 's/he brought', and there are some high-frequency verbs that can optionally not take the aorist marker, as in *nastav* 's/he sat' instead of the expected *nastetsav*). This sets up the perfect condition for individually differential acquisition – some children will learn just enough of pattern  $N$  (from, say, a bunch of the irregular verbs) when their tolerance threshold  $\theta$  is quite small, to then generalize this pattern across a larger number of verbs than what was diachronically attested.

The above is but a brief summary of one particular application of the Tolerance Principle, which Kodner & Dolatian (2023) call an acquired “elsewhere reversal” rule<sup>373</sup>, where the learner has enough evidence to postulate an elsewhere condition which reverses the established order of a particular morphological set. Likely the learners within a particular community did not memorize all these seemingly irregular forms at the same rate, with the same proportion of Pattern 1 versus Pattern 2 (or 3...), thus the learner ends up reanalyzing verbal endings which represent the opposite diachronically attested pattern.

The aorist  $-c'$  may optionally or obligatorily delete in some dialects through this elsewhere reversal rule (Kodner & Dolatian 2023), wherein the conditioned and default realizations seem to have flipped: thus the  $-c'$  aorist marker, which was diachronically the default, becomes limited to a set of verbs (just  $a$ -theme in the case of the Tehran dialect and a cluster of Lake Urmia dialects, Ačařean 1959:472-475, 1961:201), and the old irregular  $-\emptyset$ -INFL becomes the default (e.g. *mar-a-v* instead of *mar-e-c'-a-v* 'it was extinguished').

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373 According to the postulators of this idea (Kodner & Dolatian 2023:50), the elsewhere reversal rule ends up being an epiphenomenon – a description of the change based on a particular theoretical analysis, not a mechanism of change, and would have a similar ontological status to phonological rule reordering, if one believes that that itself is an epiphenomenon.



Stage	Subjunctive past	Aorist	Dialects <sup>374</sup>
1	yerk-e-yi-n root-VCVC	yerk-e-c <sup>c</sup> i-n root-VCVC	CA, SWA, SEA, Akn, Arapgir, Crimea, Eudokia, Constantinople, Kharberd, Erzinka, Malatya, Nicomedia, Rodosto, Astrakhan, Tiflis, Trabzon, Sebastia, Şebinkarahisar, Smyrna, Artvin, Lori, Burdur, Goris, Akhaltskha, Khodorchur, Yozgat-Gamirk, Sivrihisar, Ararat
2	yerk-i-n root-VC	yerk-e-c <sup>c</sup> i-n root-VCVC	Julfa, Artsakh, Shamakhi, Van, Yerevan, Tigranakert, Sasun, Zeytun, Hajin, Hamshen
3	yerk-i-n root-VC	yerk-(e-c <sup>c</sup> )i-n root-(VC)VC	Karin, coll. SEA, Mush, Bayazit, Shatakh
4	yerk-i-n root-VC	yerk-a-n root-VC	Tehran, Vartenis

Table 72: Development stages of simplified aorist for *yerkel* ‘to sing’ (adapted from Dolatian 2023d, 2024b)

Dolatian (2023d:37) gives a plausible cross-generational acquisitional account, whereby the first generation (or perhaps a greater number, as such states of optionality can remain stable for quite long) learn the stages 1 and 2, then some future generation learns stages 2 and 3, where they are learning to optionally over-apply the root-VC template, and then some later generation learns the patterns from stages 3 and 4, tending towards uniformity of the templates, and eventually only stage 4 like in Vartenis (generally considered a subdialect of Van, also known as ‘Di(y)adin’). See Dolatian (2024b:20) for a synchronic account of the *c*<sup>c</sup>-less aorist in CA, and particularly for feasible pathways for an acquisition-based account of SEA-to-Tehrani default aorists (*ibid.*:41).

### 5.7.2 Resegmentation

In the above sections, there were numerous references to how irregular and regular suffixes switched places over time, as their numbers in the older variants were likely right at the level where, via the Tolerance Principle, children’s grammars could nudge one pattern over another. Across the dialects, we see the shift in the boundaries of affixes (a good example is the Tomarza dialect, \**ga ert’am* > *gar t’am* ‘I go’, Alboyadjian 1937:1664-1665, with *gar* becoming an allomorph of *ga*), technically all due to learner errors or dialectal interference.

374 There are also dialects in which either type of synthetic past has been lost (all Artial subdialects, Aramo, Kesab, and the eastern dialects Nuzger, Khoy, Maragha, Chaylu, Meghri, and Agulis).

Unlike in many other language families and dialect groups (Romance, Germanic, Tibetan, etc.), instances of syncretism are surprisingly rare, except for dialects of the Van area, e.g. imperfect 2SG \*-*eir* > -*er* due to monophthongization, leaving it identical to 3SG -*er* in Moks (Gevorgyan 2022:133), Tigranakert 1SG and 1PL merged (Haneyan 1982:135), the Samson subdialect of Hamshen and various EA dialects, such as Agulis, in some tenses, have syncretism for 1 and 2PL due to the pre-plosive nasal disappearing, *sayril ək* ‘we/you (pl.) will love’ (Ačārean 1935:§307), which we also see in Meghri *sərēk uč* and Karchevan *sri č’ik* ‘we/you (pl.) will not love’ (Muradyan 1957:121) (notice the different morphemic segmentation, notwithstanding the two villages’ close distance to each other). A few factors that may explain why is the lack of significant and successive sound changes that eroded morphological boundaries, and the increasing morphemic transparency due to a shift towards greater agglutination may have caused increased resistance to outright syncretism.

Suppletive allomorphs are likely to represent syncretism – whether the morpheme is grammatical or lexical (free or bound) matters little: both English *go/wend* and IE -*ay/-i* are open to the same interpretation (Hoenigswald 1960:68).

Other than for SWA and SEA, some Hamshen villages, and a few relatively healthy EA dialects, we do not have access to synchronic sociolinguistic variation data, so it is rather difficult to ascertain certain segmentation facts about the speakers of the dialects themselves.

### 5.7.3 *Changes in concord classes*

Even within CA, there were some verbs that had variants using other theme vowels or certain verbs that were habitually conjugated using another theme from its unmarked infinitival form. Ačārean (1959:311-324) gives more than two dozen categories of such deviations, though suffice to mention a few:

1) The confusion seems to have been there from our earliest records, as a set of -*an*- inchoatives would sometimes be treated as regular *e*-theme verbs as the -*an*- infix was treated as being part of the stem and not an infix (e.g. aorist of *darmanel* ‘to remedy, restore, repair’ is *darmanec’i* ‘I remedied’ instead of \**darmay*, *sermanec’i* instead of \**sermay* for *sermanel* ‘to sow’, *žamanec’i* instead of *žamay* for *žamanel* ‘to arrive’, etc., Ačārean 1959:311-312).

2) Some frequently-used *e*-theme verbs follow a mixed conjugation pattern, whereby they are treated as *a*-themed in oblique and perfective tenses, e.g. *asem* ‘I say’, *asēi* ‘I said-IMPF’, but *asac’i* (\**asec’i*) ‘I said-AOR’, *asac’ic’* (\**asec’ic’*) in the aorist subjunctive, *asá* ‘say-2SG.IMP’, *asasjír* ‘say-2SG-COH’, *asac’eal* for the past participle but both *asōl* and *asac’ōl* for the adjective- and agent noun-forming suffixed form.

The same pattern is observed for *gidel* ‘to know’, *karel* ‘to bind, fix, attach, sew’, and *mart<sup>el</sup>* ‘to find means, invent, contrive, find out’.

3) As mentioned in Section 4.2.3, CA had some allomorphs of the inchoative (-*nč<sup>c</sup>*- or -*č<sup>c</sup>*-), and some of these verbs had attested forms using another allomorph, which results in a theme vowel shift, e.g. *zatč<sup>c</sup>il* and *zatanel* ‘to separate, divide, scatter’, *t<sup>r</sup>anil* and *t<sup>r</sup>č<sup>c</sup>el* ‘to fly’ (modern dialects have a plethora of forms derived from both forms, Ačārean 1973:186), with perhaps the strangest verb being *melanč<sup>c</sup>el* ‘to sin, transgress, offend’, which has both -*an-* and -*č<sup>c</sup>*- infixes, and is complementarily defective in both the active and passive voice (it is missing parts of the paradigm available only in the other voice), acting as an *e*-theme verb in the active and an *a*-theme verb in the passive.

4) The *u*-theme verbs had roughly five different ways of being conjugated (all shown in the active voice):

Gloss	‘to lean upon’	‘to fill’	‘to take’	‘to divert oneself’	‘to flee’
INF	yenuł	lnuł	ařnuł	zbōsnuł	p <sup>c</sup> axnuł
IND.AOR.1SG	yec <sup>c</sup> ay	lc <sup>c</sup> i	aři	zbōsay	p <sup>c</sup> axeay
SUBJ.AOR.1SG	yec <sup>c</sup> ayc <sup>c</sup>	lc <sup>c</sup> ic <sup>c</sup>	ařic <sup>c</sup>	zbōsnuc <sup>c</sup> um	p <sup>c</sup> axeayc <sup>c</sup>
IMP.PRES.2SG	yec <sup>c</sup> ír	líc <sup>c</sup>	ár	zbōsír	p <sup>c</sup> axír
IMP.PRES.2PL	yec <sup>c</sup> arúk <sup>c</sup>	lc <sup>c</sup> ék <sup>c</sup>	ařék <sup>c</sup>	zbōsarúk <sup>c</sup>	p <sup>c</sup> axerúk <sup>c</sup>
PTCP-PST	yec <sup>c</sup> eal	lc <sup>c</sup> eal	ařeal	zbōseal	p <sup>c</sup> axuc <sup>c</sup> eal

Table 73: Five subtypes of *u*-theme verbs in CA (adapted from Ačārean 1959:319-321)

Some general changes between CA and MA were the reduction of the inchoative, *a-n > n*, as in *tes-an-el > tes-n-el* ‘to see’, *anc<sup>c</sup>-an-el > anc<sup>c</sup>-n-el* ‘to pass’, *harc<sup>c</sup>-an-el > harc<sup>c</sup>-n-el* ‘to ask’, *span-an-el > span-n-el* (cf. SEA *spanel*, yet still geminated in SWA *asbannel*), along with a reduction of the causative in a similar manner as mentioned in Section 4.2.1. The disaggregation of the inchoative from the theme vowel led to some shifts towards the *u*-theme: some transitive verbs in CA show *jeř-an-i-l* (the *jeř-i-l* variant also existed) vs. *jeř-n-u-l* ‘to get warm, to be warmed, to warn oneself’; unsurprisingly, the modern dialects show quite a lot of variation, Tiflis *řiranal*, Zeytun *č<sup>c</sup>irnōl*, Goris and Artsakh *č<sup>c</sup>ermēl*, etc. (Ačārean 1979:125-126).

Crossdialectally, by far the most common merger is that of the *e*- and *i*-themes; the *a*-theme is more robust but subsets do often merge with other themes. In rarer instances, one may see analogical extension but for a restricted subset, like the spread of *u*-class for causatives only (Crimea, Eudokia, Vartenis). In passivizing the verb, many WA dialects switch the theme to *i*-, as opposed to most EA

dialects which use the *e*-theme. The *e*-theme is the default theme because in most dialects, coinages and new verbs from native or loaned elements (assuming one does not use a light verb, which is more common in such cases) are treated as *e*-themes.

Xtrbeg (subdialect of Svedia), ignoring the *a*-theme and *u*-theme verbs, rearranged its verb as to make nearly all *e*-themes passives (e.g. *almänēm* ‘I resemble-SUBJ’, Hananyan 1995:182), and nearly all *i*-themes transitives (*zərgim* ‘I deprive-SUBJ’, *ibid.*), a remarkable reversal of how the system worked in CA. The phonological developments that have led to the ancestor of Agulis and the Syrian and Cilician dialects to undergo a systematic shift that changed the [+high] specification of all vowels in closed monosyllables have been described in Vaux (1998:187-190) and Vaux, Halle & Tseng (1995), and there were several changes which affected the surface forms of theme vowels in verbs (see Vaux 1998:50-53 for background).

#### 5.7.4 Analogical extension

Analogical extension can be described as fortuitous analogical leveling, as analogical change is the population-level diachronic extension of an individual learner’s over-generalization (Kodner & Dolatian 2023:49-52). Leveling and extension share an identical mechanism, though extension is just quantitatively less likely to be actuated (*ibid.*).

In trying to find a suitable source of different kinds of verbal endings in PA which have spread by analogy, Kortlandt (1996:40) is careful not to select types which are too narrow a basis for a generalization. This is good general advice, as children require a sufficiently large number of examples (though this number can be lowered if we are referring to very frequently used material) so that they may extend a rule by analogy.

Analogy usually proceeds by replacing unproductive processes with productive ones (Fox 1995:187). In some cases, say when the strong past participle has been lost in English, we may see it preserved in adjectival use (*he has shaved*, but *he is clean-shaven*). Here, the unproductive *-en* ending has been ousted by the now much more common and productive *-ed*. A similar case is found in German *Vergißmeinnicht* ‘forget-me-not’, which retains the older genitive object. In many Greek dialects, *w* disappears “gradually” that is, position after position, or allophone by allophone: first after some consonants, then between vowels, then at the beginning of words before a vowel (the merger being mostly “with Ø”). In the Greek which has survived antiquity, the loss of *w* is, as the matter is customarily put, complete (Buck 1955:46-52, Hoenigswald 1973a:20).

Some Arrial subdialects experienced an analogical extension of the consonant *-s* of the 2SG present ending to the 2SG imperfect (originally *-r*, e.g. *\*gi sir-e-i-r > gi sir-e-i-s*), which is unseen in any

other dialect (Hodgson 2020:11), and did not spread to the Polish subdialect. In Asia Minor dialects, in the first person plural, the old forms *-eak<sup>ç</sup>* or *-ēak<sup>ç</sup>* were replaced with *\*-ēink<sup>ç</sup>* by analogy in the present inflection, where *-enk<sup>ç</sup>* had in turn replaced the old form *-emk<sup>ç</sup>*.

As we have seen, most WA dialects that use *gə* have a special *gu* form for monosyllabic verbs. Kharberd and Yerznkay have spread this by analogy to the debitive, prohibitive, and negative conjugation (below in Table 74). This is reminiscent of the fused negative + indicative or future particle seen in Xtrbek, e.g. *č<sup>ç</sup>ēu kərim* ‘I don’t write’, *č<sup>ç</sup>əbār kərim* ‘I will not write’, imperative *məkārir* ‘don’t write!’, but not in the cohortative *t<sup>ə</sup>ək č<sup>ç</sup>əkeri* (Hananyan 1995:140-141).

Mood/tense	dal ‘to give’	g <sup>ç</sup> al ‘to come’	lal ‘to cry’
Indicative present 1SG	gudam	gug <sup>ç</sup> am	gulam
Debitive (bidi > di > du) 1SG	dudam	dug <sup>ç</sup> am	dulam
Imperative prohibitive 2SG	múdar	múg <sup>ç</sup> ar	múlar
Neg. subjunctive present 3SG	č <sup>ç</sup> udar	č <sup>ç</sup> ug <sup>ç</sup> ar	č <sup>ç</sup> ular

Table 74: Analogical spread of the *gu* form (Bałramyan 1960:22)

An interesting case of analogical extension can be found in the Hamshen aorist for *asuš* (*asel* in CA), where we see an aorist stem *ast-* with seemingly an epenthetic<sup>375</sup> *-t-* proposed by Ačārean (1947:134-135). Martirosyan’s solution (2019b:206), based on the fact that many verbs in Hamshen have both a unsyncopated and syncopated form (e.g. *χακac<sup>ç</sup>i* and *χακc<sup>ç</sup>i* ‘I played’, *pac<sup>ç</sup>av* and *epac<sup>ç</sup>* with the augment ‘(s)he opened), is to propose an older syncopated form *\*asc<sup>ç</sup>i* changing to *-(s)-t-* due to dissimilation. Martirosyan then compares the paradigm of Shamakhi (Bałramyan 1964:166), which innovated in parallel with Hamshen, as seen in Table 75.

	CA	Syncope	Hamshen	Shamakhi
1SG	asac <sup>ç</sup> i	*asc <sup>ç</sup> i	asti	asc <sup>ç</sup> i, assi
2SG	asac <sup>ç</sup> er	*asc <sup>ç</sup> er	astir	asc <sup>ç</sup> ir, assir
3SG	asac <sup>ç</sup>	*as(a)c <sup>ç</sup> aw <sup>376</sup>	astav	asec <sup>ç</sup> , aseç
1PL	asac <sup>ç</sup> ak <sup>ç</sup>	*asc <sup>ç</sup> ak <sup>ç</sup>	astak <sup>ç</sup>	asc <sup>ç</sup> ink <sup>ç</sup> , assink <sup>ç</sup>
2PL	asac <sup>ç</sup> ēk <sup>ç</sup> , -ik <sup>ç</sup>	*asc <sup>ç</sup> ēk <sup>ç</sup> , -ik <sup>ç</sup>	astik <sup>ç</sup>	asc <sup>ç</sup> ik <sup>ç</sup> , assik <sup>ç</sup>
3PL	asac <sup>ç</sup> in	*asc <sup>ç</sup> in	astin	asc <sup>ç</sup> in, assin

Table 75: Syncope and epenthesis in Hamshen and Shamakhi

375 For examples of epenthetic nasals which independently occur in many places, see Martirosyan (2008:567).

376 Mediopassive ending.

Change is a contingent process – such-and-such change did not have to happen just because it could happen. Acquisition and social factors (input frequency, variety, basilect vs. acrolect influences, dialect exposure, social norms, prestige, feedback, etc.) come into play, and other than rough approximations found in literature such as when characters in a play comment on a stylistic element of language from which we can learn some insight or fieldwork notes from ethnographers and linguists who visited these communities before their annihilation.

### 5.7.5 Chain shifts

There is a sizable literature on chain shifts, and these phenomena have been studied in a number of languages, such as Arabic (McCarthy 2003), Tonkawa (Gouskova 2003), Palauan (Zuraw 2003), Nzebi (Kirchner 1996), Polish (Lubowicz 2003), and SWA (Khanjian 2009, Dolatian 2017a) specifically to explain issues surrounding the reduction of [uj] (e.g. *kuyn* ‘color’ → *kunavor*, not \**kuynavor* ‘colorful’). In diachronic phonology, a chain shift usually refers to a series of phonological changes in a language that affect the phonetic values of several phonemes, often resulting in a rearrangement or shift in their positions within the phonological system. This phenomenon typically involves a domino effect, where the modification of one phoneme triggers subsequent adjustments in neighboring phonemes to maintain distinct phonemic boundaries. Chain shifts can also occur when several important morphosyntactic changes occur within a particular dialect, causing a rearrangement of syntactic or morphological features. Just as in phonological chain shifts, the alteration of one element can trigger adjustments in related elements to maintain the integrity of the system. For instance, in a chain shift within morphosyntax, the loss of a particular tense or mood marker might lead to the reassignment of semantic or syntactic functions among other markers in the system. This could result in a realignment of tense, aspect, mood, or other grammatical categories. The changes can be gradual and may involve several interconnected shifts in different parts of the grammar.

When examined from this perspective, it becomes evident that a sequence of changes has taken place in all WA dialects, wherein the elimination of historically extant subjunctive endings has triggered a reorganization of the interrelated verbal categories encompassing a majority of tense, aspect, and mood (“TAM”) markers. If we embrace Saussure’s notion that the meanings of linguistic components stem from their contrasts with other elements within a system (Dreer 2007), then the notion of this sequence of changes is feasible: the removal of subjunctive tenses would inherently alter the pattern of oppositions within the verbal system, potentially leading to the present adopting subjunctive connotations, the progressive adopting straightforward present connotations, the necessitative adopting future connotations, the cohortative adopting conditional connotations, and so forth. A comparable sequence of changes, akin to the one proposed by Martinet (1953), has been applied to explain phenomena such as the Great English Vowel Shift and Grimm’s Law in the history of Germanic (Vaux 1995a).

In the instances delineated earlier, it is generally accepted that the mentioned changes transpired concurrently. For instance, in Grimm’s Law, the transition of voiced aspirates to plain voiced consonants seemingly synchronized with the alteration of original plain voiced consonants to voiceless ones. This notion, albeit peculiar, can be understood through Saussurean terminology, where the plain voiceless set combined initially with voiceless fricatives, relinquishing its voicing contrast and adopting a distinction in terms of continuancy. Consequently, the plain voiced set, having lost its distinct voicing feature, adopted the default voicing specification [-voice], a parallel reasoning can be extended to the loss of aspiration in voiced aspirates (Vaux 1995c). Nevertheless, the Armenian developments present certain conundrums regardless of our acceptance of the possibility of chain shifts in linguistic systems. Firstly, the potential chain shift is not a unified entity; it culminates in its most pronounced form in some dialects (e.g. SWA), while displaying more truncated variations in other dialects. Secondly, the Saussurean notion of oppositions, employed to account for the aforementioned chain shifts, fails to elucidate the emergence of novel forms, such as the spectrum of progressive constructions analyzed in Section 5.1.2. Thirdly, chain shifts conventionally manifest at specific junctures in linguistic evolution, whereas the Armenian verbal shift evolved from the late classical era at least until the divergence of distinct modern dialect groups (*ibid.*). Furthermore, the relative chronology of various individual developments is known – evident in the precedence of the disappearance of present subjunctive over the aorist subjunctive, or the appearance of *gu/ku* formation preceding the transformation of simple present into subjunctive mood. Lastly, each of the distinct changes contributing to verbal realignment is ubiquitous across languages—progressive forms frequently transition into simple presents<sup>377</sup>, and obligatories and desideratives commonly transform into future markers<sup>378</sup>. Given these challenges, a more prudent approach is to consider that the separate developments discussed in this discourse transpired autonomously, unconnected to a comprehensive system-wide chain shift. Nonetheless, prospects remain optimistic that further investigation into this subject may refine our limited grasp of the theoretical mechanisms underpinning chain shifts, augmenting our incomplete comprehension of the relative chronology inherent in diachronic Armenian verbal morphology (*ibid.*).

Although Labov et al. (1972:9-10) mostly agree with the functional principles advanced by Martinet (1955)<sup>379</sup> which are given strong support in their studies of chain shifts, they remain perplexed that the conditions which lead to chain shifting are often present when no chain shift is to be observed. Thus even after decades of experimental research, it remains unclear what the factors are that activate a given change at a given time, and why functional constraints upon these changes are relatively weak, as they cite Modern Greek’s merger of seven earlier phonemes (/i/, /i:/, /ü/, /ü:/, /ε:/, /ej/ and /oj/) into one /i/, where no amount of functional pressure seems to have had any effect in preventing this

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377 This respects Kuryłowicz’s (1964:29, 1973) panchronic laws of functional shift, which predict that durative presents become general or indeterminate presents.

378 We see this in Artial (Suceava), Hajin, Marash, and MA.

379 Superseded by King (1967a, 1967b) and Surendran & Niyogi (2006).

outcome (Labov et al. 1972:227). Thus, once a chain shift begins to move, it seems to respond to powerful pressures that we have not gotten better at understanding.

In the WA dialects, we see system-wide changes to the present tense, both progressive and non-progressive, the future, the subjunctive, and the necessitative: progressives often become presents and new progressives are innovated, presents become futures or subjunctives or optatives, and subjunctives and necessitives become futures.

Thus, after having surveyed the developments of the indicative, progressive, future, necessitative, and conditional markers, the following general re-arrangement emerges, with certain dialects becoming relics at various stages:

1. The CA (and we can surmise, any extant dialect spoken alongside the dialect which CA was based on) subjunctive formations, both present and aorist, disappeared.
2. The present subjunctive, which disappeared first, was replaced by the old simple present.
3. The aorist subjunctive (used as the future) was replaced by a variety of present, desiderative, and obligatory formations.
4. A new progressive formation replaced the simple present in the MA period.
5. The modern dialects created many new progressive and obligatory formations, with the post-CA necessitative usually gaining future semantics. A fairly large number of strategies were devised via regrammaticalization or exaptation to create such new forms.
6. In a small number of dialects, the old cohortative became a conditional marker, and in a smaller number of Syrian and Cilician dialects, the old indicative mood particle became repurposed as a conditional.

The above has to be kept in mind and thought of in terms of bottlenecks – in other words, innovations have to pass through multiple sociolinguistically-conditioned factors, childhood acquisition, retention into adolescence/marker of identity, survival against the disapproval of more conservative speakers in the community, then the innovation has to be successfully transmitted to a new generation of children. And since I am dependent on old-fashioned, purely descriptive dialect sketches and grammars with no real sociolinguistic information, I am left with only a reasonable inference from general sociolinguistic theory (cf. Labov 1994, 2001).



## 5.8 Notes on morphological reconstructions

Though very difficult without external validation, it may be possible to carry out a purely morphological reconstruction. Say we only had these three IE languages as available data (based on Fox 1995:99-102, itself based on Hoenigswald 1960:70-71):

	I	II	III	IV	V	VI	VII	VIII
Latin	NOM	ACC	DAT	GEN	ABL	ABL	ABL	VOC
Greek	NOM	ACC	DAT	GEN	GEN	DAT	DAT	VOC
Germanic	NOM	ACC	DAT	GEN	DAT	DAT	DAT	NOM
Ancestor thus could have:	NOM	ACC	DAT	GEN	ABL	LOC	INST	VOC

Figure 27: Morphological reconstruction example

This sort of reconstruction makes no claim to be establishing genetic equivalence of forms, only properties of the proto-language itself. And there are still plenty of dangers – if I add Tocharian, and if I ignore the fact that it had numerous case developments within its own history, I would erroneously be reconstructing a too-large number of PIE cases in an attempt to accommodate all correspondence sets<sup>380</sup>. Morphological systems are idiosyncratic by nature with no set “laws” for us to discover, but we can make informed guesses.

Applying this to Armenian, since we only have CA and MA as true historical dialects, and everything else is from the (rarely 18<sup>th</sup>) 19<sup>th</sup> or 20<sup>th</sup> centuries, we lack a lot of historical data and this makes reconstruction far harder. To give an extreme illustration, say we lived in a parallel universe in which the only IE descendants that made it to the modern era were the descendants of Sanskrit. This would make a pre-Sanskrit, essentially PIE reconstruction virtually impossible, as we would have no way to triangulate the Sanskrit-derived data with at least one non-Sanskrit IE data point. The parallel here is that we lack any attested sister dialect to CA<sup>381</sup>. The closest roundabout solution would be to flesh out the reconstructed details of CmA based on whatever cannot be secured derived from CA in the modern dialects, a sketch of which is found in Section 4 of Chapter 2.

Secondly, we cannot get the phonetics by the mathematics – we can get a general idea of contrasts, but never the details. Uniquely occurring morphemes (we can extend this to any morphological trait) are very generally the work of obsolescence (Hoenigswald 1960:68), thus an earlier wider distribution may be inferred. Hoenigswald’s good sense is echoed by Kortlandt (1978:10), who states that if a single uninterrupted central area differs from the peripheral areas with respect to a specific feature, it is probable that the central dialect has innovated. For these reasons and many others

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380 We would, in vain, be looking to posit a perlicative, comitative, allative, and causative case.

381 Reconstruction, both phonological and morphologically, crucially depends on a thorough knowledge of the daughter languages or dialects.

(Ringe 2004:240-245), the reconstruction of a protolanguage's morphology cannot be adequately pursued on the basis of matching functional categories in the daughter languages or dialects without regard to their formal expression. On the contrary, reliable reconstruction of morphological categories depends almost entirely on reconstructing the morphemes that instantiate them, which usually means exploiting the regularity of sound change, though this is beyond the scope of this project.

## CHAPTER 6: CLADISTICS AND INTERNAL RECONSTRUCTION

Chapter 6 presents a comprehensive exploration into the domain of cladistics and internal reconstruction within the ambit of 77 WA dialects. This chapter is structured into several sections and subsections, each dedicated to elucidating distinct facets of the methodology employed. The opening section, 6.1, grapples with the theoretical challenges intrinsic to this approach, probing questions related to the focus on specific linguistic features and the complexities posed by MA. By delving into these inquiries, this section sets the stage for a nuanced analysis. In section 6.2, a methodological lens is directed towards computationally assessing relatedness through the lens of shared innovations and archaisms. Rooting the tree, as discussed in subsection 6.2.2, is a focal point that is explored to better comprehend the evolutionary relationships. Moreover, the chapter extends its examination to the approximation of dates for internal nodes in section 6.3, for both binary and multistate characters, a critical dimension for understanding the temporal dynamics of dialect evolution. Many trees are posited throughout, culminating in a tree which summarizes the findings of this project.

### 6.1.1 Theoretical challenges

Computational cladistics has become standard in historical linguistics – a comprehensive introduction can be found in Nichols & Warnow (2008). Coppin (2008), Jacques & List (2019:156-159), and Ringe (2022) discuss the limitations of the approach.

Each node in any cladistic tree is both a hypothesized *grammar* and a hypothesized *lexicon* (a set of underlying forms that speakers store in memory, usually styled {G, L}). We can think of this as a bundle of features for each node (one that has a number of properties included in {G, L}), and the ideal work has to consider the processes that lead from one {G, L} at one node to another {G, L} at another node, whether “up” (ancestor) or “down” (descendant).

Morphological change is more complex. Often a given change is some combination of changes: (1) reanalysis of the phonological form of a morpheme; (2) change in morphophonology that affects the surface form of the morpheme that we see; (3) change in the properties expressed by a morpheme, or, equivalently, the conditions where it is inserted in Spell-Out; (4) change in the morphosyntax, i.e. the part of the grammar that builds the abstract structures that morphemes get inserted into. A complete analysis would need to explain and justify each of the points above, but for the sake of brevity, I have assumed that the selection of the particular features examined in my cladistic analysis already meets at least one of the four criteria above. Echoing Godel (1975:132), it is prudent to give more weight on morphological isoglosses.

### 6.1.2 *The problem of MA*

There are several terminological issues surrounding the use of the word “middle”, as when the literature speaks of MA, it is not a true “middle”, since certain features may predate CA – what we call MA is likely neither a direct continuation of CA, nor the immediate ancestor of most WA dialects. The way I use the term here, it is most definitely not the ancestor of any EA dialect<sup>382</sup>, though there is enough evidence to suggest that a small number of features commonly associated with modern Cilician dialects come from Artsakh due to provable historical population movements. The issue is further complicated by the fact that what we call MA is not even a monolithic dialect (Ezekyan 2007:16) and actually represents several closely-related southwestern WA dialects, in other words, Cilician Armenian (e.g. Karst 1901) of the late Middle Ages. If one were to look at post-classical texts from the same period much farther east, one would find different consonant shifts and very different grammatical features.

There seems to be a gap in our understanding of Armenian dialectology – perhaps partly because when one sees the word “middle”, when speaking of the chronological classification of a language, we assume it to be the immediate ancestor of its modern descendant(s), and an immediate descendant of an older or classical variant of a language. To illustrate, let us take Karst (1901:vii), who on one hand, states “[i]t is clear that these already very efficient achievements [of the then new field of Armenian dialectology] gain even more importance in the light of MA. The modern dialects are entirely based on the MA: as a result of a more precise knowledge of the latter, many hitherto obscure points in the field of the modern language will be illuminated and disappear. In particular, a future comparative grammar of the New Armenian dialects will have to be based on MA”<sup>383</sup>, yet in several other places, he contradicts himself by stating, for example, that the pronunciation of MA could be derived from the modern Western dialects (*ibid.*:15), that the development of diphthongs, obstruents, and vowels of the Western dialects have their roots in MA (*ibid.*:20, 64-69, 82).

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382 Though some Armenologists use the label “MA” to refer to various medieval inscriptions or documents found in the eastern areas of the Armenian highlands, some of which would indeed be the ancestor(s) of various EA dialects.

383 Original text: “Dass diese an sich bereits sehr tüchtigen Leistungen noch an Bedeutung gewinnen im Lichte des Mittelarmenischen, ist klar. Die modernen Dialekte fußen samt und sonders auf dem Mittelarmenischen: infolge genauerer Kenntnis des letzteren wird daher mancher bisher dunkle Punkt auf dem Gebiete der modernen Sprache beleuchtet werden und schwinden. Namentlich wird eine künftige vergleichende Grammatik der neuarmenischen Mundarten sich auf das Mittelarmenische stützen müssen.” Compare this with: “...die das Kilikische in der armenischen Sprachgeschichte einnimmt, gehört es nach Lautstand und Grammatik zu den westarmenischen Sprachen; als westmittelarmenisches Idiom ist es unzweifelhaft die Mutter der meisten neuwestarmenischen Mundarten, wenn nicht gar der ganzen westlichen Gruppe.” (p. 5) “...Cilician occupies in Armenian linguistic history, it belongs to the Western Armenian languages according to phonetic and grammatical status; as a Western Middle Armenian idiom, it is undoubtedly the mother of most of the New West Armenian dialects, if not of the entire whole Western group.”

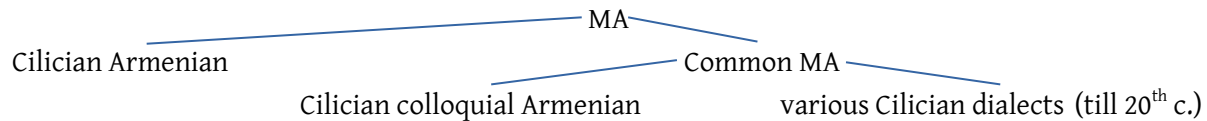


Figure 28: Rough representation of the various uses of “MA” in the literature according to Djahukyan (1964)

History once again restricts us in our interpretation of the data. Since Armenia proper was under Seljuk domination starting from the middle of the 11<sup>th</sup> century, the vast majority of written records that are not in CA<sup>384</sup> come from the expatriate kingdom of Cilicia (years 1080-1375). Djahukyan (1964:27), who suggests the rough representational schema above, thus states that the name “Cilician Middle Literary Armenian” can also be used for the language of those medieval records, to distinguish them from some of the rare instances of writing we see from the eastern realms (such writings do exist, but they are typically written in CA or a mix of vulgar and classical features<sup>385</sup>). Another noteworthy piece of knowledge is that MA does not strictly overlap with the period of independent statehood of the three dynasties that ruled over Cilicia until the year 1375 – most modern (19<sup>th</sup> century and beyond) sources give a later date for the onset of our records in MA, usually from the 11<sup>th</sup> or 12<sup>th</sup> to 16<sup>th</sup> centuries. Earlier, this period was not defined clearly or had different designations, such as: “vulgar language of the ancestors” (*naxneac’ ramkōrēn*), “Cilician Armenian” (*kilikyan hayeren*), and “language of the low ages” (*storin daruc’ lezu*), as noted by Martiroyan (2020). In this project, when I use “MA”, I am exclusively referring to the particular medieval Cilician dialect.

MA is much like French in the sense that it contains at least two layers of the lexicon – one inherited, and the other borrowed from CA. The borrowed vocabulary is generally of a higher register – words related to religion, commerce, education, the sciences, though there are surprisingly basic words which also belong here, such as words for agricultural tools, metals, colors, movement and feeling verbs, time-related and kinship words. The inherited layer shows much more variation, as it appears that the written form contains a mix of various dialects (hence why we find doublets or even triplets like *xoroč’*, *xorš*, and *xor(a/n)* ‘cavity, hollow’) (Mkrtč’yan & Xač’atryan 2016:187-190), and what further complicates the matter is that this written standard lasted for quite a few centuries before fizzling out of use.

Early analysis (Karst 1901) seemed uncertain about whether or not this dialect is the ancestor of all or some of the WA dialects, but also clarified that it was not a uniform dialect – has at least two

384 CA never fell out of use during this entire period (Ghazaryan 1960:63-64).

385 A good example is the poetic language of Kafas (short monorhymed poems) in the Alexander Romance; see MacFarlane (2022) for an examination of the interplay between the poetic requirements of meter and rhyme and the linguistic features of a medieval eastern dialect and CA, where the choice between words and grammatical forms is dictated by poetry.

branches. No work has ever been conducted to systematically sort out which are from the “Cilician/southern” branch or the “northern” branch – whenever there were two or more outcomes for the morphological features examined for the cladistic part of my project, I left the feature unknown (“?” instead of a 0, 1, 2, etc.).

The Southern branch appears to have commonalities with Cilician/Antiochan (so named because all of its members are found within the old borders of the Principality of Antioch, which was briefly a vassal of the Armenian Kingdom of Cilicia between 1254-1260, though most of its inhabitants were Armenian and Greek starting from the 11<sup>th</sup> century) or Syrian dialects found in the early 20<sup>th</sup> c., and the northern branch appears to overlap with Asia Minor dialects found much more to the north and west. As the Ottoman Empire consolidated power in the 14<sup>th</sup> and 15<sup>th</sup> centuries, Armenian-speaking populations from the former Cilician kingdom spread northward and eventually northwestward (towards the political power centers in and around Constantinople). Cilician dialects, in general, are historically complicated, as there have been numerous migrations into Cilicia, starting from the 1<sup>st</sup> century BCE, which was likely modest, a bigger wave in the 6<sup>th</sup> century, and two very large waves between 1045 and 1080, first caused by the formal annexation of the Bagratid kingdom (1045) and the conquest of the region by the Seljuks 19 years later (Donal Stewart 2001:33-34), and these migrations came from different regions of Greater Armenia, which makes untangling dialect mixture difficult. Furthermore, every few decades from the late 11<sup>th</sup> century to the late 14<sup>th</sup> century saw the redrawing of the political boundaries of Cilicia

Karst (1901:137) also openly calls into question the position of Cilician within MA – he suggests that the written MA language was likely just one dialectal variant that happened to be written down during the Middle Ages, and that Cilician was the direct descendant of many dialects of the southern branch of the Western or Little Armenian (referring to Armenia Minor) dialect group. He then suggests calling it southwestern MA. With the northern branch of the same group, it shares the general features of WA, but differs from the latter by several peculiarities, the most important of which are the following:

- a) The instrumental case suffix in *-awm* [avm] instead of *-ow* [ov];
- b) The use of the third person *ina*, *isa*, and *ida* (three deictic levels) and the absence of the other common pronominal forms of *nara* (< CA *nora*), *nak'a* (< *nok'a*);
- c) Morphemic resegmentation, fusioning, or leveling of various verbal stems, such as:

<u>MA (Cilician/“southern” branch)</u>	<u>“Northern” branch</u> <sup>386</sup>
md-e-l (CA <i>mt-an-e-l</i> , to enter)	mdn-u-l, mdn-e-l
kdn-u-l (CA <i>gt-an-e-l</i> , to find)	kdn-e-l
ičn-u-l (CA <i>ǰ-an-e-l</i> , to descend)	ičn-e-l, ičn-i-l
desn-u-l (CA <i>tes-an-e-l</i> , to see)	desn-e-l

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386 Likely the ancestor of many WA dialects later attested in various parts of Asia Minor, especially those further northwest.

d) The “southern” branch only uses the *-ok<sup>c</sup>* and *-oc<sup>c</sup>* ending for its pronominal inflection in the nominative and genitive plural, respectively, whereas the northern branch uses a nasal infix, *-onk<sup>c</sup>* and *-onc<sup>c</sup>* (*anonk<sup>c</sup>* and *anonc<sup>c</sup>* SWA, ‘they’ (NOM/GEN)).

If one were to include a timeline to my phylogenetic trees – MA would have to be given a unique intermediate node and placed roughly somewhere between the 12<sup>th</sup> and 15<sup>th</sup> centuries; regarding the Cilician dialects, Martirosyan (2019b:183) remarked that peripheral dialects often demonstrate a very complex interrelationship with the dialects of the opposite corners of Armenian-speaking territories on the one hand and with MA on the other.

## 6.2 Computationally calculating relatedness based on shared innovations and archaisms

### 6.2.1 Introductory matters

In this section, I cover the problems with reconciling competing phylogenetic analyses. I provide trees (at first very basic trees, then full trees for both binary and multistate characters), various algorithmic tools, and include a discussion on cross-dialectal contamination, influence, and known population movements from historical sources. I extensively use of the data accumulated from sources mentioned in Appendix A; I also provide isogloss and dialectal maps in Appendix B and the settings used are included in Appendix C. I then compare by results with previous analyses (see Appendix D for Ačařean:1911).

Several algorithms can be used to computationally calculate dialect relatedness based on shared innovations and archaisms. These include models which calculate lexical distance<sup>387</sup>, sound change<sup>388</sup>, grammatical distance<sup>389</sup>, and those which provide phylogenetic analyses<sup>390</sup>. These algorithms

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387 These algorithms calculate the relatedness of dialects by comparing the lexical items (words) in each dialect (Calderone & Pirrelli 2021). The algorithm compares the words in each dialect and calculates the percentage of words that are shared between the dialects. The higher the percentage of shared words, the more closely related the dialects are considered to be.

388 These models compare the sound changes that have occurred in each dialect (Rhyne 2017). The algorithm compares the phonetic and phonological changes that have occurred in each dialect, and calculates the percentage of shared changes. The higher the percentage of shared changes, the more closely related the dialects are considered to be.

389 These compare the grammatical features of each dialect. The algorithm compares the grammatical structures, such as verb conjugations, noun declensions, and syntactic structures, in each dialect, and calculates the percentage of shared features. The higher the percentage of shared features, the more closely related the dialects are considered to be.

390 Evolutionary methods to infer the historical relationships between different languages or dialects. Phylogenetic analysis algorithms are based on the idea that languages or dialects evolve over time, and the more time that has passed since two languages or dialects diverged, the more different they will be (Gray et al. 2009).

are not mutually exclusive, and a combination of them could be used together to provide more accurate results. However, it is important to note that these algorithms are mainly based on unevenly distributed dialectal data, and dialect relatedness is a complex phenomenon that can also be influenced by other factors such as sociolinguistic, demographic, historical and geopolitical, and of course, cross-dialectal contamination.

My most used software program is PAUP\* (Phylogenetic Analysis Using Parsimony<sup>391</sup>), a computational phylogenetics program for inferring peptide phylogenies (Swofford et al. 1996:415 ff., Semple & Steele 2003:84 ff), sometimes as a stand-alone program and sometimes complemented with *LinguiPhyR*<sup>392</sup>, a package for linguistic phylogenetic analysis in RStudio still under development, authored by Marc Edward Canby, Tandy Warnow's student. I have used other software programs but have not included my findings for those. As with all cladistic software, results can vary a lot by tinkering with settings (Chang et al. 2015), and the fact that I am using unevenly distributed dialectal data with a high likelihood of cross-dialectal contamination further complicates the matter<sup>393</sup>. It is possible to use a series of tests using PAUP\* (Swofford, n.d.) for distance methods (Unweighted Pair-Group Method with Arithmetic Averaging (UPGMA) and Neighbor-Joining (NJ)), parsimony, and maximum likelihood (ML), heuristic maximum parsimony (MP<sup>394</sup>), and for computing the majority-concensus tree and the consensus based on different settings. The PAUP\* blocks I used for the heuristic search MP<sup>395</sup> are located in Appendix C.

Much can be said about the usefulness of retentions, also called shared archaisms. Shared archaisms can seemingly make one's analysis more complicated as it has also been pointed out (Holm

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391 Parsimony is an intuitive optimality criterion used extensively in both biology and linguistics even before computational methods were developed. It is based on the notion that the simplest explanation (the one that involves the least changes or steps) is the preferable one (Chousou-Polydouri & Wauters 2013:10). For additional information on what parsimony is, consult Nichols & Warnow 2008. Technical specifications in my settings were partly based on two articles by Nakhleh et al. (2005, n.d.) and partly based on discussions with Marc Edward Canby.

392 Version 0.1.0.

393 For a future project, it would be worth it to explore maximum-likelihood methods that aim to find the model parameters (tree topology and character-state transition probabilities) that are most likely to explain the observed data (Dunn et al. 2008). This is a complex task and was unfeasible for large datasets two decades ago due to computational limitations. Another potentially interesting method is MCMC Bayesian Phylogenetic Analysis is a heuristic technique used to maximize the likelihood, although it is not clear that it is mathematically superior to parsimony. MCMC Bayesian Phylogenetic Analysis takes into account evolution and incorporates known facts about the behavior of particular characters. Empirically, some claim that Bayesian Phylogenetic Inference is more reliable than other methods, such as parsimony, in detecting relationships in data and is less likely to produce false positive results (Ronquist 2004). For further problems with Bayesian analyses, see Berwick (2015), and for counterarguments sympathetic to such methods, see Greenhill & Gray (2009), and Atkinson & Gray (2006).

394 It is so named because the optimal tree is the tree on which the smallest number of individual changes is required to account for the observed data (Ringe 2022:53). It takes for granted that there will be parallel innovations, unlike in maximum compatibility.

395 Settings partly based on Nakhleh et al. (2005) and Nakhleh et al. (n.d.). See additional details in Appendix C.



2000, 2003, 2007) that shared archaisms are hard to distinguish from shared innovations<sup>396</sup>, and generally one ought to practice great caution in dealing with them, though the point that an archaism should be compatible with the true tree is a good one<sup>397</sup>. This necessarily introduces the concept of maximum compatibility<sup>398</sup>.

Shared archaisms are less useful compared to true and verifiable shared innovations. Hoenigswald (1990:443) mentions that retentions and innovations are not independent phenomena but converses – an innovation is a non-retention, and while shared retentions are *compatible* with a subgrouping, innovations are *indicative* of one, subject to the reservations regarding independently arising innovations. Having shared retentions is not necessarily evidence of a close relationship among dialects, and in fact, there are plenty of examples of languages that are widely separated in time and space that do not form a subgroup yet have shared retentions. If the model clusters together geographically distant dialects known to have been subjected to population movements, we know that

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396 In some cases, a linguistic feature that appears to be an archaism may actually be a shared innovation that has converged in multiple languages. Conversely, a feature that appears to be a shared innovation may in fact be an archaism that has been retained from a common ancestor.

397 Phylogenetic conservatism posits that languages tend to retain ancestral linguistic features over time unless they are subject to significant changes through language contact, innovation, or other processes. This means that linguistic features inherited from a common ancestor are more likely to be preserved in descendant languages than to be independently innovated or changed. Therefore, if a linguistic feature is truly an archaism inherited from a common ancestor, it should be compatible with the evolutionary relationships depicted in a cladistic tree. The principle of parsimony, which underlies many cladistic methods, favors the simplest explanation that requires the fewest evolutionary changes to account for observed data. In the context of linguistic phylogenetics, this means that the most parsimonious explanation for the distribution of linguistic features across languages is one that minimizes the number of independent innovations or changes. If a cladistic tree accurately represents the evolutionary history of languages, it should reflect patterns of linguistic change that are consistent with the principle of parsimony, including the retention of archaisms in descendant languages. Therefore, a good (correct, accurate) cladistic tree should depict the evolutionary relationships among languages in a way that is compatible with the distribution of archaisms and other linguistic features. This means that languages sharing archaisms should be grouped together in the tree, reflecting their common ancestry, while languages lacking archaisms should be placed in separate branches or clades. Conversely, if a cladistic tree places languages sharing archaisms in different clades or fails to account for the distribution of archaisms in a parsimonious manner, it may indicate errors or inaccuracies in the tree topology, settings, or assumptions.

398 As explained by Nichols & Warnow (2008:772), the objective for Maximum Compatibility is to find a tree on which a maximum number of characters evolve without any homoplasy (back mutation or parallel evolution); these characters are said to be compatible on the output tree, and hence the number of such characters is the compatibility score of the tree; unfortunately, unlike for maximum parsimony, there are no readily available heuristics that are highly accurate in practice. Additionally, defining a heuristic approach for Maximum Compatibility that reliably identifies the most compatible trees is challenging due to the lack of a clear optimization criterion. Unlike Maximum Parsimony, which optimizes based on a well-defined objective (minimizing evolutionary changes), there is no single, universally accepted criterion for assessing compatibility. Different researchers may prioritize different aspects of compatibility (e.g., overall fit, agreement with specific character state distributions), leading to variations in heuristic approaches and their accuracy in practice. If the amount of parallel development and backmutation in a dataset is very small, the results of both Maximum Parsimony and Compatibility methods should converge (Ringe 2022:53).

we are on the right track. Independent historical knowledge, the type of which is expanded in Section 3.3, remains important in interpreting data.

A very time-consuming sub-project of this dissertation has been the expansion of the list of features to those never mentioned in the literature, and of course, I explore and take into consideration more WA dialects than anyone before me. The raw data for this project, along with settings and output files, can be consulted on my GitHub<sup>399</sup> page.

Reconciling differences between multiple isoglosses of Armenian dialects or between dialects that seem to belong to different subgroups can be a challenging task. It is also worth noting that, in some cases, it may not be possible to classify some dialects with a high degree of certainty, thus there will be some groupings which may be open to question. An advantage in Armenian dialectology, insofar as certain regions in historic Armenia and Asia Minor are concerned, is that we see fairly clear evidence of an unbroken dialect chain prior to 1915, evidenced by many overlapping features. The occurrence of genuine overlapping might suggest the absence of a distinct demarcation, enabling innovations to diffuse across a region already influenced by other advancements (Goetze 1941). This scenario implies an indistinct lineage and a diminished distinction between direct lineage changes and dialectal influence. Furthermore, it has been noted that the presence of distinct linguistic borders in historical epochs does not inherently validate a clear antecedent separation, as such boundaries could emerge due to the vanishing of intermediary dialects between two centers. Consequently, cognate languages or dialects might display explicit demarcations and simultaneously manifest the contradictory overlaps that impede the establishment of subancestries (Hoenigswald 1990:444). I am also cognizant that diversification may have really been wavelike and not treelike, thus it may be that a cladistic tree is misleading, but cladistic trees are easily falsifiable<sup>400</sup> (i.e. can be invalidated by the discovery of new linguistic data, inconsistencies in the distribution of linguistic features, or discrepancies between tree topology and independent lines of evidence such as archaeological findings or historical records) and thus should be tried first – this is how we get forward in a real science.

The concept of fissure (a clean break or split) may be useful to keep in mind here as a concept on one end of a spectrum – especially when one notices discrete bunches of innovations, and differentiation in overlapping innovations, on the other end. These two patterns reflect different speech community events, according to modern findings (Ross 1988, 1997, 1998, Bowerman & Koch

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399 <https://github.com/gbalabadian/Cladistic-data-for-Armenian-dialects/branches>

400 Maximum parsimony trees are more falsifiable than competing models in historical linguistics because they rely on the principle of minimizing evolutionary changes, making specific predictions about the relationships among languages based on the simplest possible explanations. The tree(s) with the lowest number of changes is the optimal one(s). Therefore, these trees can be more easily falsified by the discovery of new linguistic data or inconsistencies in the distribution of linguistic features that cannot be explained parsimoniously, whereas competing models may allow for greater flexibility in accommodating contradictory evidence. For further discussion, see Ringe 2022; Ross 1997 & 1998 for case studies illustrating the latter.

2004:8). Language fissure is usually the result of a single event that divides one group of speakers into two, whilst lectal differentiation entails the (usually gradual) geographic spread of a group of speakers (Ross 1997:212). Asia Minor represents a good case of both linkage breaking<sup>401</sup> and linguistic convergence and fits with Ross's model of social network differentiation of lects, where features unevenly spread from one lect to another in a partially overlapping fashion. A potential pitfall for the purposes of cladistics is that innovations may arise in one dialect and spread to all or most other dialects in the linkage, which may lead a linguist to reasonably but erroneously presume that this is an innovation-defined subgroup, though Ross admits that this presumption is less likely to be false if there is a diagnostically substantial bunch of innovations (*ibid.*:224)

Adding a known outgroup to a phylogenetic tree helps us root the tree and estimate the relative ages of various nodes. An outgroup is a taxon or group of taxa that is phylogenetically related to the ingroup (the group of taxa we are interested in studying) but branched off earlier in evolutionary history. By including an outgroup<sup>402</sup>, we establish the direction of evolutionary change and can infer the ancestral state at the root of the tree.

Though this is rarely done as it is notoriously difficult, once a tree is rooted, we can use various methods to estimate the relative ages of nodes (branching points) in the tree. In biology, molecular clock methods, for example, use the assumption that genetic sequences accumulate mutations at a roughly constant rate over time. By calibrating the molecular clock with known divergence dates from the outgroup (assuming they are available), we can estimate the time of divergence for other nodes in the tree. This provides us with a chronological framework for understanding the evolutionary relationships and timing of events among the taxa. This type of reasoning has generally been rejected in historical linguistics, notwithstanding its blip in popularity in the 1950s-1960s with the then-burgeoning sub-field of glottochronology<sup>403</sup>, as there are too many factors that can influence this

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401 With a slow increase in population and the breakup of one community into two a few hours away by foot, the linkage slowly grows weaker over time as the eventual reduction in social contacts to an annual cycle of ceremonial and trading visits, with a concomitant reduction in the density of links, a weakening in their intensity and a reduction in multiplexity (Ross 1997:218-219). I submit that this is what happened in much of Asia Minor, especially as one goes westward.

402 The outgroup's position helps determine the root of the tree, which represents the common ancestor of all included taxa. By comparing the characters (traits or genetic sequences) of the outgroup with the ingroup, we can identify shared ancestral traits and shared derived traits. The outgroup's ancestral traits indicate the ancestral condition for the ingroup, helping us infer the direction of evolutionary change and root the tree accordingly.

403 Djahukyan made great use of glottochronology to assess relationships between the modern dialects and CA (1972:219-245), using lists of 100, 200, and 215 words. Vaux (n.d.) points out that glottochronology was already thoroughly discredited by the time Djahukyan's book came out in 1972 (cf. Gudschinsky 1956, Sjoberg & Sjoberg 1956, Kroeber 1958, Taylor 1961, Dyen 1964, later rebuttals and evidence of uselessness by Blust 2000, Matisoff 2000, McMahon & McMahon 2000, and many others). The basic fallacy in glottochronology is the *a priori* assumption that all languages change at the same rate all the time. This is simply not true, not only regarding different languages, but even within a single language. It is well known that individual word types do not change at the same rate; for example, numbers are more resistant to change than other lexical categories. A language's lexical retention rate may also be affected by external factors such as borrowing, taboo, having a strong/conservative literary or religious tradition, ethnic or national pride, and the like. Since

supposed rate of change or replacement – the absence or presence of taboo replacements, areal pressures, the Accretion Tolerance Quotient (willingness of a language to borrow words or native form neologisms), semantic drift, semantically shifted cognates, issues with learned vocabulary, unexpected morphological borrowings, sociolinguistic and extralinguistic conditions (many of which are irretrievable due to poor written and archaeological records), one’s choice of artificially limiting a comparative list to 100 or 200 selected words, and other factors (Matisoff 2000:336-8). Hoenigswald (1960:159) also mentions a particularly disturbing factor is literary borrowing from a language’s own ancestor, like Latin for the Romance languages or Classical Arabic for Arabic dialects as the later stage reintroduces much material that would have otherwise been lost.

To attempt to derive the modern dialectal verbal systems from that of CA using morpho-syntactic feature analysis, computational tools, or other statistical methods, the following steps were taken:

- i) Compiled comprehensive lists of data from different periods of the Armenian language, including, wherever possible, CA, MA, the modern dialects as of the 19<sup>th</sup> or early 20<sup>th</sup> century, and 21<sup>st</sup> century SWA. It is important to use a large sample of dialects to ensure that the reconstructed forms are accurate and to account for any dialectal variations, though I must point out that the data I have is highly uneven in the sense that some dialects have abundant data whereas some have almost nothing, and reconstruction of proto-forms is still at an early stage and thus could not be included in my cladistic analysis;
- ii) Wherever I could, I morphemically broke down my verbal morphology corpus by identifying their morphological structures, including stem, suffixes, and inflections, and I did so manually as no automated tools such as morphological analyzers and part-of-speech taggers exist for Armenian, and even if one did, it would only be feasible to develop such tools for SEA, which is the only Armenian dialect in official use today (several interesting databases are being constructed for SWA<sup>404</sup> and some Artsakh dialects);
- iii) I conducted a morpho-syntactic feature analysis to identify the key features that distinguish the verbal systems in CA and modern dialects. These features include the particularities of a number of verb forms, differences in the tense-aspect-mood system, the

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these factors obviously act differently on different cultures and languages, we in fact expect languages to change at different rates. This prediction is borne out in comparing English and German, for example, which share 75 cognates in the Swadesh list and therefore by his formula separated 954 years ago, i.e. in the 11<sup>th</sup> century CE. In reality, we know that English and German separated by the 5<sup>th</sup> century CE, six hundred years earlier than the glottochronological model dictates. It must be emphasized that there is no “lexical clock” – that is, the replacement of vocabulary items does not proceed at an even approximately constant rate (Bergsland & Vogt 1962).

404 See ReRooted (<https://github.com/jhdeov/Rerooted-ArmenianCorpus/tree/main>), a speech corpus of Syrian Armenian refugees who speak SWA.

presence or absence and forms of participles, the presence or absence and forms of various pre-verbal particles, the spread of various verbal suffixes or morphemes, and other morphological properties; and,

iv) Further refinements were used, as covered in this Section and Appendix C.

Overall, this process involves a combination of historical-comparative analysis (including personal judgment based on anthropological, ethnographic, or historical knowledge) and computational methods to identify and quantify the similarities and differences between the verbal systems in CA and modern dialects, and to attempt to derive the latter from the former, as well as to point out any difficulties and whether CmA proto-forms can more easily fit my model. Though I do mention various traces of CmA forms inferred from dialectal data in Chapter 2, one must take heed of Kortlandt's principle that any reconstruction of CmA on the basis of modern dialects must logically anticipate a comparison with material from other IE languages (1978:10).

When determining if two languages or dialects are closely related, it is not sufficient to merely consider archaic characteristics and independent developments. Instead, it is better to focus on shared new features. However, this approach is not foolproof, as different groups can come up with similar innovations independently. Despite this, when there is a lot of evidence pointing to shared innovations, the probability of it being a coincidence decreases (Martirosyan 2014). For subgrouping, only shared innovations prove reliable, if the cautions about independently occurring changes and possibly inaccurate reconstructions (regarding CmA) are kept in mind. The best-defined subgroups, such as certain clusters of dialects around Lake Van, the province of Mush, and the Hamshen dialects, are those that are based on several shared innovations of the type which are not likely to happen independently or to be diffused across language boundaries (Campbell 1999:186).

The optimal way to eliminate chance resemblances is by identifying sets or clusters of independent correspondences, which reinforce one another (Fox 1995:223), which is why I later separated various morphological innovations<sup>405</sup> (see Ringe & Eska 2013:256-263 for their pivotal role) by both form and function. Using morphological characters is not without its detractors – although Meillet considered morphosyntactic comparison to be essential to identifying linguistic relationships (Kessler 2001:95), Forster and Toth (2003) took the view that characters based on morphology and phonology, while usable for determining relatedness, were less reliable for constructing trees or for dating. Morphosyntactic characters are appealing for language comparison because it is believed that they are not often borrowed (see, for example, Ringe, Warnow & Taylor 2002:62). Kessler (2001:97) points out that in fact such borrowings do occur, and it is unsafe to assume that any commonalities are due to

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405 Furthermore, it has long been a gold standard in historical linguistics that morphological innovations should be taken more seriously into account than phonological or lexical ones (Piwowarczyk 2022:45), though numerous difficult-to-repeat phonological changes, especially if one particular order is needed, can also be robust.

shared innovation. Kessler (2001:101) also points out that morphosyntactic characters can be hard to use because it can be difficult to know exactly what to compare – one character may not occur at all in a language, or might be conflated with other characters. Kessler’s main objection to the use of morphosyntactic characters lies in the difficulty of devising a list of such characters in an unbiased way that will work with any language<sup>406</sup>, rather than devising such a list based on a knowledge of the languages being studied (which could, of course, lead to experimenter’s bias) (Coppin 2008:11).

In the rest of this section, I illustrate my early progress (when I had accumulated data from far fewer dialects) by showcasing the various results used to discover the closest approximation of what the interrelationships of the WA dialects must have looked like across time, without yet attaching a timeline. Without positing a chronology, it would be too difficult to address the question of CmA. The evidence seems to preliminarily suggest that dialect formation was already on its way by the CA era.

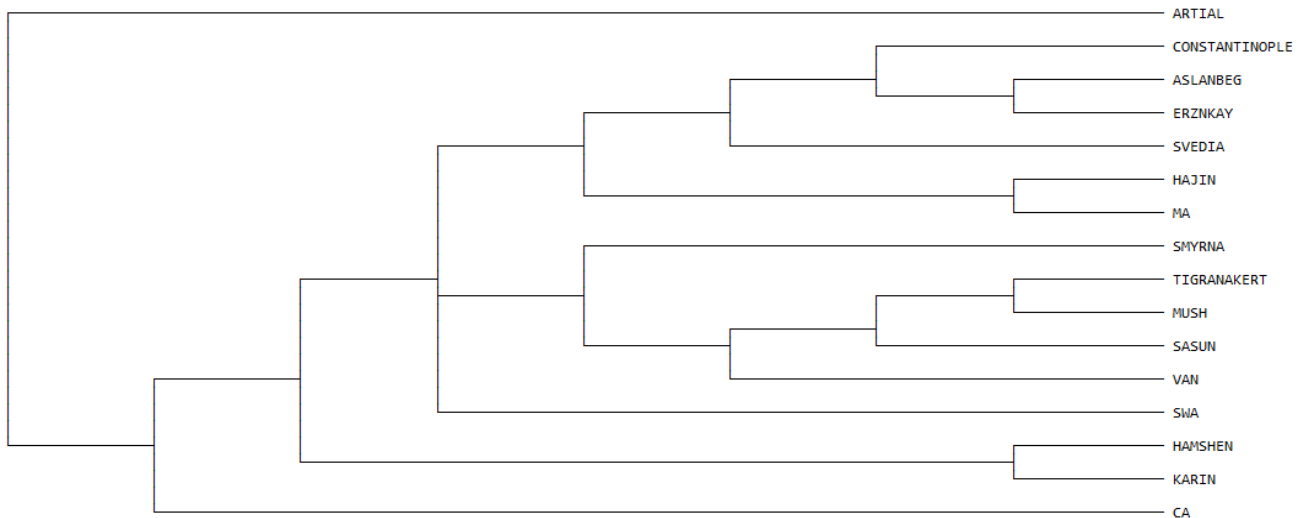


Figure 29: Representative phylogenetic tree

This tree (29) involves no rooting. An unrooted tree represents the evolutionary relationships among a set of taxa or sequences, but without a known common ancestor. It shows the branching pattern of the taxa, but not the direction or order of divergence. If I root<sup>407</sup> the tree using default

406 Though I agree in principle regarding the difficulties of devising a universalizable list, a specialist of any given language family is likely in a better position to decide what sorts of morphological change ought to be included in such a list.

407 When analyzing a large set of languages or dialects, rooting a tree is generally inappropriate because it assumes a single ancestor for all the languages or dialects being analyzed. However, in reality, the languages or dialects might have multiple ancestors or be related in a more complex way. Moreover, the process of rooting can introduce bias and affect the interpretation of the relationships among the languages or dialects. Therefore, in such cases, an unrooted tree is preferred, which does not assume any specific ancestor and allows for a more flexible interpretation of the relationships among the languages or dialects.

settings and direct the program to give us the consensus tree with a 50% Majority-rule consensus, I get the following result:

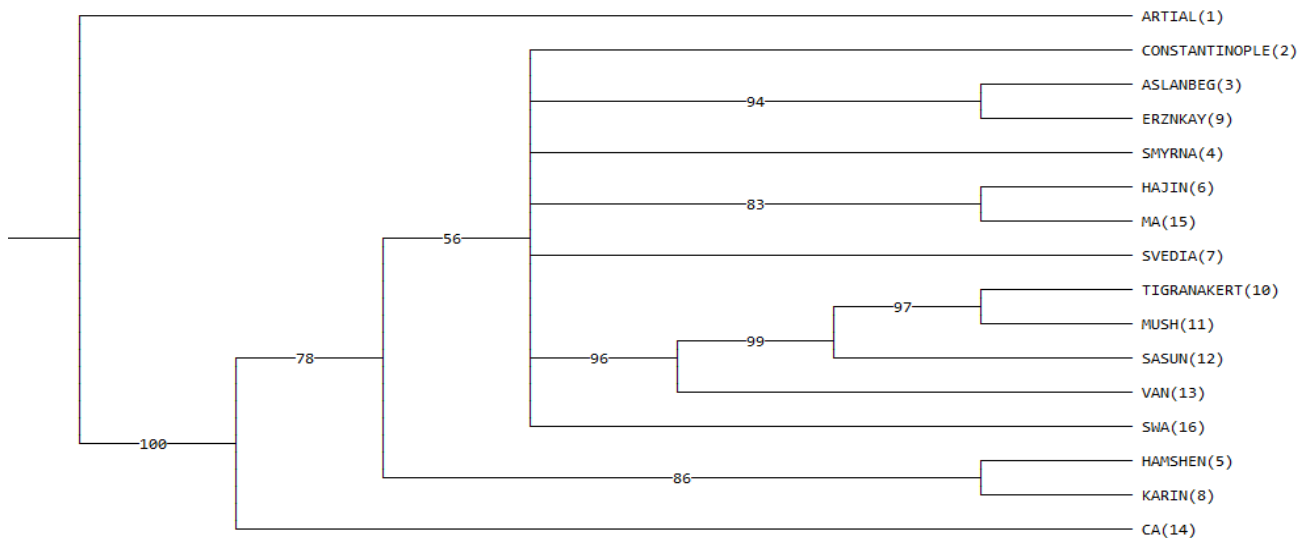


Figure 30: Rooted tree with 50% Majority-rule consensus<sup>408</sup>

The two preliminary trees above consider both retentions and innovations and both are given the same status – notice how CA is the second most outlying taxon, and Artial, which is geographically the most distant, and the most outlying taxon that separates from the rest – if I gave retentions no weight, then the tree would look different (I do precisely this in all trees in Section 6.2.3). The numbers written on each node separation in Figure 30 represent the percentage of times that the groupings of taxa in the two branches descended from that node are found in the consensus trees generated from the data. For example, if the node separating two branches has a value of 56%, it means that 56% of the consensus trees generated from the data support that grouping. Artial is a dialect that developed in Poland starting from the Middle Ages – the trees above show that Artial and CA lack the features that are shared by the dialects in the middle (“lack” can mean *lost* or never had in the first place).

408 From a decision-theoretic standpoint, the 50% majority-rule tree is an effective way to summarize the posterior distribution over trees, allowing readers to use their own level of aversion to questionable groupings by simply looking at the tree and ignoring branches with support lower than their own cutoff. It is also a common practice among systematists and phylogeneticists, with authors often presenting the tree with symbols highlighting the branches that exceed a particular cutoff (Holder et al. 2008). In contrast to strict consensus, it may be of interest to find groups that appear on a certain pre-specified percentage of the rival trees. Thus a group may be preserved in the consensus even if some trees support conflicting groups. Thus, the majority-rule consensus will preserve certain branchings if they are found in 50% (or more, depending on one’s settings). Likewise, it will leave branches unresolved if a majority of generated trees do not force that particular branching. Usually, the threshold for the majority rule is established at 50%, ensuring that the consensus includes all groups identified in more than half of the alternative trees. This criterion is set to prevent potential conflicts in accommodating groups on the same consensus tree. If two groups are present in exactly half of the trees, there may be difficulties in their simultaneous inclusion. When comparing only two trees, the majority-rule and strict methods are essentially the same (Swofford 2017:217).

The tree in Figure 30 is promising (though this may be illusory due to the problematic premise of including shared archaisms), as it has lumped together many of the Asia Minor dialects, split off CA early, and has lumped Hajin (a Cilician dialect) and MA together with their own node, which confirms my and Karst (1901)'s suspicion that the written body of attested writings which we call MA may be, in fact, the progenitor of all or some of the modern Cilician dialects. Van, Sasun, Mush, and Tigranagert also share successive levels of unique nodes, which is expected based on their similarities and geographical proximity. I also suspect that some of the Asia Minor dialects first developed in Cilicia.

When I expanded the set of dialects to include those for which I currently have less data, and include features for which I do not have definitive proof of their presence or absence for each dialect (thus a large number of blank characters), we got a much larger, though more tentative tree at Figure 31. Some of the uncertainties were solved by simply having a larger number of features altogether.

As an interim conclusion, I mention a few striking phenomena that stand out: first, the algorithm attempts to push out poorly attested dialects to the peripheries (e.g. Beylan, Marash-Zeytun, Crimea, etc.) and groups them haphazardly whenever even one or two features are shared – as with Akn, Artial, and Sebastia – in this case, the only aspect which makes sense is that both Akn and Sebastia are spoken in the same general region, but Artial cannot be contained within this hypothetical clade. Much about Artial is indeed known (Hanusz 1886, 1887a, 1887b, 1887c, 1888a, 1888b, 1889, Ačarean 1911, Ačarean 1953, Száva 2020) – the fact that it has absorbed many Eastern European areal features appears to dim our ability to figure out its location on the tree. Interestingly, Djahukyan (1972) in his analysis had found that the most divergent dialects are Agulis (for EA; in a future project, I will expand upon it in particular because it seems to have many features that come from CmA and not CA) and Artial, specifically the Kutý subdialect (for WA).

Secondly, these results appear to be accurate in cases where dialects which are, either by geography or known demographic movements, closely related to each other, since these usually form their own clades (Constantinople and SWA, Aslanbeg and Nikomedia, Kharberd-Dersim and Erzncay, etc.). Thirdly, it is interesting that Khodorjur is shown in the same clade as CA, given how very conservative this dialect is known to be (for example, it is one of two modern dialects to have retained the simplex indicative forms of CA<sup>409</sup>), and that MA and Svedia are grouped closely (but oddly other Cilician dialects are not). Lastly, it is promising that we see Moks, Tigranakert, Van, Sasun, and Ozmi cluster together given the number of shared isoglosses.

There likely was a dialect continuum between Crimea and all Transylvanian (Artial) dialects, given that a document from the 17<sup>th</sup> century, Bodleian Ms Marsh 187, was analyzed by Vaux & Clackson

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409 Assuming it did not develop it, then only to lose it afterwards. Ačarean (1951:338) mentions that monosyllabic verbs receive a *g*-prefix, *gukam* 'I come', *guda* 's/he gives'.



(2022) and was found to have features that would place it as an intermediate between Crimea and the better-documented Artial subdialects of Suceava and Kuti, thus likely from Lviv which had a large historical Armenian population. The more advanced trees in the following two subsections shed additional light on this possibility.

DeLisi also suspected that the close affinity of CA and MA in the tree is a mirage (p.c.). That is probably an artifact of their proximity in time and that the modern dialects have all changed so much in the intervening centuries. She believes that there is some long-tail bias here, which is another limitation in this type of phylogenetic analysis.

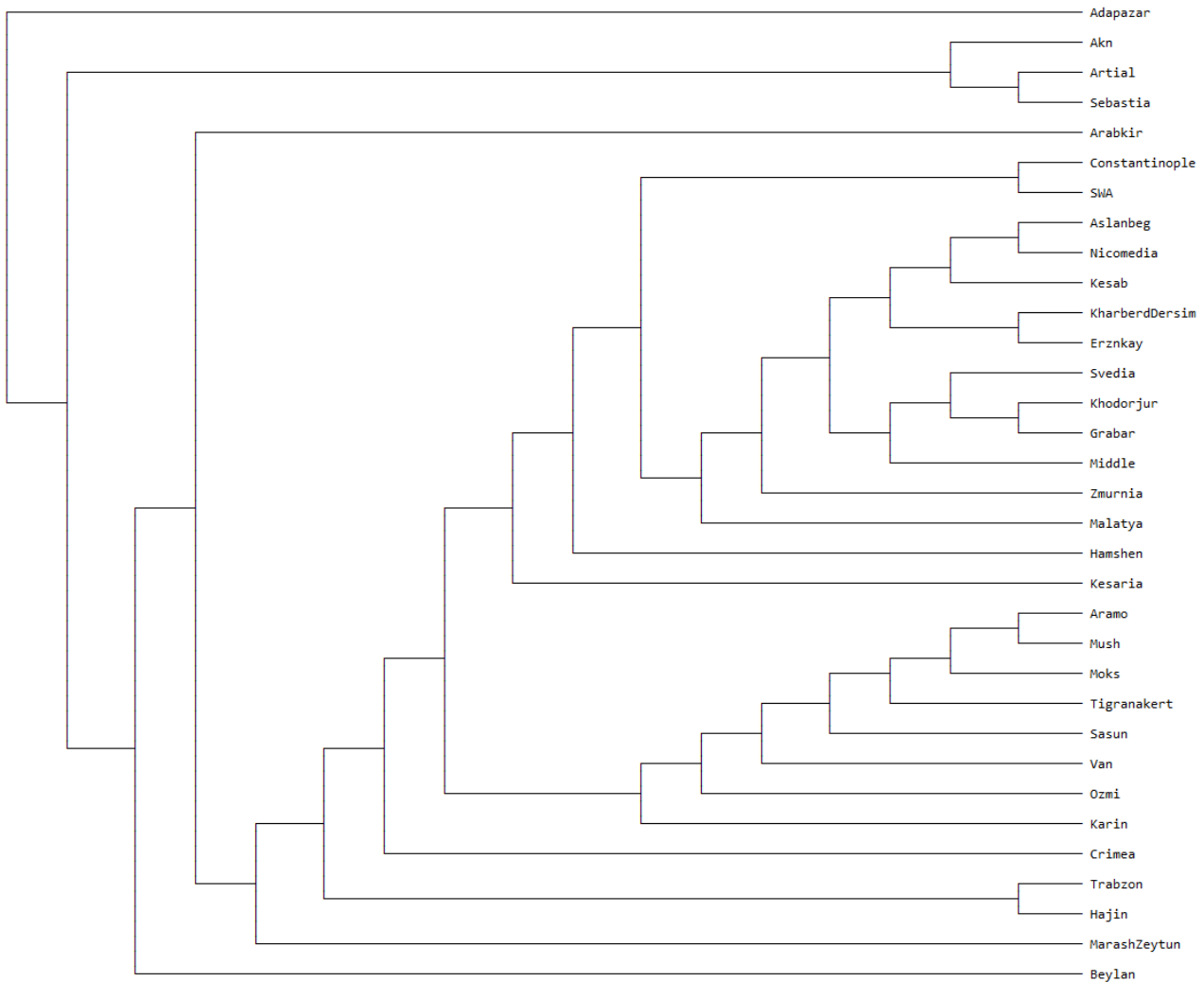


Figure 31: Representative expanded phylogenetic tree including dialects with poor data (unrooted, 33 dialects)

## 6.2.2 Analysis with binary characters

The trees shown in this subsection were generated by treating all 103 features as binary characters in 79 dialects (77 WA (including MA) + Shamakhi + CA) – ‘0’ if this trait is absent, ‘1’ if present, and ‘?’ if it’s unclear or if I have not been able to determine definitively if a dialect has that particular trait. Each character is evenly weighted, since these are all morphological changes. I chose Shamakhi, a divergent EA dialect, as my explicit outgroup to root the trees. I had also used CA and Khoy as my outgroup and the results were not significantly different, so the Shamakhi results are shown below. Note that many dialects have uneven amounts of data collected, thus lessening the confidence we ought to have in placing them anywhere on these trees. This is a breakdown of how much data coverage is included in this project (Shamakhi included as my chosen outgroup):

Data coverage	Dialects
Excellent (over 92% of all features covered)	Adapazar, Akn, Alashkert, Altun-Husein, Amasia, Arabkir, Aramo, Arjesh, Artial (Kuti & Suceava), Aslanbeg, Aygetun, Baberd, Bardizag, Beylan, Constantinople, Crimea, CA (Grabar), Haji-Habibli (Svedia subd.), MA, Moks, Mush, SWA, Xtrbek
Good (65%-92%)	Bitlis, Charsanchag, Chmshgadzak, Darende, Edesia/Urfa, Erznkay, Eudokia, Evereg, Gamakkh, Gelieguzan (Sasun subd.), Gop, Gyumri, Gyurin, Hajin, Halvorig, Hamshen (Mala), Hamshen (Martil), Hamshen (Zefanos), Hazzo, Kesab (Galaduran), Kabusiye, Kharberd-Dersim, Khodorjur, Malatya, Manazkert, Marash, Marzvan, Nicomedia, Nish, Ordu, Ozmi, Prknig, Sebastia, Shabin-Karahisar, <i>Shamakhi</i> , Shatakh, Sivrihisar, Smyrna, Syolyoz, Tigranakert, Tomarza, Trabzon, Van, Vartenis, Xlat, Xnus, Yogh noluk, Zeytun
Poor (15%-65%)	Ayntab, Jerusalem, Sasun, Yozgat-Gamirk
Excluded (< 15%)	Dozens of WA dialects not analyzed in this dissertation (not an exhaustive list): Akhalkalaki, Akhaltskha, Adamxan, Adiyaman, Alikrykh, Aparan, Artske, Avdalaghalu, Basean, Bitias, Chavrik, Dzoragegh, Gölköy, Karnen, Lower Gyuzeldara, Lower Karanlug, Ismayil, Gorgan, New Bayazet, Karaçay, Tsakkar, Upper Gyuzeldara, Chomakhlu, Xuyt, Yeranos, Zaghalu, Zolakhach, Norduz, Hazro, Khian, Siverek, Kiği, Giresun, Gümüştane, Hisn-Mansur, Alexandretta, Kilis, Payas, Stanoz (Yenikent), Munjusun, Balages, Divriği, Pirknik/Dörteylül, Kirkoros/Hasanbaba, Samsun, Sinop, Benli, Geyve, Iznik, Ovacık/Blur, Pazarköy, Yalova, Čaršampa, Malkara, Gherla (Armenierstadt, an Artial subdialect), etc.), Mağaracık, Sochi and Sukhumi (Christian Hamshen subdialects), Menemen, Malkara, Sinob, Tonus/Altınyayla, Cypriot dialects (Paphos, Limassol, Nicosia, Famagusta, Larnaca), Ünye, Poti, Maykop, Stavropol, Nallıhan, Krasnodar, Kerch,

	Berdyansk, Taganrog, Novoscherkassk, Noghaysk/Melitopol, Perekop, Feodosia, Simferopol, Yevpatoriya, Yalta, Alushta, Bakhchysarai, Sevastopol, Bandırma, Mersin, Adana, al-Yacubiyeh, Latakia, Başkale, Norduz, Vostan/Gevaş, Bast, Kağızman, Küçük Şana/Şanlı (Hamshen), Lje, Mush subdialects (Vardadzor/Adamxan, Tsakkar, Dzoragyugh, Martuni/Lower Karanlug, Astghadzor/Alikrykh, Zolakar, Vardenik/Lower Gyuzeldara, Tsovinar), Vardenis/Basargechar (Diadin subd.)
EA dialects (to be left for a future project)	Agulis/Zok, SEA, Old Julfa, New Julfa (Isfahan, Indian, and other subdialects), Artsakh, Tiflis, Aresh-Havarik, Ararat, Yerevan, Maragha, Khoy, Artvin, Salmast, Meghri, Krzen, Bayazet, Mehtishen, Karchevan, Hadrut, Urmia, Syunik, Tavriz, Kanaker, Ashtarak, Č'aharmahali, Etchmiadzin, Koghb, Kamo, Ghalacha/Nigmatun, Astapat, Varhavar, Gudemnis, Tsghna, Haterk, Janyatagh, Harav, Shushikend, Shushi, Kaghartsi, Tumi, Shaghakh/Sarinshen, Bolnis-Khachen, Ghazakh, Tovuz, Shahumyan, Goris, Khanagah, Burdur, Karkanj, Payajuk, Mozdok, Keyvan/Khtsaber, Ghzlar, Livasian, Kyarkyar, Dzmar, Vanadzor, Tavush, Kuris/Kakavaber, Shamshadin/Mehrab, Parpi, Oshakan, Gavar/Nor Bayazet, Haghpat, Borchalu/Shahumian, Bolu, Aragotsotn, Abovyan, Kirovabad/Gandzak, Ödemiş, Kirk-Aghach, Antalya, Denizli, Düzce, Elmalı, Isparta, Nazilli, Zonguldak, Astrakhan, Batumi, Ardanush, Artashat, Iğdır, Nakhichevan, Ghuba, Derbent, Baku, Maku, Mujumbar, Gharadagh, Enzeli, Rasht, Ghazvin, Hamedan, Tehran, Sharavin, Nukhi/Şəki, Dilijan, Gharaghan

Table 76: Dialect by percentage of coverage of features

As we will see several times, Ayntab, Sasun, and Yozgat-Gamirk will chaotically end up in many branches, which is to be expected, though Jerusalem will almost always end up clustering with Constantinople and SWA, likely for several reasons: all three use *gə* and *gor* for the indicative and progressive particle respectively (and these have the same properties, i.e. they are not mobile, they do not inflect, etc.), and more convincingly, both Constantinople<sup>410</sup> and Jerusalem, but not SWA, have the rare innovation of adding a *u-* (also shared by Kesaria) or *i-* prefix for monosyllabic imperatives – due to its rarity (it is only ever found in Tigranakert), the algorithm consistently attempts to group these two close-by.

Below I also replicated the bottom (and most relevant) results of a bootstrap tree, also called a jackknife tree, which uses a resampling method<sup>411</sup>. This tree shows the subgroups that are recovered in

410 Since Constantinople plays such a pivotal role in the Armenian-speaking world, I dedicate quite a few paragraphs specifically to address the issues that Armenian intellectuals and laypeople have often concerned themselves with regarding its dialect.

411 For each iteration of the bootstrap algorithm (called a pseudoreplicate), a surrogate dataset equal in size to the original is produced by resampling the characters of the original dataset with replacement. This results in certain characters being

more than 50% of the replicates, and associates the exact percentage of replicates supporting this subgroup. Lower values are almost entirely useless to the computational cladist (Berwick 2015). The higher this value, the more robust the subgroup, and the more confident one can be in interpreting it. The subgroups that are supported by less than half of the replicates are not represented and appear unresolved on the consensus tree (Hamed & Wang 2006:43). See Appendix C for the settings I used.

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omitted and others overrepresented (Chousou-Polydour & Wauters 2013:10). Also, it is known that too many parsimony-uninformative characters might artificially decrease support (Soltis and Soltis 2003) for the jackknife tree.

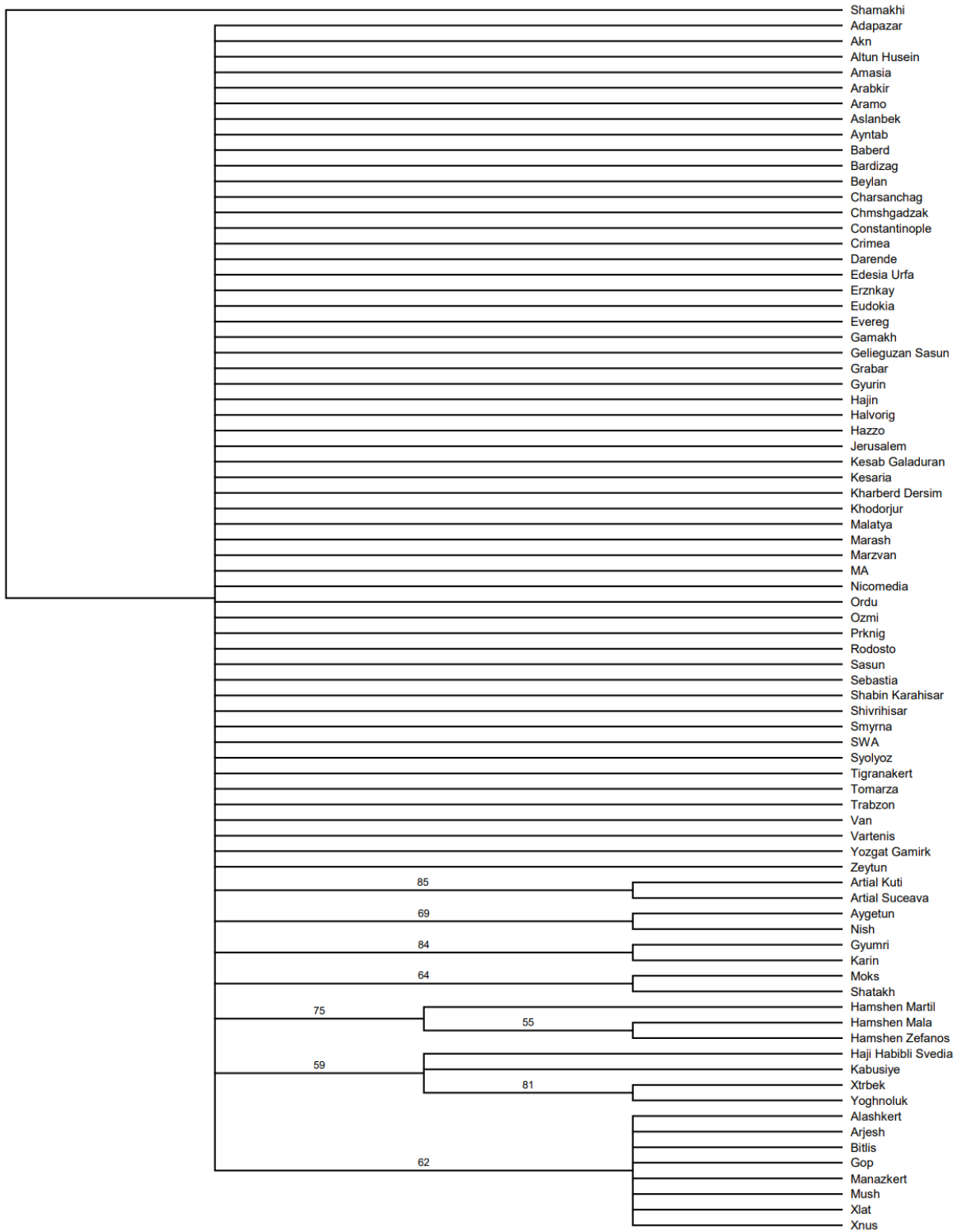


Figure 32: Bootstrap (jackknife) consensus tree

The bootstrap consensus tree (Figure 32), which is unhelpful for a zoomed out view of an entire tree, is nonetheless useful to establish only the most secure sisters (or cousins) as it is the most demanding conservative method – unsurprisingly, we see the two Artial subdialects as sisters, Aygetun and Nish as sisters (they were spoken in villages in the same general area west of Lake Van, and Djahukyan (1972) actually considered them two subdialects of Talvorik-Motkan), Gyumri and Karin as sisters (this makes sense because Gyumri speakers were relocated to modern-day Armenia precisely from Karin, modern-day Erzurum, just two centuries ago), Moks and Shatakh as sisters (both spoken south of Lake Van, and both share unique innovations), the three Hamshen subdialects, with Martil being the slightly more divergent one (this pattern is repeated throughout these trees using many different settings), Haji-Habibli, Kabusiye, Xtrbek, and Yoghnuluk all cluster together closely (all four were found in villages south of Musaler in southern Cilicia just north of the Syrian border), and a larger group comprising of Alashkert, Arjesh, Bitlis, Gop, Manazkert, Mush, Xlat, and Xnus are all culturally and geographically close-by, forming a large circle slightly northwest of Lake Van. The bootstrap method allows us to have a conceptual baseline of dialects we can be sure are very closely-related – as we will see below in Section 6.2.3, the multistate character trees do replicate these aforementioned dialects as sisters or first-degree cousins (for triplets, since most trees do not tolerate anything other than binary branching).

Second, let us see what a semistrict consensus tree will look like (Figure 33). This method corresponds to the “combinable-component” consensus of Bremer (1990) and Hillis (1987, 1991). In phylogeny, the strict and semi-strict consensus are normally the preferred means to summarize results, because each group in the strict (or semi-strict) consensus has an unambiguous interpretation: the group must be present in all (or some) of the input trees, and absent (or contradicted) in none (Goloboff & Pol 2002:518). When there is a conflict for a particular structure below a node, semistrict behaves the same as strict (Swofford 2017:216). Unlike most later trees in this chapter, semistrict trees allow for trinary (or quaternary, etc. hence “polytomy” or “polychotomy”<sup>412</sup>, a node from which more than two branches emerge, indicating uncertainty about the evolutionary relationships) branchings, though they are rare in these particular trees.

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412 Polychotomies are conventionally interpreted as a lack of resolution of the cladogram due to insufficient information about characters, rather than being a representation of a single hypothetical ancestral node that into three or more descendant lineages simultaneously (Kemp 1999:52-66).

There are a number of remarks to make here – CA (Grabar) and Khodorjur virtually always share the same node and split off first, the two Artial subdialects spoken in Transylvania split off second, a large chunk of the tree (Aygetun down till Xnus) represent the Lake Van-area dialects, which genuinely do share many innovations, including many phonological and lexical innovations not examined in this project, then we have the final major node that branches off in two directions – Adapazar down to Tomarza are dialects that seem to have originally formed in Cilicia and then spread out northwestward deeper into Asia Minor, and the other major branch, from Malatya down to the very last dialect on the tree, Kharberd-Dersim, are what we can call the “native” Anatolian/Asia Minor dialects, but without clear clustering of specific regions like the Black Sea.

Unsurprisingly, Baberd and Trabzon are sisters and first-degree cousins to Karin – this conforms to the comments made by Ačarean (1911:112), who said that Baberd and Trabzon are almost the same as Karin. The subdialect Gümüřhane/Kümüřxanē uses the particle *gə*, which suggests an intermediate position between Trabzon and Karin/Erzurum (Martirosyan 2019b:200). Gyumri speakers, we know from historical knowledge, are simply relocated speakers from Erzurum (historically Karin), hence why it is shown as a sister to Karin. Unfortunately, I had insufficient data for two dialects which Ačarean typically groups under Trabzon (indicating that these would be subdialects), namely Giresun and Gümüřhane. Aslanbek and Nicomedia as shown as sisters, which is also expected. Malatya, Ayntab, Erzkay, Akn, and Beylan are found in unexpected nodes.

MA, when anachronistically considered as just another modern dialect, ends up being the outermost member of the southern Cilician dialects (plus Aramo, which has traditionally been classified as a Syrian dialect). This pattern is repeated across many trees. Keeping in mind the historical study of MA in Karst (1901), it is interesting to note that the historical dialect which we call MA clusters with all the southern Cilician dialects, but not the northern ones, which spread outwards, especially northwestward, as the centuries went by.

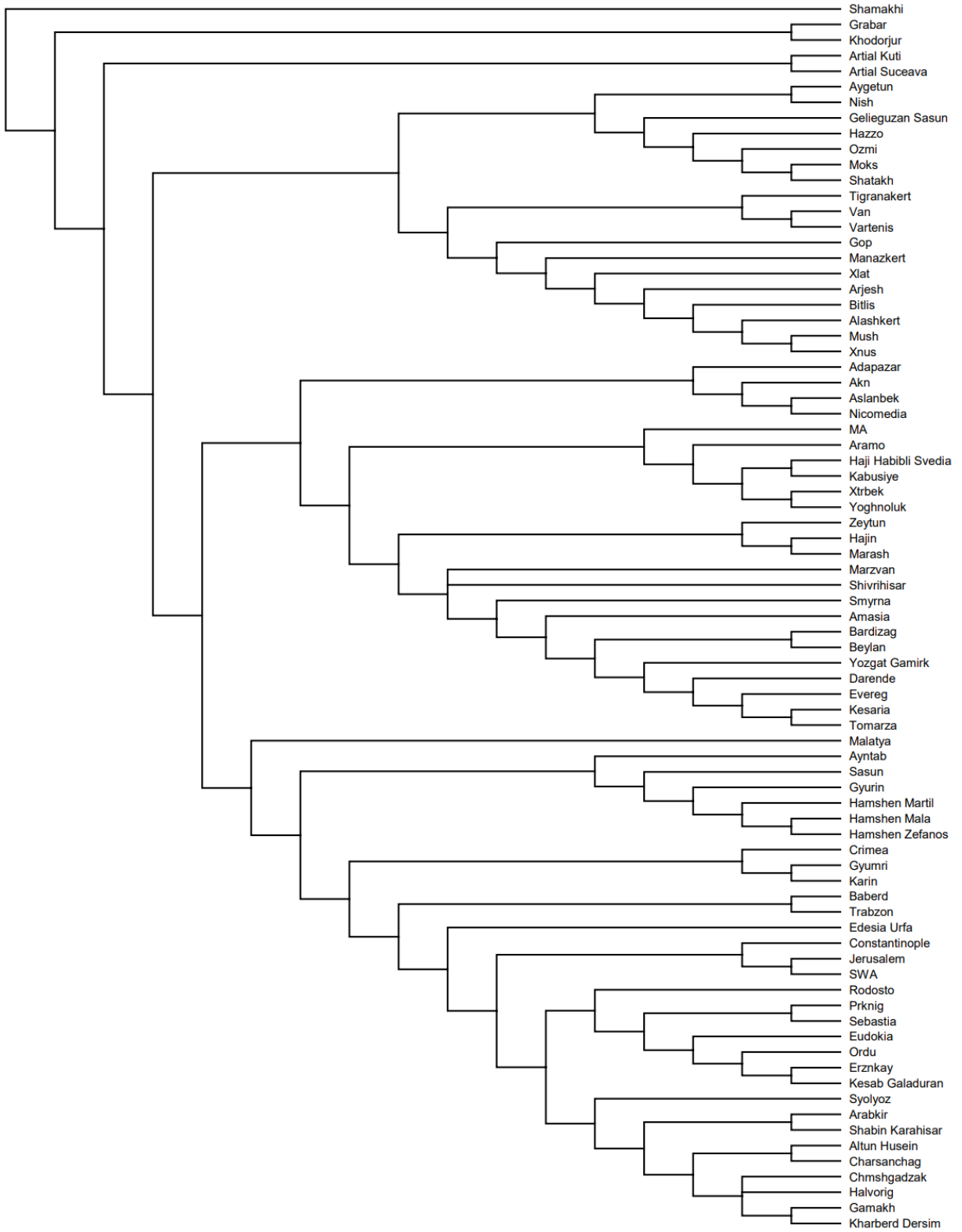


Figure 33: Semi-strict consensus tree



Recall that Djahukyan (1972) classified the Constantinople subgroup (in which he lumped in Constantinople proper, Smyrna, Nikomedia, Bardizag, Rodosto, Ordu, Trabzon, and Adapazar) as being interdialectal among Marzvan-Amasya, Crimea, Gyurin, and Malatya (which according to Ačārean (1911:196), had an intermediate position between Kharberd, Tigranakert and Cilicia). He is unquestionably correct in classifying Constantinople as an interdialect, as it seems to be itself a hodgepodge of various Asia Minor dialects, though let us address the more basic claim about the subgroup's existence itself – Smyrna ends up quite far from it, Nikomedia, which shows up as a close sister to Aslanbek in most trees, also appears not to be close to Constantinople and this difference grows in the multistate trees of Section 6.2.3, Bardizag behaves rather chaotically and never appears to be closely related to Constantinople, Rodosto does behave like a close cousin in all trees, Ordu and Trabzon too to a lesser extent, and finally Adapazar sometimes acts like a cousin, sometimes not. In any case, these eight dialects never form a coherent clade in any of the trees shown in this chapter.

Constantinople was described as the most corrupt dialect among those used by the Armenians of Anatolia and European Turkey by Cirbied (1823:xx-xxi). Given the fairly extensive differences in the lexicon, expressions (locutions), nominal morphology (some plural forms differ, some suffixes exist in Constantinople but not SWA like the 'rather X' suffix *-gag/-geg*, e.g. *glorgeg* 'pretty round' Ačārean 1913:575, see Vaux 2006c) and especially phonology (far fewer diphthongs, different stop reflexes from CmA/PIE, etc.), it is quite probable that Constantinople's distance from SWA would grow if we input data from the entire grammar and not just verbal morphology. Djahukyan (1972)'s analysis placed Rodosto, Smyrna, and Nikomedia, in that order, as the closest dialects to Constantinople. Ačārean (1951:352) mentions that Smyrna is quite close to Constantinople and especially Eudokia, an opinion not reflected in the binary character trees of this section but is well-reflected in many of the multistate character trees such as in Figure 42. Ačārean (1951:355) also opined that Crimea's grammar was similar to that of Constantinople.

Addressing the other interrelationships among Constantinople and the other dialects proposed by Djahukyan, Marzvan-Amasya themselves do not ever show up as sisters (though they come close in Figure 36), which complicates matters, but taken separately, they do not appear to conform to this intermediate position. Crimea, on the other hand, tends to end up as an intermediate cousin to Constantinople<sup>413</sup>, but caution must be exercised as this may be a mirage as the situation changes in multistate character analyses of the following subsection. Ačārean (1925:14-15, 1953:10) and Schütz (1980:133-134) said that Crimea is closest to Eudokia, something we do not see reflected in most trees, and Artial<sup>414</sup>, which is something we do generally see reflected in most trees. Gyurin ends up quite far

413 Martirosyan (2023b), perhaps one of the world's foremost Armenian dialectal lexicographers, believes that the Crimea dialect is close to Constantinople, Rodosto, Nikomedia, and other dialects spoken in northwestern Turkey. Crimea also shares the *-gag/-geg* suffix.

414 The position of Artial and Crimea would likely be more secure, and placed closer together, if I were to expand my data collection to numeral and nominal morphology, as they share several interesting innovations, such as a repurposed ancient locative construction (Ačārean 1953:151) of ordinals Artial and Crimea *ergus-um* 'second', Crimea *žek'-um* (*ž < er-*,

from Constantinople in whichever tree we look at, and lastly, Malatya usually ends up too far from Constantinople for anyone to reasonably consider them closely-related. I suspect that these gaps would become less considerable if one were to include additional data (especially in nominal morphology and lexical items). Akn, often considered to be somewhat close to the SWA or Constantinople dialect in popular imagination (this is perhaps because quite a number of intellectuals such as Atom Yarchanian (pen name Siamanto), Nicol Galanderian, Arpiar Arpiarian, Misak Medzarents, etc., who immigrated to Constantinople were from Akn), is usually shown as a close cousin to nearby northwestern Asia Minor dialects such as Adapazar, Nikomedia, and Aslanbek.

To explain this “leveled out” state that Constantinople (and then to some extent, SWA, though it underwent concerted classicization) is in, I tentatively propose that what we are seeing here is a case of dialect fusion, as networks<sup>415</sup> of dialect speakers from (usually) sufficiently close dialects joined together in a dense urban environment and certain innovations spread through their social networks, the sociolinguistic motivations for which are lost in time. The fact that some of the trees in this section indicate that Constantinople split off early may not only be a mirage but also suggestive that many dialect speakers who immigrated to that city had seen their children shed their dialect-specific innovations to “meld in” with the other speakers within the city. Urban dialects seem to have undergone koineization<sup>416</sup>, at least partly, as they represent a collection of speakers of related dialects that were transported to new locations. It is interesting to note that DeLisi’s phylogenetic tree (Figure 16: Phylogenetic tree of Armenian dialects (DeLisi 2018:123)) also saw Constantinople and Smyrna, another urban dialect, be separated from the rest of the tree immediately (i.e. they form the two outermost taxa).

Kesaria and Evereg are shown as first-degree cousins in Figure 33 and sisters in Figure 34<sup>417</sup> (below) – Ačarean generally regarded Evereg (as well as Munjusun and Balages, two variants for which I had insufficient data) as a subdialect of Kesaria, while he considers Kesaria itself one member of the Arabkir group of dialects, which is not reflected in Figure 34. Let us remind ourselves that Djahukyan (1972) grouped Bitlis, Xlat, Artske (not examined here), Arjesh, Manazkert, Mush proper, Gop (Bulanəx), Xnus, and Alashkert, as subdialects of Mush, which is precisely what we see here in either Figure 33 or 34.

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cf. CA *erekʻ* ‘third’, Artial *irekʻ-um*, etc. Martirosyan (2019b:195) reports that such as Khodorjur and Jugha also have a similar construction (Kostandyan 1985:57), and that southeastern peripheral dialects one finds a combination of *-(u)m* and the ordinal suffix of Turkish origin *-i/ənjɪ*: Meghri *erkum-ənjɪ* ‘second’, *irikʻ-m-injɪ* ‘third’, etc. (Ałayan 1954:178); Gharadagh *ərku-m-injɪ* ‘second’, *irkʻ-m-injɪ* ‘third’ (Hovsepʻyan 2009, 2:539).

415 One of the key differences is that wave-like developments emphasize propagation of changes in a relatively uniform direction, while network-like developments focus on interaction and mutual influence among languages or dialects.

416 See Ross (1997:238) for historical examples.

417 See Appendix C for settings.

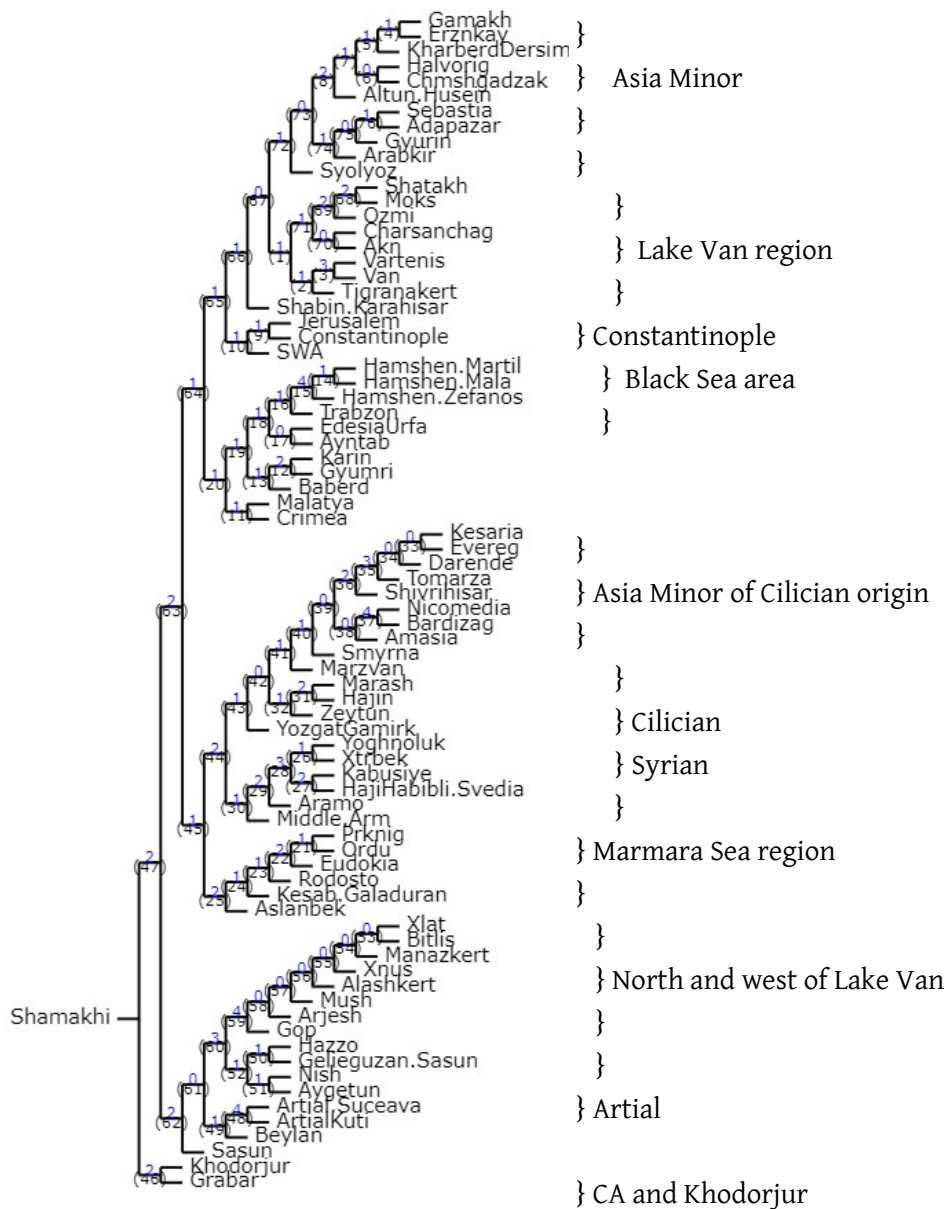


Figure 34: A simple binary-character tree using different settings

The position of the Hamshenic dialects (Hamshen subdialects and Edesia/Urfa) reminds one of Djahukyan’s curious classification of Hamshenic as an “inter-dialect group” with transitional features for Syrian, Cilician, and Asia Minor dialect groups – though we see most Cilician and Syrian dialects elsewhere in Figure 34, we do see Ayntab, otherwise a poorly attested dialect in this project that seems to jump around across these trees, grouping together under the same major node (18). Ačařean (1911:112) stated that Kars and Trabzon dialects were “almost the same as Karin”, generally in agreement with this tree (see Vaux 2000b, 2001b, 2007, 2012b, and n.d. for discussion). This tree above is

perhaps the best representation of those favoring an Edesia origin for the Hamshen group and a Black Sea-specific set of features (Trabzon is a first-degree cousin to Hamshen here, but not in most other trees).

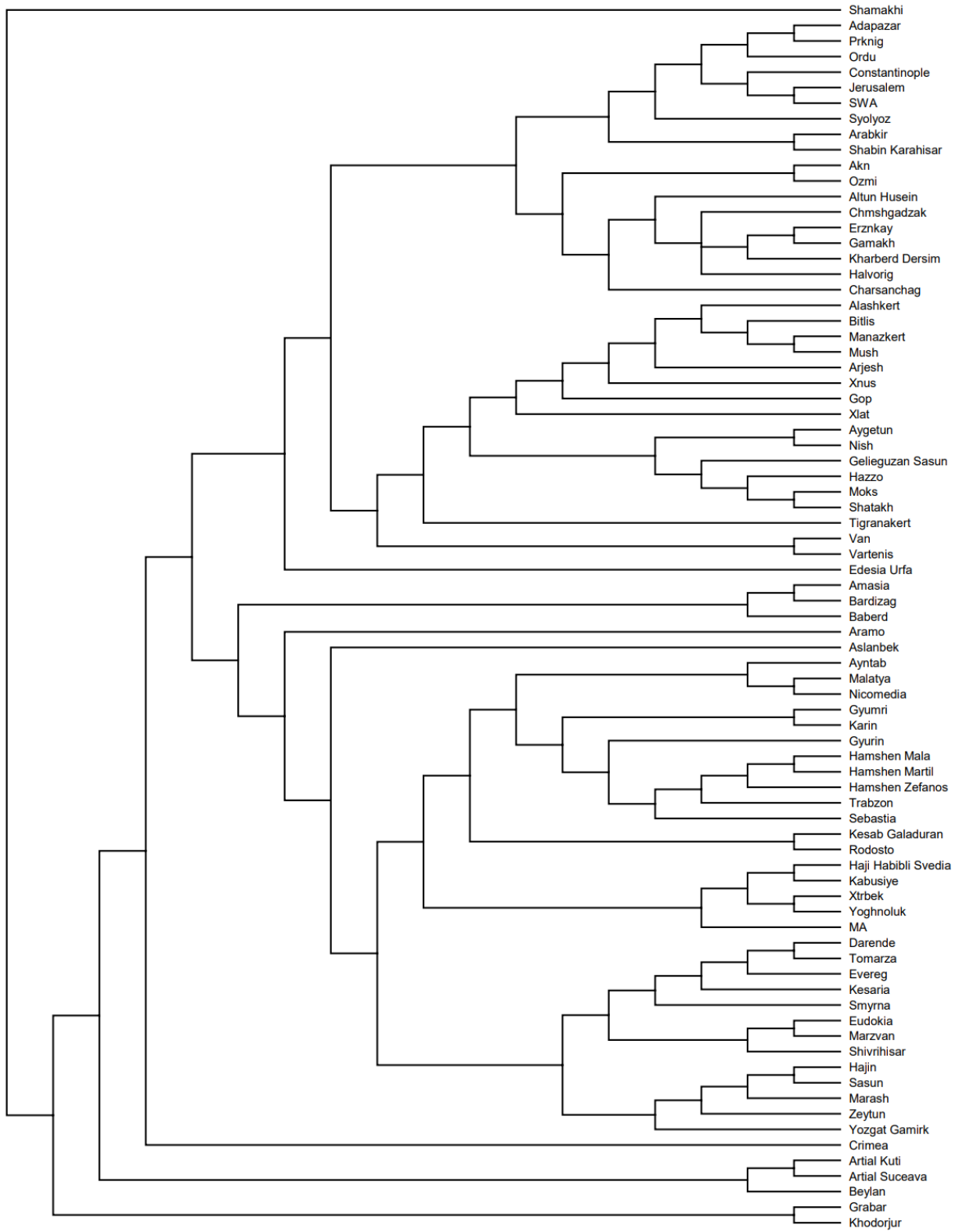


Figure 35: Adams consensus tree

Once again, Kesaria and Evereg share a node (although in the Adams consensus tree, they are first-degree cousins as opposed to sisters). Recall that Ačařean (1911:215-221) places Darende, Gyurin, Kesaria (with sub-variants Evereg, Munjusun and Balages) and Divriđi as dialects of Arabkir – this is certainly not represented in the Adams consensus tree, as Arabkir is shown to be a sister to Shabin-Karahisar, Gyurin is shown as belonging to the Black Sea cluster, and Darende, Evereg, and Tomarza (mentioned by Ačařean 1911 in passing but he does not cover this dialect), and Kesaria all share a node, unsurprisingly. I could not accumulate enough data for Munjusun, Balages, and Divriđi to say anything useful about them.

A few comments on Yozgat-Gamirk: there are presumably very minor differences between the two, but I had insufficient data to differentiate them, therefore they have been lumped together. Yozgat-Gamirk suffers from a similar issue as other mediocely or poorly attested dialects – it tends to jump around a lot.

Akn and Ozmi are shown as sisters, but this is unlikely to be true. The algorithm may have been fooled due to these two sharing several identical but likely independent innovations such as having the *bidi* future marker becoming *di/ti*, the theme vowels for the first and second conjugation collapsing, having a progressive tense, etc. Though they do share two rare changes – the *-man* past participle ending and having the resultative participles in *-uk* (instead of the expected *-adz*).

Heuristic searches generally provide the fastest way to find optimal trees, but the results, being approximate, will likely depend on the way in which the search is conducted (what settings are being used). Heuristic methods tend to find only a subset of the optimal trees for a given data set and a given set of search parameters, and there is no generally recognized combination of settings which can provide the “best results” for all data sets (Swofford 2017:171). After much tinkering with settings, the best heuristic tree for the binary character dataset is the following:

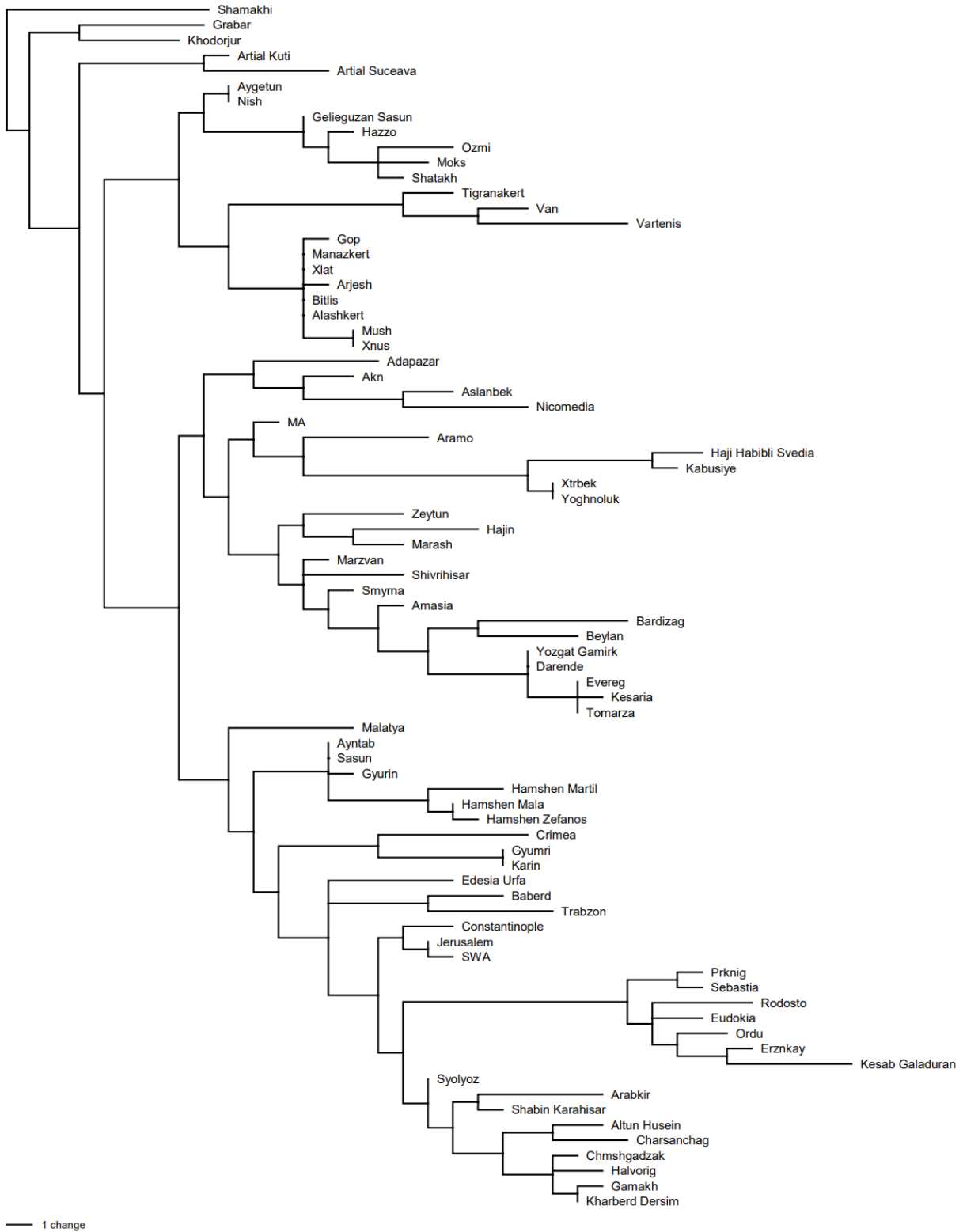


Figure 36: Best heuristic tree; note the differing branch lengths, which represent the number of changes from each node

From within the Antioch-Cilician cluster (which also contains several dialects from Asia Minor likely settled wholly or partly by Cilician populations), MA breaks off first, which is desirable. What changes significantly between my binary and multistate analyses is the location of the northern Cilician dialects – here in Figure 36, the Hajin, Zeytun, and Marash cluster is nestled in the middle of this larger “pan-Cilician” branch, and Beylan is further embedded in a cousin branch, whereas in the multistate analyses below, Hajin is typically broken up from its presumed sisters and generally all four do not cluster with many of the other southwestern (Syrio-Cilician) dialects, though Zeytun, Marash, and Beylan do line up as successively peeled off branches of the same trunk (see the bottom of the top major cluster in Figure 36).

### 6.2.3 Analysis with multistate characters

In this section, all trees were generated using multistate characters<sup>418</sup> – the first thing that sticks out is the very long branches compared to the previous section. In phylogenetics, there are well-known factors that can increase the chances of having a “long branch attraction”<sup>419</sup>. In linguistics, this phenomenon has rarely been discussed (Chousou-Polydouri & Wauters 2013, Kassian 2017, Kassian et al. 2021). Some linguists recommend removing one or more members from the dataset (from the ones that show up close to the end of a long, protruding branch) and then reconstructing a new tree – if it can be found that the overall structure of the tree does not change much, then the tree could be deemed to have not been affected by long branch attraction (see Gao 2020 for this particular problem of Lhoba in a cladistic tree of Tibeto-Burmese).

A linguistic analog to the quickly-evolving mutation factor in long branch attraction is when a particular feature switches on and off (appears and disappears) multiple times within a dialect. Another factor that can cause long branch attraction is independent homoplasy (parallel or backward development) when distant taxa are analyzed (Kassian 2017). Considering how quickly some changes can appear, such as the relatively recent changes in the progressive particle *ənə* in the Arabkir dialect as shown in Table 51, and the numerous *recorded* (by linguists who noticed these changes in the late 19<sup>th</sup>

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418 Instead of the original 103 features, these are collapsed into 60, and some of these characters may have as many as 26 different states.

419 Though sequence comparisons can accurately represent relationships between different lineages of organisms, there are potential sources of error, as demonstrated by early sequence comparisons that placed nematodes outside of protostomes, suggesting a more primitive lineage (Aguinaldo et al. 1997). This misplacement occurred due to a higher-than-normal mutation rate and fixation of mutations in the nematode lineage, making it appear older than it actually is. This is where the long branch attraction rears its head: when random changes produce similarities with distantly related groups, it contributes to inaccuracies; other factors are small organism size, high speciation rates, increased metabolic rates leading to higher mutation rates, and adaptations to a parasitic lifestyle further increases the chance of this bias. To ensure reliability, analysts have been warned to exercise caution and consider various representatives from different lineages.



and 20<sup>th</sup> centuries) changes in the selection of progressive and conditional particles in certain dialects, it must be taken as a true that such changes would have occurred repeatedly during the course of the centuries, without any attested record of such changes having taken place.

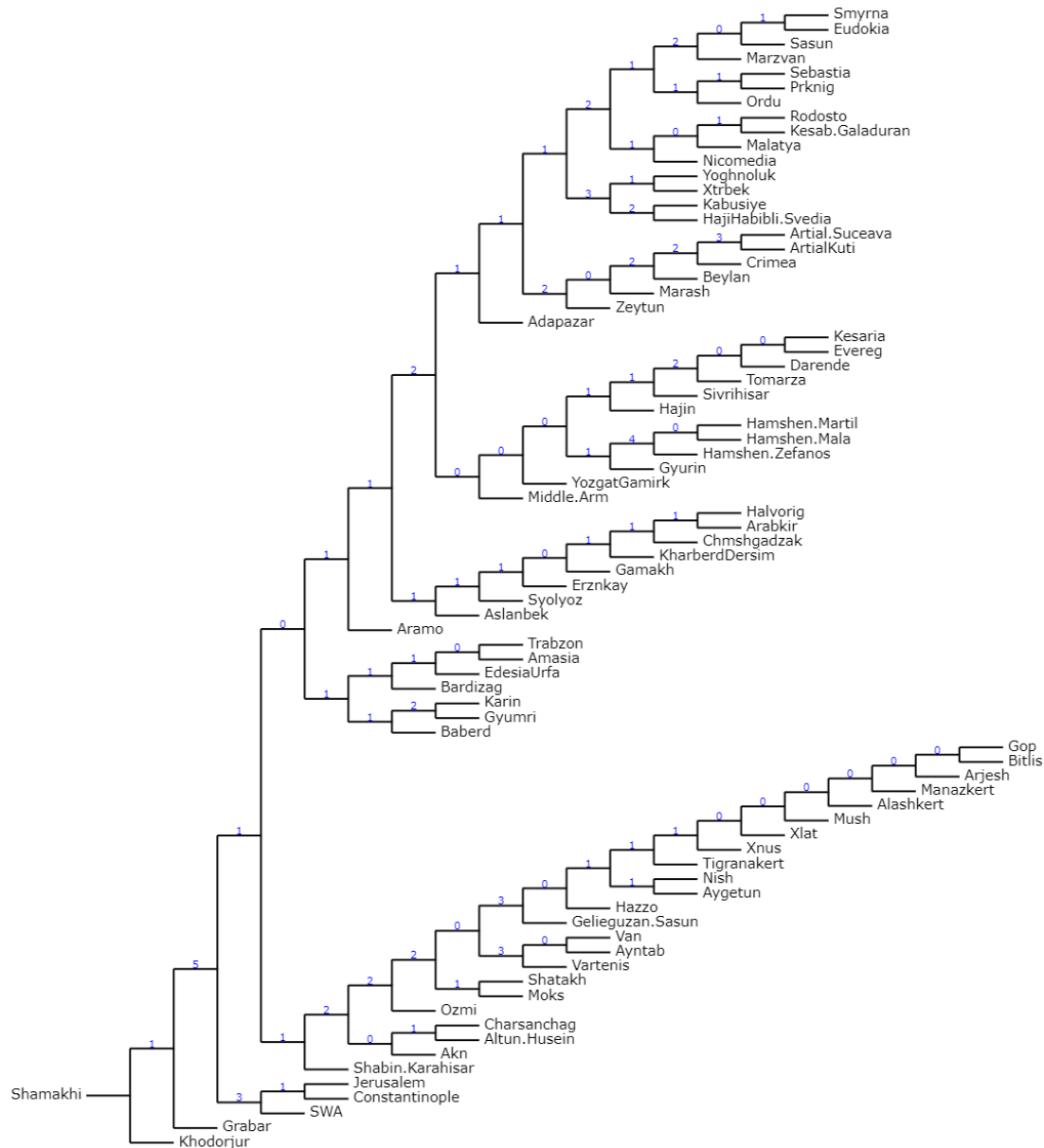


Figure 37: Optimal multistate character edge-enforcing tree<sup>420</sup>

420 The blue numbers above the edges are the number of characters (morphological features) that support a given edge. All of my multistate character trees use these blue numbers. Because I have so many trees that are deemed equally felicitous by the algorithm, these numbers will not match in all trees.

A reoccurring problem is Marzvan and Amasia consistently appearing very far away from each other. According to most sources in the literature, they are supposed to be closely-related dialects; Ačarean (1911) even classifies them as two subdialects of Eudokia. They both share many important innovations, though since I have significantly more data coverage for Amasia, which may be why the algorithm may be overemphasizing these three differences which exist between them<sup>421</sup>: presence but difference use of the particle *ga* (it is strictly indicative in Amasia but marks the progressive in Marzvan), *e*-theme and *a*-theme aorist verbs in the first person plural ending in *-c'ank'* which Marzvan does and Amasia does not, and Marzvan loses the first syllable of *bidi*. Amasia also has a unique innovation seen nowhere else but in Č'aršampa (also known under Çarşamba or Themiscyra, within a day's walking distance from Samsun on the Black Sea; I have no usable data for this dialect) – 3SG in the present indicative ends in *-v*, e.g. *kard-a-v* 's/he reads' (T'umanean 1930:16, 92, Ačarean 1951:351).

Djahukyan's determination that Sivrihisar represents a transitional dialect between Crimea and Gyurin appears to be loosely reflected in these multistate character trees, though their strict binary branching visually may confuse the viewer. His categorizing of Syolyoz as transitional between Gyurin (treated by Ačarean (1911:225) as a subdialect of Sebastia) and Kharberd-Erznkay subgroup is also correct according to both Figure 37 and 38. His identification of the Hamshenic group as being situated in the middle of a much larger set of Syrian, Cilician, and Asian Minor dialect groups is largely correct, though what is not clearly borne out by the results in these trees is his consideration of the Transylvanian dialects as being intermediate between the Asia Minor and Mush-Tigranakert groups. Inside the Cilician group, Yoghnluk and Xtrbek show up as sisters, which is expected, and Kabusiye and Haji-Habibli show up as sisters to each other and first-degree cousins with the former two, which is unsurprising.

A note about Sasun – Ačarean (1911:116ff) grouped Sasun under Mush, though as Martirosyan (2019b:212) describes, this view cannot be maintained, as the two have important differences and must be treated separately (Petoyan 1954:27-30). Djahukyan (1972:134) distinguished two Sasun subdialects (Gelieguzan and Hazzo) from Talvorik/Motkan (Nish and Aygetun), and these two from the larger Mush grouping. I took the more prudent approach and treated them (and any other pair or triplet traditionally considered as essentially the same dialect) separately.

The Kharberd-Erznkay group, notwithstanding its strong Asia Minor character, is very well-behaved in most of these trees – Djahukyan considered this group to contain seven distinct subdialects (Kharberd, Erznka, Gamakh, Chmshgadzak, Altun-Husein, Ismayil<sup>422</sup>, and Halvorig), whereas Ačarean, who was working with fewer dialects altogether, grouped Kharberd-Erznkay as the main dialect, and with Charsanchag, Dersim<sup>423</sup>, and Kiğı (not studied in this project) as subdialects. Except Charsanchag and Altun-Husein, who are seen as sisters by the model on a node fairly far removed from the rest, we

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421 I have accumulated 20 more features (multistate) for Amasia than I have for Marzvan.

422 I had insufficient data to include it as part of the examined dialects.

see Erznkay, Gamakh, Kharberd-Dersim, Chmshgadzak, and Halvorig cleanly clustered. This sort of clear delineation compared the rest of the Asia Minor dialects should perhaps not be so unexpected, given that these particular dialects are found at the western edge of the historical territory of Armenia – when we venture more westward (not northwestward, in Armenia Minor territory, which always had significant percentages of Armenians) into Asia Minor, we see a much more wavelike pattern of dialects – Sebastia, Prknig, Gyurin, Yozgat-Gamirk, Stanoz, Sivrihisar, Eudokia, Marzvan, Amasia, and especially the towns, villages, and cities surrounding Constantinople and on the Aegean (Smyrna, Menemen) and Marmaran coast (Malkara, Rodosto, Bandırma, etc.). Sebastia and Prknig, though usually shown as sisters which they very well could be, jump around a considerable amount in these trees.

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423 Dersim, at least for its verbal morphology, did not appear to have any differences from Kharberd, hence why I combined them. Erznkay did have a few differences.

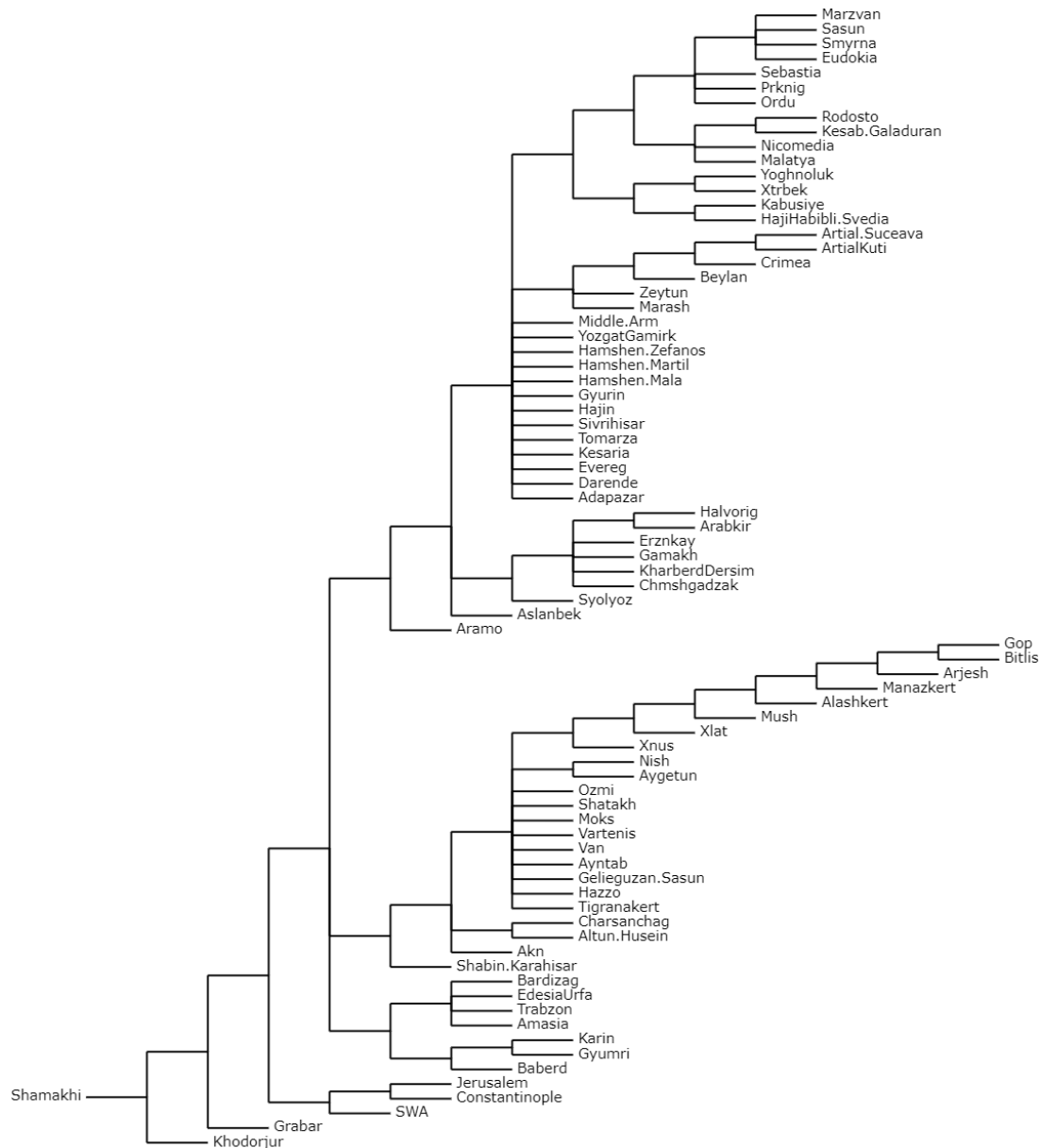


Figure 38: Strict consensus tree<sup>424</sup> with multistate characters

One major advantage of this multistate strict consensus tree is the partial elimination of the long-branch attraction, and may make certain relationship visualizations easier. Some possible artifacts or wrong leads to mention are that Rodosto is likely not a sister to Kesab, the Marzvan and Amasia issues remain, and Edesia/Urfa are now shown as belonging to entirely different clades than the Hamshen group. The southern Cilician dialects, however, do end up clustering together as expected.

424 Strict consensus trees include only the groups that are present in every alternative tree. This approach is deemed the most conservative method for estimating consensus and is straightforward in its interpretation (Swofford 2017:215-216).

SWA climbing upwards in the tree is not surprising (thereby appearing more archaic), given that it artificially has purged many of the changes that would have otherwise been shared with most other dialects, at least the Asia Minor ones and possibly the descendants of MA. Ross (1997:236-240) explains that koineization is a levelling process, but its motivation seems to be almost the opposite of one typically sees (adopting emblematic or salient features of nearby lects with which one wants to identify) – namely, the avoidance of emblematic features.

As suspected and stated by numerous Armenologists, the Mush<sup>425</sup> and Tigranakert<sup>426</sup> groups share a close affinity. Furthermore, the fact that Xnus, Xlat, Mush, Alashkert, Manazkert, Arjesh, Bitlis, and Gop once again share a clade and yet remain reliably differentiated with typically just a single difference among each of them, is a good sign that the trees presented here are in agreement with traditional scholarship. Djahukyan (1972) also considered the Van group (Moks, Ozmi, Shatakh, Vartenis, Van, and presumably Norduz<sup>427</sup> which was removed due to insufficient data) as having a somewhat close relationship with the rest of the Mush-Tigranakert dialects, and this is borne out here in either the semistrict consensus tree or optimal tree, where I see precisely what I would expect – that the Van-area dialects ought to occupy a higher node than the rest of the Mush-Tigranakert dialects. According to some scholars (Āaribyan 1953:93-95; Hovsep'yan 1966), Ozmi should be treated as a distinct dialect, whilst Djahukyan (1972:135) groups it together with Van – since I intend on having maximally detailed trees, I am treating them separately. Vartenis (Diadin) was treated as a subdialect of Van by Ača'ean (1911:140-146, 1951:339), but all other scholars (Āaribyan 1953:91-92, Djahukyan 1972:135, Xač'atryan 2004, Katvalyan 2012) treat it as a separate dialect. In the vast majority of all trees, Van is shown as a sister to Vartenis, or barring that, a first-degree cousin.

Muradyan (1982<sup>428</sup>) discusses 72 phonological and morphological isoglosses between Urban Moks, Rural Moks, Ozmi, Shatakh, and Van and concludes that Rural Moks has the closest relationship with Urban Moks and furthest to Van, and Shatakh takes an intermediate position between Rural Moks and Van. I had insufficient data to distinguish between Rural Moks and Urban Moks. In many of the trees in this section, we see Van and Vartenis as closest, then Shatakh and Moks which are usually sisters, then Ozmi as being slighter farther, so slightly different from what Muradyan concluded.

For the *-er* pluperfect participle ending (see Figure 39), which generally acquires an evidential flavor in many Asia Minor dialects, appears to be ancestral to all WA dialects, with the possible

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425 Unfortunately, here I have only included Alashkert, Arjesh, Bitlis, Gop, Manazkert, Mush proper, Sasun, Xlat, and Xnus due to a lack of suitable data in the other recognizable subdialects; a complete analysis would also have to include Adamxan, Adyaman, Alikrykh, Aparan, Artske, Avdalaghalu, Dzoragegh, Gölköy, Karnen, Lower Gyuzeldara, Lower Karanlug, New Bayazet, Tsakkar, Upper Gyuzeldara, Xuyt, Yeranos, Zaghalu, and Zolakhach.

426 Other than Tigranakert proper, I have included Edesia/Urfa and Hazzo; I am missing sufficient data for Hazro, Khian, and Siverek. Edesia does seem more divergent than the rest though.

427 Ača'ean (1911:155) also considered Norduz as a subdialect of Van.

428 Muradyan M. H., not Muradyan H. D. in my references, of the same year of publication.

exception of Khodorjur. It is highly likely that the East European dialects (Crimea, and the Transylvanian Artil subdialects) and the Martil subdialect of Hamshen once had the *-er* pluperfect participle and later lost it. **Excluding the traditional insistence on the formation of the present indicative (preverbal particle vs. present participle), this feature may in fact be *the* clade-defining (verbal) morphological feature separating WA and EA dialects.**

The outgroup Shamakhi obviously would not have this feature, and CA (shown as “Grabar” in all trees) did not have it, but the fact that Khodorjur does not have it may call into question whether this is actually a Western dialect at all, and is thus a true intermediate (not EA, nor WA) dialect belonging to a third uppermost-level branch<sup>429</sup>, descendant of either CA or CmA. Interestingly, the multistate character trees have made Khodorjur separate before CA as opposed to being a close sister with CA that shares a node with it on a branch that separates first (see, for example, either Figures 37 or 38), possibly suggesting that the speakers that would later form the Khodorjur dialect split off from CA before CA was written – thus roughly matching Vaux’s theory, though he never specified which dialect(s) could be a part of this proposed phenomenon, only that some features found in modern dialects could trace their origins to before CA was first written down.

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429 By this, I mean that all Armenian dialects would thus have to be categorized as WA, EA, or a third branch, Khodorjur, which would stand on its own as the sole member.

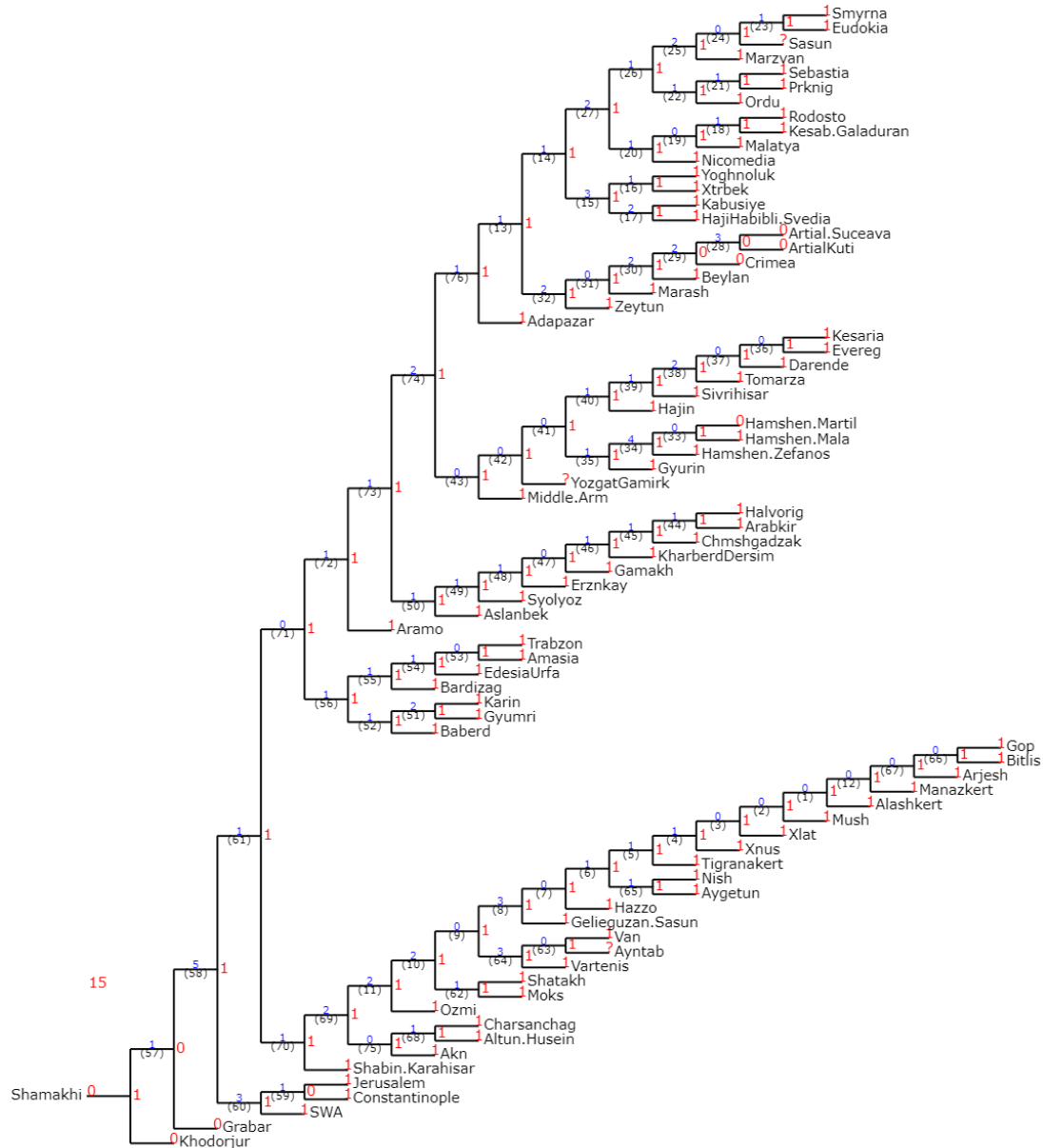


Figure 39: Tree highlighting whether or not the participial pluperfect in *-er* is clade-defining<sup>430</sup>

The spread of *u*-theme verbs does not seem to be clade-defining (in Figure 40, “1” means that the *u*-theme did spread to other verbs, “2” means that it only did so for causatives, “0” means that there has been no spread of this theme), unless we can provide and then prove an elaborate story about how it was innovated, then lost in some branches, then innovated again. The likelier explanation is that it’s a fairly common innovation, that independently occurred in multiple unrelated branches (though

430 The black numbers in parentheses below edges are edge identifiers, used for further analysis to know which characters enforce which nodes; the blue numbers above the edges are the number of characters that support a given edge; the red numbers represent the character state for a particular feature.

still unexpected given that the *u*-theme was historically a restricted set, and either still is in most dialects or disappeared altogether, leaving this haphazard-looking pattern).

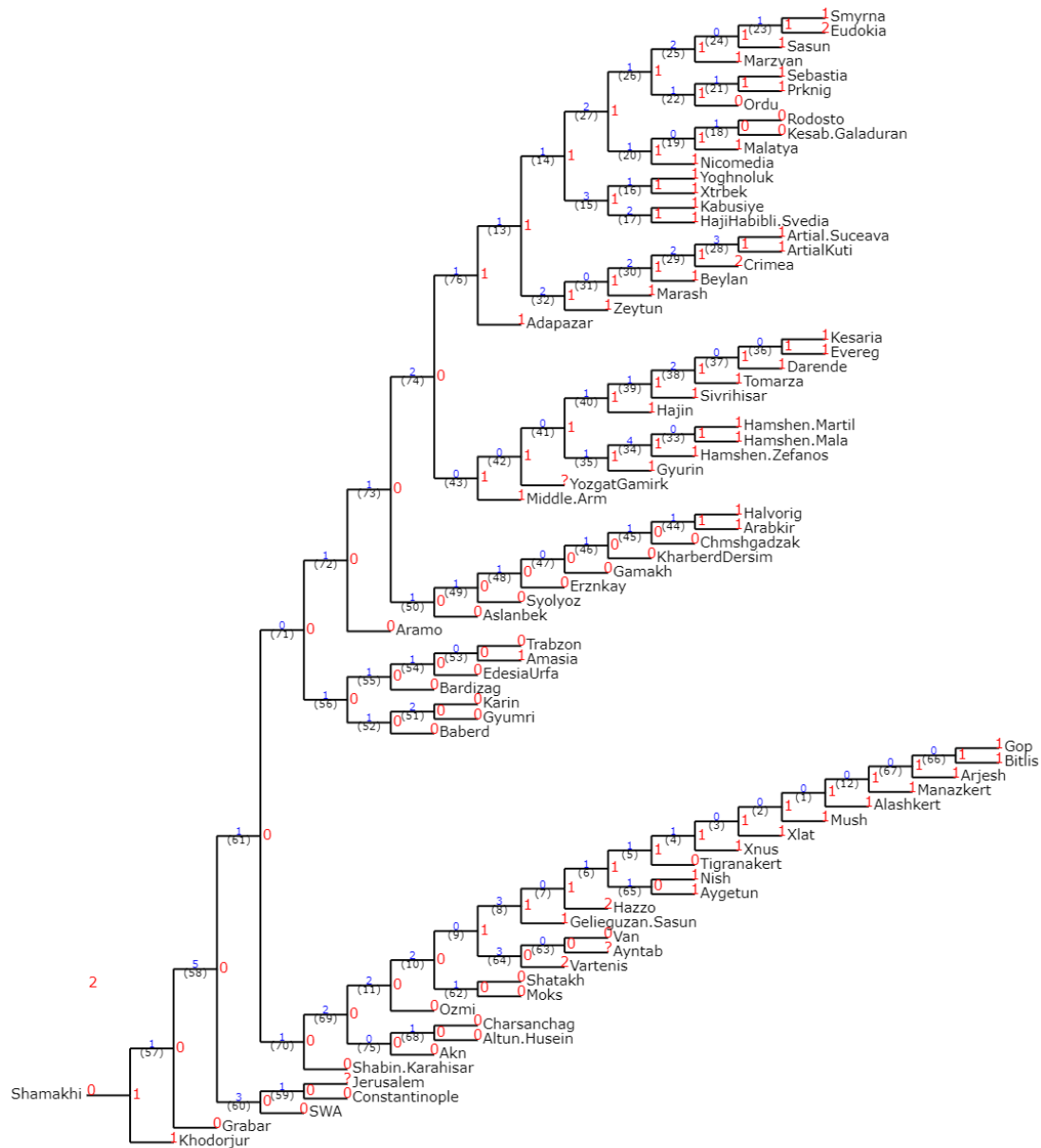


Figure 40: Tree highlighting whether or not the spread of the *u*-theme is clade-defining

The form of the preverbal particle, whether it functions as indicative or progressive, shown in Figure 41, is not clade-defining either, but has some explanatory power. “0” represents an absence, “1” represents a velar of some type, “2” represents *ha(y)*, and “3” represents having both types. Contrast this with Figure 42, which shows that the form of velar-based particle has some usefulness (“0” = no velar-based particle, “1” = *ga/ka*; “2” = *gi*; “3” = *ga/ka*; “4” = having both “1” and “3”).





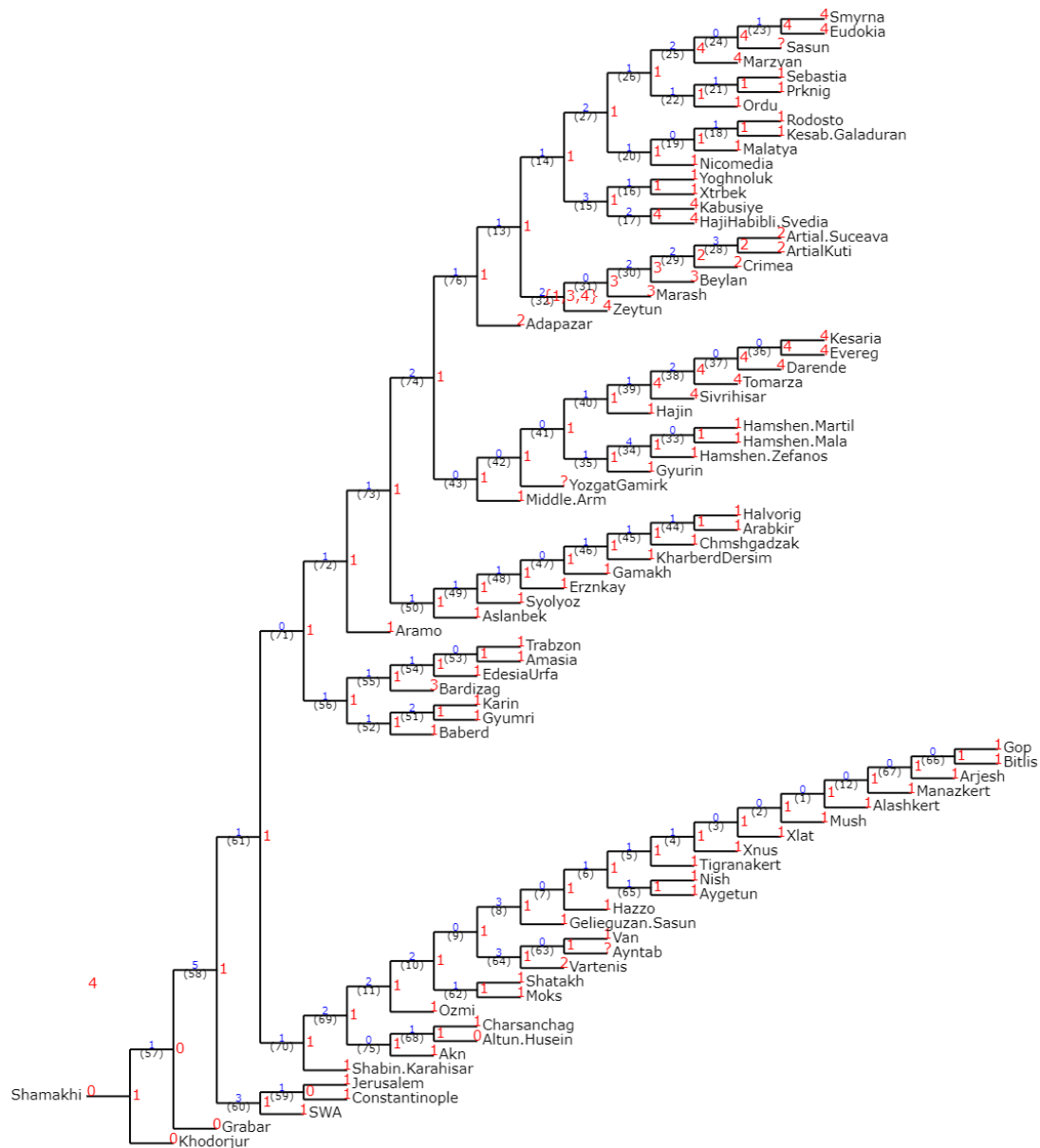


Figure 42: Tree highlighting whether the form of the velar particle is clade-defining

The form of the progressive particle in Figure 43 is not clade-defining. It contains up to 26 possible states<sup>431</sup>. The fact that rare combinations show up in very different parts of the tree may lead one to believe at least one of three contradictory explanations: first, that these are incredibly unlikely chance occurrences that have independently arisen; second, that the tree is missing some fundamental trait not found in verbal morphology which would otherwise prove that these seemingly different

431 0 = absence; 1 = *ha* (*aha*, *hana*); 2 = *hay*; 3 = *hayē*; 4 = *haykak*; 5 = 1+3; 6 = 1+2+4; 7 = *a*; 8 = *e/æ*; 9 = *ēr*; 10 = *uni/kuni*; 11 = *yor*; 12 = *tar*, *dar*, *dē*; 13 = *na*, *nē*, *nā*, *nə*; 14 = *ə/ənə*; 15 = *əngə*; 16 = *ge*; 17 = *geu/gēu*; 18 = *ōr*; 19 = 7+1; 20 = 5+10; 21 = 9+12+14; 22 = 9+15+16; 23 = 5+18; 24 = 5+13; 25 = 18+1; 26 = 19+9.

dialects (for example, Smyrna, Halvorig, Edesia, and Gamakh) are closer than what is shown here; and third, these are examples of cross-dialectal contamination, so the algorithm has done its job by not clumping them together as though they had an especially close genetic relationship with each other.

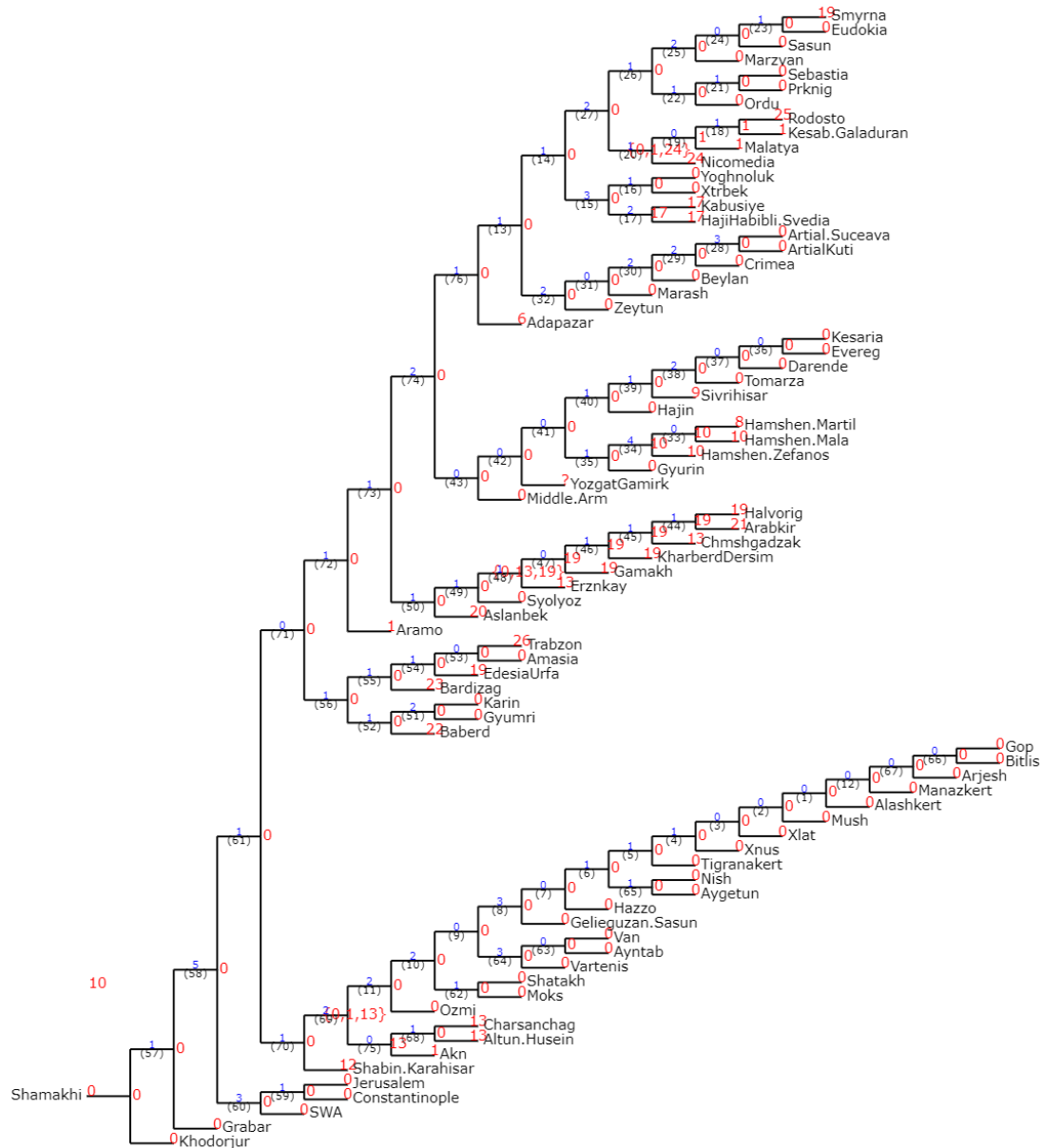


Figure 43: Tree highlighting whether the form of the progressive particle is clade-defining

The conditional marker does have some clade-defining ability; here in Figure 44, “0” means that it has no overt conditional mood/tense morphology, “1” means that the dialect has a *ne*, *na*, *na*, or other biphonemic *n*-based conditional enclitic particle (ignoring vowel harmony effects), “2” means that it uses the *t’ok*/*t’ok* particle as a conditional marker, “3” means that it uses or repurposes a special

form of the velar-based otherwise indicative particle as a conditional marker, and “4” means that it uses both *ne*, *na*, *na*, etc. and the *t'ok*/*t'ak* particles. Note how this particular tree places Akn, which is clearly an Asia Minor dialect and has the expected *ne* conditional marker, far down on the lower half of the tree, as a cousin to both the Mush-Tigranakert and Van groups. And note how the cladistic software singled out most Asia Minor dialects which have either lost or never acquired the *ne* marker (Baberd, Gyumri, Karin, Bardizag, Edesia, Amasia, and Trabzon) and placed them as fairly distant cousins to the rest of Asia Minor.

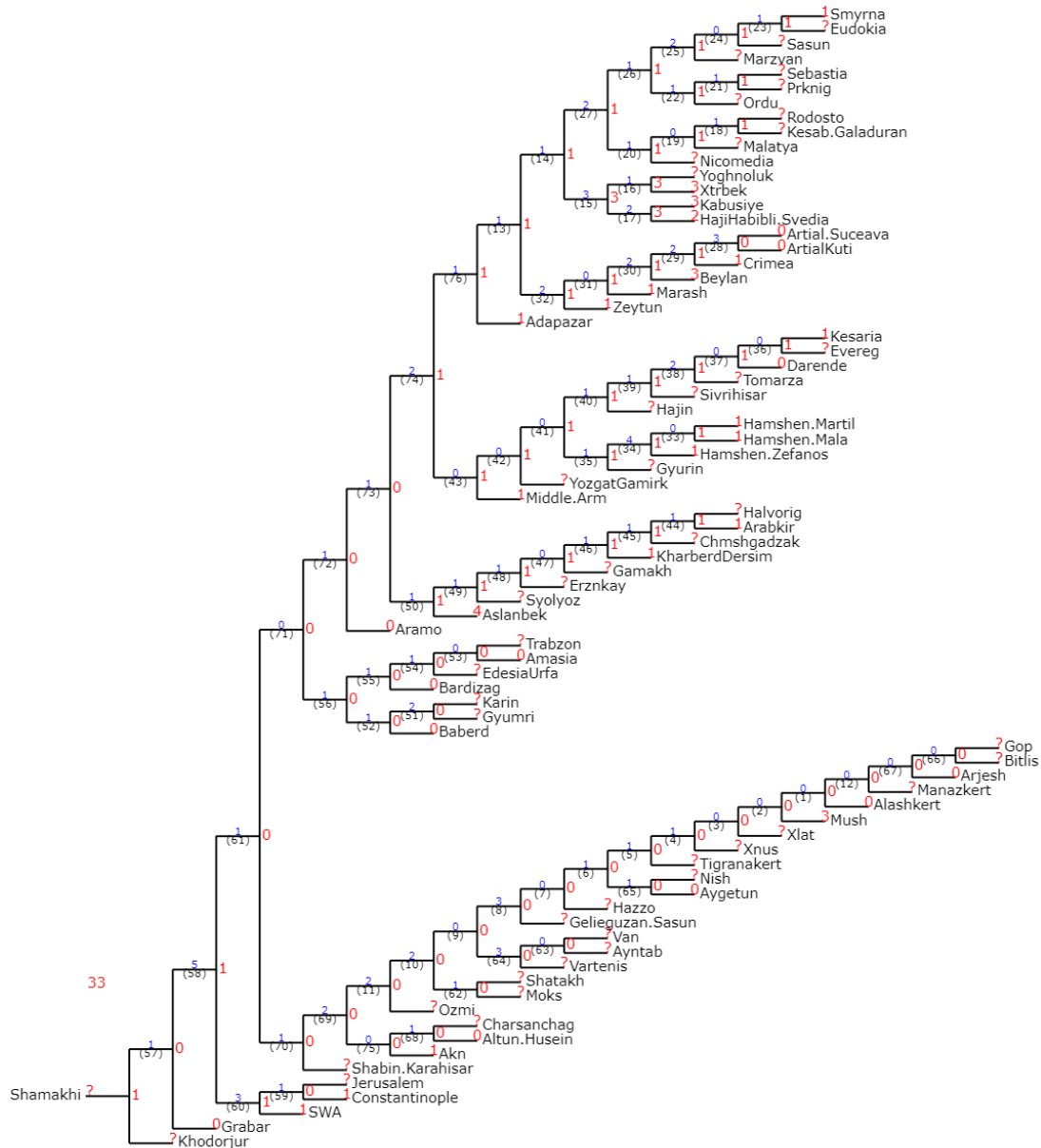


Figure 44: Tree highlighting whether the form of the conditional particle is clade-defining

The third-person singular auxiliary (copula) in the present indicative, which is *e/ē* (“0” in Figure 45) in SWA and nearly all dialects not originally in Asia Minor, and *a* (“1” in the same tree) in the Asia Minor region, can define some clades, if we presume that the shape of the tree is generally sound. Only dialects that evolved in Asia Minor appear to have this. If we presume that Asia Minor is an exception among the higher-level groupings (equivalent to the Roman numeral classification by Djahukyan (1972) covered in Section 3.2) in that it is not a true grouping but a series of mutually-affected dialects in a continuum, then this particular feature can serve as a torchlight. The acquisition of this feature in Arjesh and Vartenis can easily be explained as an EA feature (where it predominates), but that still leaves its presence in Altun-Husein unexplained; its absence in the Zefanos subdialect of Hamshen can be explained as a loss of a feature that it previously had.

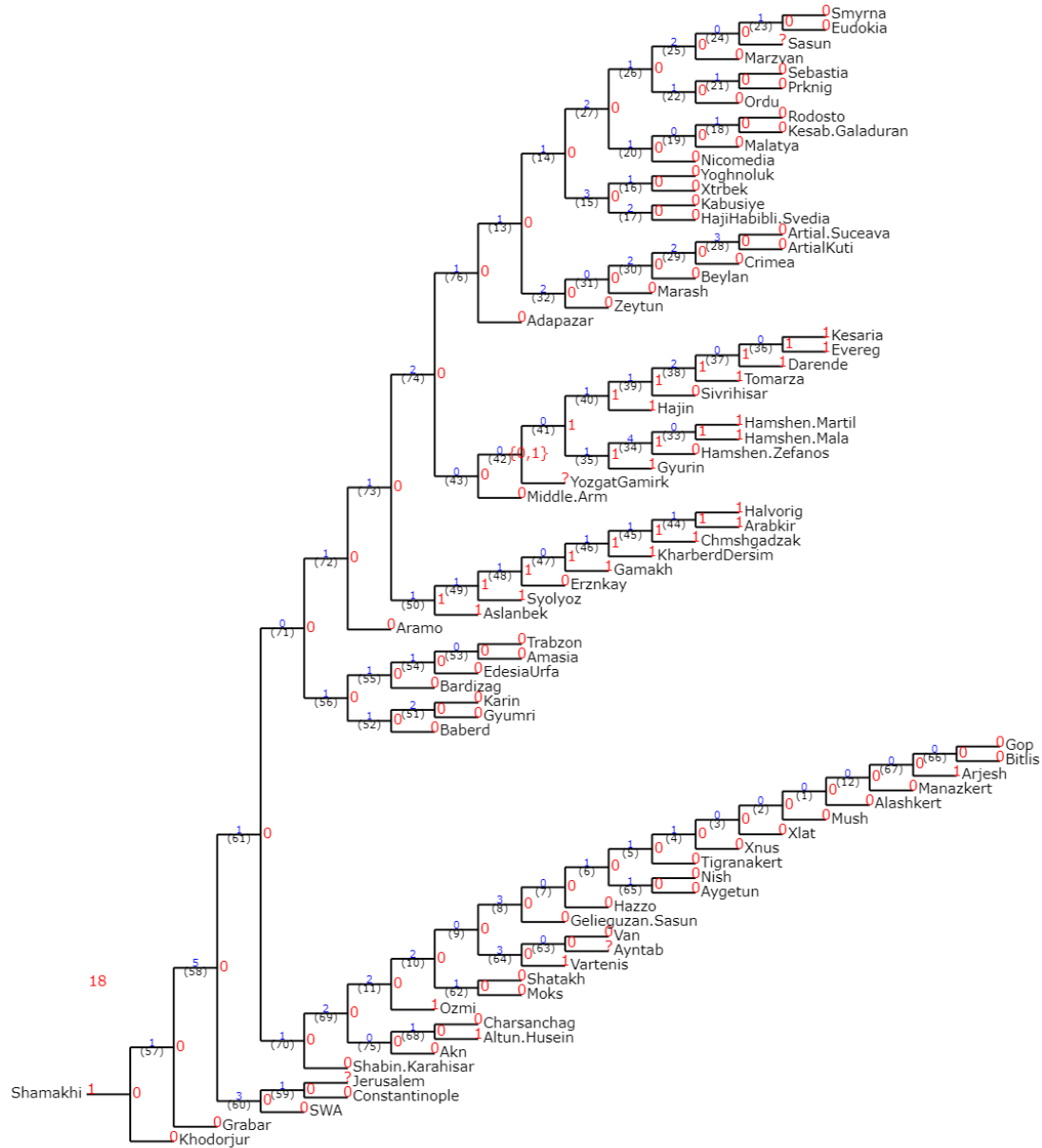


Figure 45: Tree highlighting whether the form third-person singular auxiliary is clade-defining

As we can see, it is difficult to pin down specific shared innovations for the Asia Minor dialects and it appears that we are dealing with a network of interactions, such as borrowing and convergence from multiple sources, not just from a single origin point, and some degree of reticulation<sup>432</sup>, which is typically not well-modeled in a tree. Let us quickly investigate a few more trees, all of which are equally as good as one another so far as the cladistic algorithm is concerned, though this fact ought not to necessarily entail historical accuracy. Since many of the trees produced show clades which are

432 Reticulation refers to the formation of a network where branches merge back together, reflecting processes like contact, borrowing, and mixed languages.

mutually exclusive (as in, irreconcilable with clades shown in other trees), great caution must be exercised.

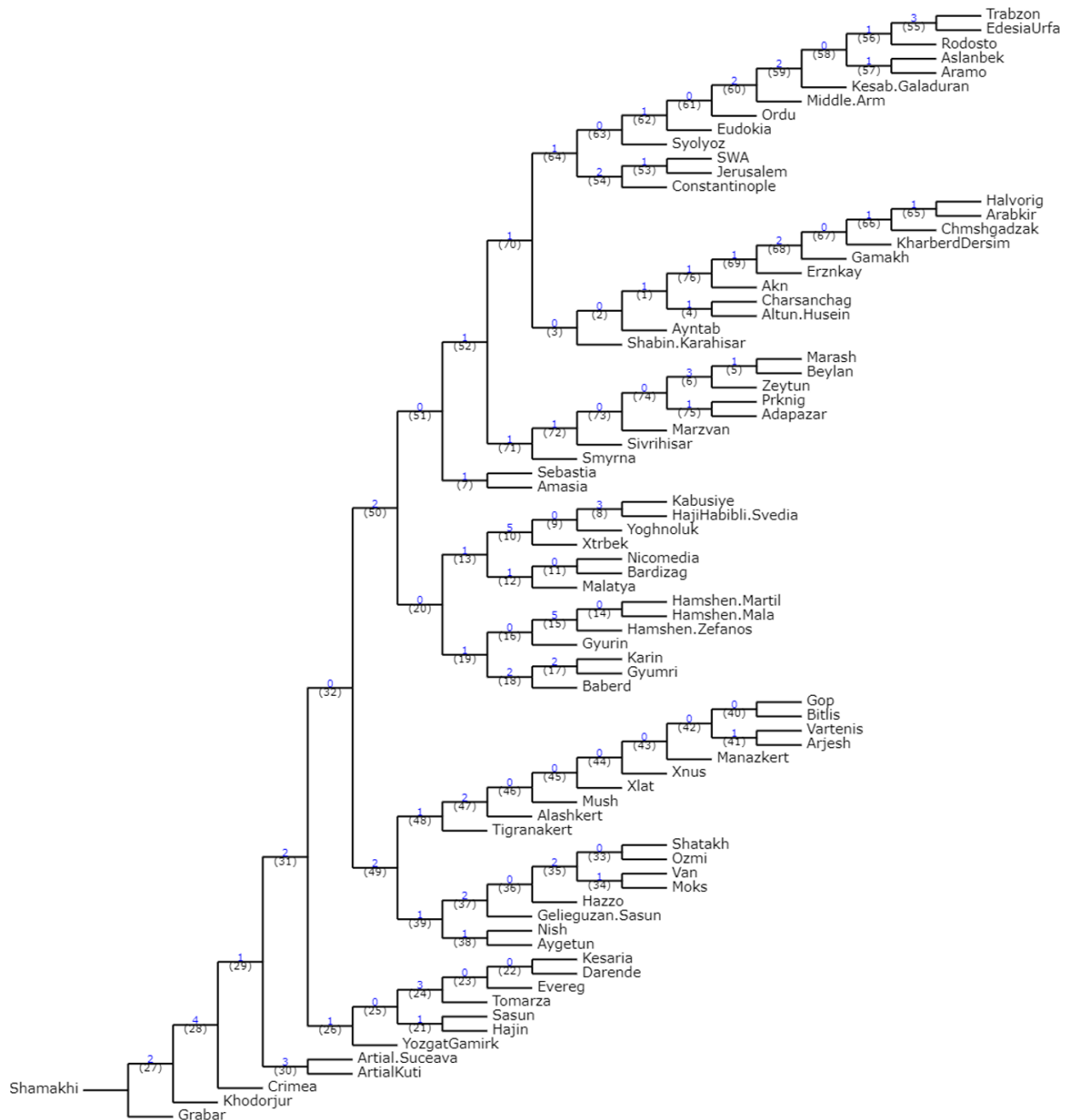


Figure 46: An optimal tree

Instead of Constantinople/SWA splitting off early, we get Crimea which splits off after CA and Khodorjur (notice that the positioning of these two have switched); we instead see Constantinople and SWA lodged far deeper within the tree, neighboring many Asia Minor dialects such as Syolyoz, Eudokia, Ordu, and wrongly, MA (reminiscent of the tree produced by DeLisi (2018:123) reproduced earlier in

Figure 16), Kesab, and Aramo. Everything below node (3) in Figure 46 (Shabin-Karahisar and its cousins) and node (13) (Cilician dialects and derivatives in Asia Minor) make sense (except node (6), bearing Marash and Beylan as sisters and Zeytun as a first-degree cousin, which ought to be included under (13) but is not); node (19) represents northeastern Asia Minor dialects, though the higher-level relationship represented by the mother of nodes (19) and (13), node (20), may not be correct. Node (48) represents the Tigranakert group, and node (39) represents the Van group. Perhaps not surprisingly, some of the western Asia Minor dialects, such as Kesaria, Darende, Evereg, and Tomarza, are grouping with Hajin. For Arabkir, shown in Figure 46 as a sister to Halvorig, Ačařean (1911:215-221) presumes is close to Tivrik (not studied here), Gyurin, and Darende, yet in most of my trees, this dialect noticeably shifts position often. Kortlandt (1998a), in a counter to Pisowicz (1997), derives the southern dialects (he gives Sasun as an example) from the Southeastern (Van) dialects, not the Central dialects like the latter; most trees would agree with Kortlandt's assessment.

In the next tree in Figure 47, the Tigranakert-Van macrogroup is mostly intact (other than Van, Vartenis, and Tigranakert showing up as close cousins of Constantinople!), though Beylan and Zeytun on one end, and Hajin, Marash, and MA, on the other hand, finally belong to the proper Cilician group (taxa below node (72)). Though Djahukyan (1972) treats Marash and Zeytun together as one large dialect, their verbal systems are not identical and they especially differ in how they exhibit vowel harmony (the most detailed comparative description is found in Hopkins 2022:47-59), something not accounted for in this study. A core group of Asia Minor dialects end up clustering together under node (1), covering Halvorig to Altun-Husein. As shown in a few other trees, the Artial subdialects show up as more derivative taxa branching off of Crimea. Like all other trees, the sisters and cousins shown in the jackknife tree also surface here. Though Tomarza, Darende, Evereg, and Kesaria all cluster together as generally expected by the literature, this tree, nor any of the next two tree, show either Arabkir and Gyurin as being sisters or close cousins, contra Ačařean (1911:215-221) but in line with Djahukyan (1972), who places Tomarza, Darende, and Evereg as subdialects of Kesaria but considers both Gyurin and Arabkir as separate Asia Minor dialects.

Djahukyan (1972) considered Constantinople as a grouping of Asia Minor dialects, which contained itself, Adapazar, Smyrna, Nikomedia, Bardizag, Rodosto, Ordu, and Trabzon. In Figure 47, Ordu is the only remotely close dialect to Constantinople, and curiously, Bardizag ends up as a sister to Edesia. One may suspect Bardizag as having come from Cilicia given that it is a *ka/ga* dialect, but Edesia is traditionally considered to be a Hamshenic<sup>433</sup> dialect, though it is relatively close to Cilicia. Rodosto and Aslanbeg are shown as sisters, but they are disconnected from the other variants which Djahukyan believed were their sisters. On the other hand, Ačařean (1911:241-248) considered Constantinople and

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433 Both terms used by Djahukyan and other linguists are problematic – “Hamshen(ic)” makes it sound as though it derives from Hamshen or is in particularly close relation with that grouping of subdialects, and “northwestern dialects/dialect group” is equally a misnomer because Edesia, if genetically truly connected with the Hamshen dialects, is found in the southwestern edge of the Asia Minor dialects, southwest of Tigranakert and northeast of the Cilician dialects.



Smyrna as sisters to Nicomedia, which had at least ten subdialects: Adapazar, Aslanbeg, Bardizag, Syolyoz, Benli, Geyve, Iznik, Ovacık/Blur, Pazarköy, Yalova (the last six of which I have insufficient data for).

Djahukyan believed that Eudokia is transitional between Sebastia and Marzvan-Amasia – this tree only reflects the possibility that Eudokia is very close with Marzvan, but not Amasia and Sebastia (though both of the latter show up as first-degree cousins, just not in the place that Djahukyan would have expected). Another weakness is that this tree separates the Van and Vartenis from any of the other dialects around Lake Van and the Mush region, though it largely keeps the latter two clusters clearly defined. Upon investigating the specific characters for each of these aforementioned mentions, I remain perplexed, as Vartenis and Van do not seem to share any specific trait not found in at least some other members of both of these dialect clusters. Tigranakert and Vartenis have a progressive, yet Vartenis shares an immediate node with Van, Mush and Vartenis have the *c*'-less aorist, which would lead one to think that the algorithm would have placed them closer together. With few exceptions, most of these dialect groups have double negatives in verbs, as well as fairly unusual innovations, such as the *-man* resultative and *-uk* aorist or preterite (Van borrowed this from Mush according to Łaribyan 1948:246, which deserves scrutiny). Vartenis and Van do share the  $\bar{e} > i$  shift in auxiliaries unlike Mush, Gop, Manazkert, Alashkert, Tigranakert, etc., but so do Xlat, Xnus, Arjesh, and others.

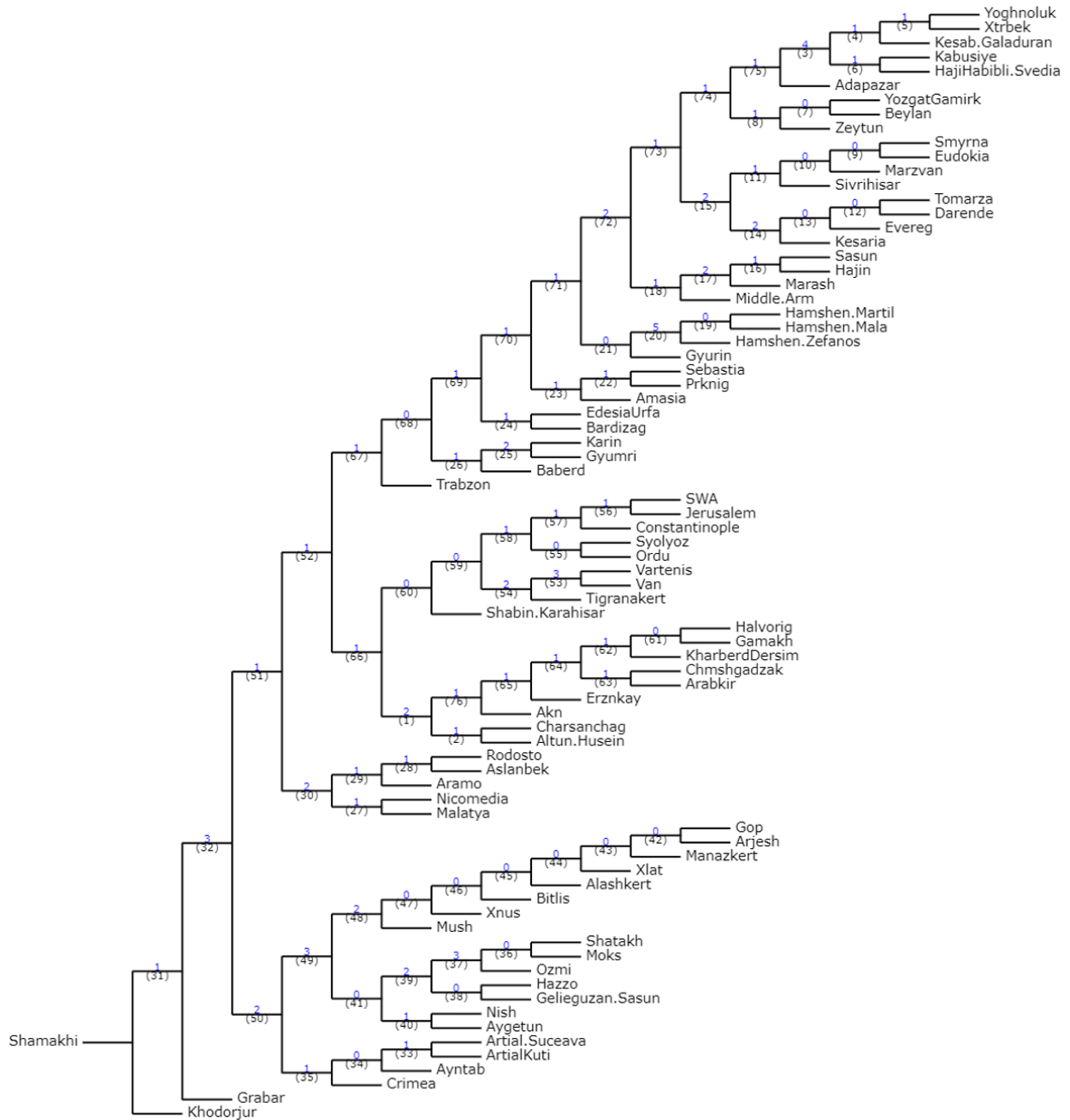


Figure 47: Another optimal tree

In the tree in Figure 48, we see only a minor variation from the prior tree, namely for the clade under node (73). This reorganizes the internal relationship between Cilician and some Asia Minor dialects, but the lower-level pairings generally remain the same. Sometimes, there may well be a better fit for various groupings between slightly suboptimal or equally optimal trees (Kemp 1999:120).

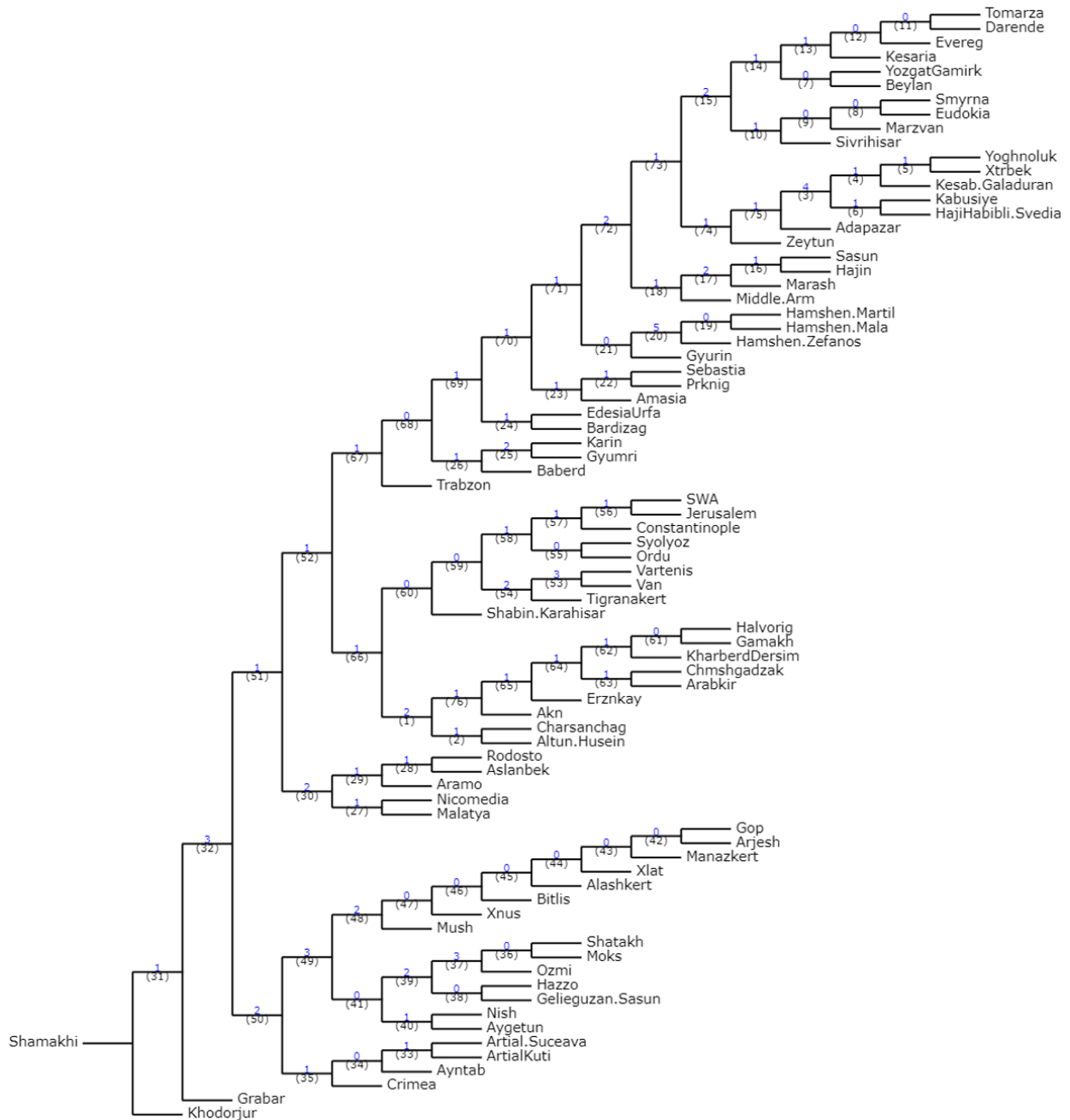


Figure 48: One more optimal tree

Djahukyan himself believed that Schleicher’s genealogical tree theory and Schmidt’s Wave Theory are actually not exclusive, but complement each other, reflecting different chronological stages (Avetyan 2016:9) – the latter explains the relationship between IE dialects interacting with each other during the earlier period of unity, and the genealogical tree theory explains the relationship between related languages and dialects that have already separated from each other (Djahukyan 1997:47). The same logic, on a smaller timescale, can also apply to the development of dialects.

Thus, no tree is perfect, but many of the trees produced had at least something of value to contribute to the discussion.

### 6.3 Confirmation by independent methods and approximating dates of internal nodes

Since I already covered geographical clustering in the previous section, I now concentrate on independent historical knowledge and the thoughts of previous pre-cladistic dialectologists. As mentioned in Section 3.2, Djahukyan (1972:180-192), as a preliminary experiment and afterthought to his main work on modern dialects, also attempted to classify CA as used by various groups of authors based on their birthplaces, and a limited number of mostly phonological and morphological features (22 and 18 respectively, for a total of 40, methodology given in *ibid.*:163-166), though with plenty of caveats. He noted that the characteristics attributed to the 5<sup>th</sup> century may, in several cases, be the result of late development or late influence (notably due to the inherent pitfalls in manuscript copying, especially over many centuries), and differences seen in morphology may only be stylistic in some cases. Thus, he warns that his results could, in fact, represent fully or partially a picture of a period later than the 5<sup>th</sup> century. Nevertheless, he believed that the differences he noted could explain a significant part of the modern dialectal differences, especially with regard to phonology.

He found that the divisions of the classical period coincide to a significant extent with the boundaries of the old feudal divisions. He concedes that if his results are at least partially correct in reflecting the state of dialectal differences in the classical period, then the foundations of mainstream Armenian historiography are violated to a significant extent (*ibid.*:189). This implies that the population of Little Armenia (P<sup>o</sup>ok<sup>r</sup> Hayk<sup>c</sup> or Armenia Minor), Cilicia, and adjacent regions is mainly the result of late migrations, and that, therefore, the dialects of those places are the result of the further deepening of the old dialectal differences of the central and eastern parts of the Armenian Highlands. His admittedly rough results show that the dialect of the population of the Byzantine part of Armenia is relatively uniform, the linguistic situation of Little Armenia and neighboring areas is relatively close to the linguistic situation of Upper Armenia (roughly corresponding to the modern province of Erzincan, to the west of the Kura River) and Tsopk (Sophene, areas surrounding Tigranakert); therefore, late migrations to these regions did not bring about radical changes, but were superimposed on the existing differences. Moreover, he notes that the linguistic condition of Eastern Cilicia was in ancient times more distant from the linguistic condition of the North-East. The fact that the dialects of Eastern Cilicia in the modern state are closer to the linguistic condition of Agulis-Tsghna (southeastern Nakhichevan) than in ancient times, shows that the ancient Cilician dialect of Eastern Cilicia was later largely subjected to the linguistic group of the people who migrated from the easterly regions and converged with it. Thirdly, his results show that what he calls the Antioch interdialect occupies an intermediate position between the three main dialects, showing that the Armenian speech of the Antioch region

either has great antiquity and was formed at a time when the differences among the three main dialects were less pronounced, or it represents a mixture of different regions, i.e., in addition to the territorially close eastern and south-central elements, a major influence would later come from eastern elements.

Heggarty et al. (2023) used Bayesian phylogenetic methods applied to an extensive new dataset of core vocabulary across 161 IE languages. In their data, they used CA and only two modern Armenian dialects, SWA and SEA, both of which were deliberately classicized. The DensiTree in the main article (Fig. 2), which has no explicit dates but has time-scale graphics, seems to show that SEA and SWA began to split just a few centuries ago; Table S6.1 in their supplementary materials shows SEA and SWA as having split off from CA about eight centuries ago. In Table S6.2, CA is shown to have a 0.50 probability of being a direct ancestor to the two standardized modern varieties of Armenian. Despite the contradictory information shown in the figures and supplementary materials, their Table 1 (*ibid.*:9) shows that the time depth of divergence within the Armenian clade is 1578 years before the present (median), with a 95% highest posterior density between 1485–1851 years – the upper range would bring the Armenian-internal split to the late second century CE, which is plausible given my results on comparative verbal morphology and the numerous lines of phonological, lexical, and semantic evidence mentioned in Subsection 2.4. Much caution must be exercised in comparing our results, since we used entirely different methodologies and data.

The Edesia dialect was spoken in the area of Edessa (Ἔδεσσα)/Urfa, where there had been an Armenian population since at least Hellenistic times, living among an Aramaic/Syriac-speaking majority, and an Arabic-speaking majority since later Islamic times. This was part of the then-Byzantine area including Cilicia, to which large numbers of Armenians fled from the Seljuk conquests in the late 10<sup>th</sup> and early 11<sup>th</sup> centuries. In the 12<sup>th</sup> century, it was the seat of the Crusader county of Edessa, whose Western rulers intermarried with the local Armenian nobility, who had been powerful under the Byzantine Empire, and largely left the Armenian administration in place, so that it has been described as effectively an Armenian state with a Latin ruler (MacEvitt 2008). If Djahukyan (1972:134) is correct to group this dialect with Hamshen, it seems likely that the ancestral form was once spoken over a wider area of Anatolia, from which the speakers were displaced following the 7-8<sup>th</sup>-century Arab and 11<sup>th</sup>-century Seljuk invasions. Hodgson (2020:9) argues that large swaths of ancestral Edesia speakers were eventually replaced by speakers of Asia Minor dialects.

I now turn to Ačārean (1911), the first systematizer of modern Armenian dialectology. In the section above, I explicitly noted where Ačārean’s classification diverged from the trees. I summarize his classification in Figure 58, the full list of which is given in Appendix D on page 284, with footnotes throughout showing Ačārean’s direct thoughts as to the relationship of certain dialects. In Figure 49, uppercase letters represent “dialects” as he uses the term, and lowercase letters represent subdialects (or sub-subdialects as the case may be).

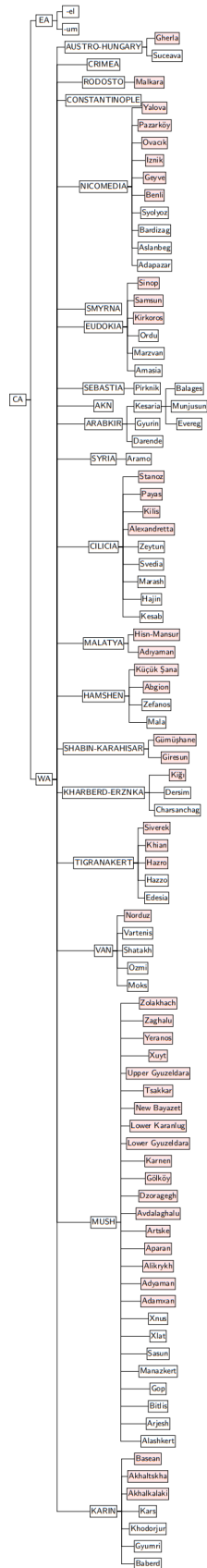


Figure 49: WA dialect tree from

Follow his ordering of dialects, and I have inserted subdialects alphabetically; dialects not examined in this thesis have boxes colored in light pink. Note that large numbers of these (sub)dialects are only cursorily mentioned, sometimes with just one short paragraph giving the reader a sample of that variety, and many are not examined in any depth.

Ačārean never intended to create a tree – I have generated a tree based on the way he classified the dialects and on various comments made in his work. The unfortunate result is that the tree is largely internally structureless and very wide, which makes the tree unhelpful for higher-level clades, though the lower-level clades can be of some use. For his Karin clade, my trees largely match his grouping with the glaring exception of Khodorjur and Sasun; Ačārean believed that Sasun was a subdialect of Karin, though modern linguists tend to view Sasun as a separate dialect (such as Martirosyan 2019b:212), and it was typically a sister or cousin to Hazzo in most of my trees. His Mush and Van clades match my trees perfectly. His Tigranakert clade does not match my results – through subsequent research (Łaribyan 1958a:146, Haneyan 1982, Gappenjian n.d., Ter-Petrosyan n.d.) and my own, it is now untenable that Edesia/Urfa and Hazzo should be considered subdialects of Tigranakert.

He then has Charsanchag and Dersim as daughters to Kharberd-Ernka – in my analysis, I found enough of a difference to separate Kharberd from Ernka, but found no difference in verbal morphology between Kharberd and Dersim. In the multistate trees, Charsanchag typically appears as a close cousin to all of the above dialects, though they do not form an exclusive clade (as in, containing only members purported to be in the same grouping). A higher-level connection made by Ačārean (1911:174) is that Shabin-Karahisar forms a middle ground among the dialects of Kharberd-Ernka, Sebastia, and Eudokia – this is partially vindicated only in some trees (such as Figure 46), where Shabin-Karahisar appears to be the outermost member of a large clade containing at least some of these dialects. Sebastia itself always shows up as a sister to Pkrnig, which is expected. The Eudokia cluster is interesting – from the dialects I analyzed, Ačārean would have expected Amasia, Ordu, and Marzvan (and three others which I have excluded, Kirkoros, Samsun, and Sinop) to cluster with Eudokia – Marzvan and Eudokia always do, but the others show a difference hinging on whether the analysis is binary or multistate, e.g. in Figure 34 and Figure 36, Ordu, Pkrnig, and Eudokia form a clade, and Marzvan and Amasia are close cousins in a larger eastern Asia Minor clade. In most multistate trees, Ordu is close to the above-mentioned dialects, but not in Figure 47, where it oddly shows up close to Constantinople and as an immediate sister to Syolyoz.

The Hamshen subfamily predictably always forms a clade, though their higher-level connections are unstable across trees. Malatya has, geographically, a central location in Asia Minor, which likely contributed to the idea held by Ačārean (*ibid.*:196) that it occupied a middle ground among the dialects of Tigranakert, Kharberd, Arabkir, and Cilicia. Understandably perhaps, Malatya jumps

around a good deal in my trees, though in several trees (see Figure 37 as an example), it is nestled between the Cilician dialects and eastern Asia Minor ones.

He places Adapazar, Aslanbeg, Bardizag, and Syolyoz as subdialects of Nicomedia, though he admits that, with the materials he had available at the time, he was unable to say anything more specific other than that they seem to form a group, notwithstanding the many differences among themselves (*ibid.*:241). Aslanbeg and Syolyoz are typically shown as first cousins in my trees, Aslanbeg and Nicomedia are only sometimes shown as sisters, Adapazar is unstable but sometimes clusters with the greater Cilician group, Syolyoz is quite unstable too, and Nicomedia is sometimes shown as a cousin to Rodosto, Malatya, and others. We seem to be dealing with a recent geographical “cluster” formed by populations that came from different areas of Cilicia and Asia Minor. These are mostly urban dialects, which perhaps further complicates matters for cladistic algorithms.

Under Arabkir, Ačarean places Darende, Gyurin, and Kesaria (which has its own subdialects – Evereg, Munjusun, and Balages, the latter two I did not include). Darende, Evereg, Tomarza (which he did not analyze), and Kesaria virtually always form their own clade, but Gyurin and Arabkir are chaotic across the trees, as they seem to have no stand-out feature exclusive to themselves or a series of features that can easily make a cladistics program group them with another well-defined clade.

He places Smyrna as its own branch, but notes the extreme similarity between it and Constantinople on the one hand, and Eudokia on the other hand (*ibid.*:239). While the latter two appear as sisters through the trees, Constantinople and Smyra (or Eudokia, for that matter) never do. He then places Rodosto, Crimea, and Austro-Hungarian (Artial) as separate dialects, though he noted the high degree of similarity between Crimea and Constantinople (*ibid.*:263) and a very similar conjugation (*ibid.*:264), which is seen in many of the trees above, and said that the phonology of Rodosto did not differ much from that of Constantinople (*ibid.*:258), though in none of the trees above do the two ever share a close ancestor node, which is quite surprising. The Crimean or northern Black Sea settlements in Kerch, Yalta, and Sevastopol were from the Trabzon region, thus Ačarean (1911:263) said that their dialect must have come from there. I have insufficient data for these varieties, therefore I cannot verify this claim.

As for the Cilician dialects, the southern dialects of Yoghroluk, Xtrbek, Kesab, Kabusiye, and Haji-Habibli (representing Svedia) always form a clade in my trees, but the northern ones (Hajin, Marash, and Zeytun) are not as well-reflected in my cladistic analysis, nor Ačarean’s previous analysis, and may actually reveal something of linguistic and historical importance. Take Figure 48, for example – Hajin is shown as a sister to Sasun, a first-degree cousin to Marash, and a second-degree cousin to MA; Zeytun is shown as a second cousin to the southern Cilician group (the intervening first cousin is Adapazar, not considered Cilician), and Beylan is shown as a sister to Yozgat-Gamirk nestled in an otherwise northwestern Asia Minor grouping. All of these fit under node (72). Could this be evidence



that after 1375, Cilicia, which until then was nearly exclusively occupied by Armenian speakers, slowly experienced population loss as its speakers spread all over the more westerly and especially northwesterly parts of Asia Minor as Ottoman subjects? In 1912, according to the data of the Armenian Patriarch of Constantinople, there were 119,414 Armenians in the Adana Vilayet<sup>434</sup> (Kévorkian & Paboudjian 1992) and 189,565<sup>435</sup> Armenians in the Aleppo Vilayet of the Ottoman Empire (both of which covered slightly more than the entire territory of the older Kingdom of Cilicia), which is less than a quarter of the total population of those vilayets, mostly concentrated in a few zones (the cities Zeytun, Marash, Adana, the villages around Musaler, etc.). As for the Syrian dialects, Ačarean (1911:212) suspected that they belong to the same branch as the vernaculars of Svedia (southern Cilician), but decided to classify them separately. In the binary trees (see Figure 33 and Figure 36), Aramo clusters with the rest of the southern Cilician dialects, but not in any of the multistate trees, for reasons unknown.

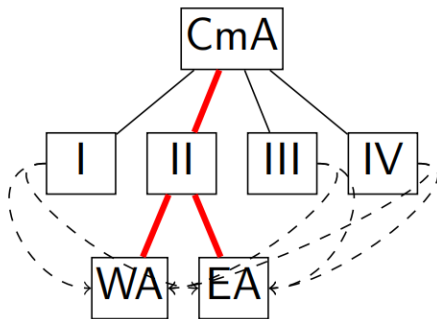


Figure 50: Early dialectal splits according to Winter (1966)

Winter (1966) deserves some attention. I delineate some of his findings regarding PIE-to-CA sound changes in footnote 74 on page 38. He envisages the possibility that pre-CA dialectal features were incorporated in a classical koine (CA) which, in turn, should have been the source of at least the majority of the modern dialects. To paraphrase his conclusion, if the view presented in his article is even only partially justified, CA loses its monolithic character – it becomes a language marked by a high degree of incorporations from dialectal Armenian sources as well as from languages other than Armenian, both IE and non-IE; though incorporation of foreign materials has been a phenomenon long recognized (q. v. Hübschmann 1875), the interesting part is that he tries to establish a parallel in an internal, crossdialectal borrowing “of similarly impressive proportions” (*ibid.*:211). I summarize his findings in Figure 50 above. Each Roman numeral represents a bundle of seemingly mutually irreconcilable sound changes from PIE, dashed lines represent cross-dialectal influence or possible

434 The numbers vary by large margins, however. For 1913, the Catholicosate of the Great House of Cilicia estimated 80,000 (Kévorkian 2011:593). The 1885 Ottoman census places the total population of the Adana Vilayet at 402,439 (Keane 1909:459), and the 1914 census (recall that Adana experienced a massive purge of 25,000 Armenians in 1909) puts the total figure at 411,023, 52,650 of which were Armenian.

435 Out of 667,790 inhabitants overall.

descent for at least a minority of dialects (Winter left this possibility open), and the thick red lines represent the principal source of descent through what Winter terms “Dialect II”, which is CA.

Recall point no. 11 of Section 2.4 (p. 32) regarding the development of at least three vowel harmony systems that cannot have descended from the same proto-dialect, based on a dissertation by Hopkins (2022). Her comparative analysis of all extant vowel harmonic dialects (except Kesab and Aresh, which she excluded due to time constraints, though I have tentatively added them in where one would reasonably expect them to fit and colored them in green) revealed that language-internal and -external factors are likely to have played a role in harmonogenesis: the phonologization of low-level coarticulatory effects induced by sound change (such as Ačarean’s Law, usually dated to the 7<sup>th</sup> century<sup>436</sup>), and subsequent contact with harmonic varieties of Turkic<sup>437</sup>, worked together to bring about a synchronically productive law of vowel harmony in some Armenian dialects (see also footnote 217 for a list and additional information). In Figure 51, I also added in gray the non-harmonic varieties of CA and its assumed descendants. A1, A2, and A3 are labels used by Hopkins – further research is required to see if one can connect these proto-dialects to the proto-dialects described by Winter (1966) as I, III, and IV. Comparative verbal morphology alone does not allow us to determine such a thing.

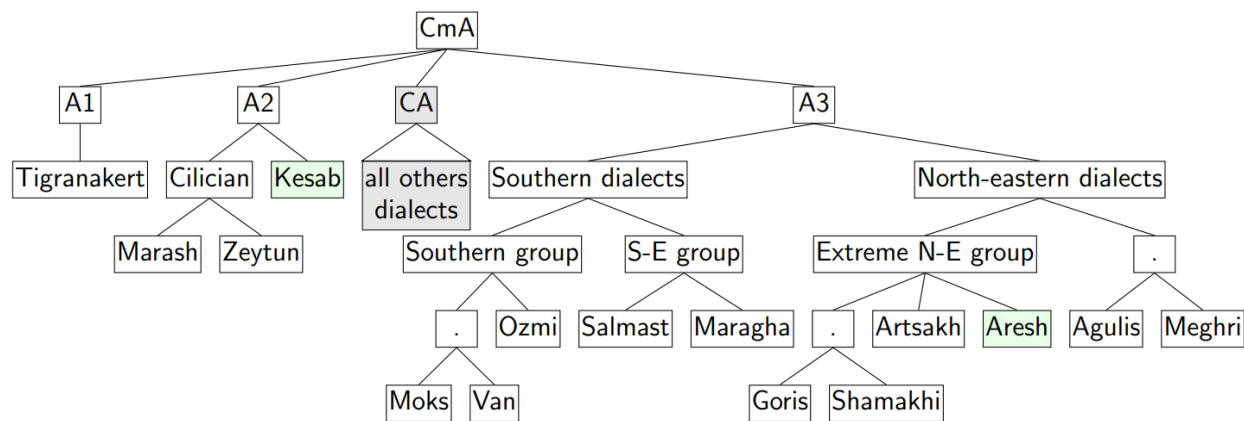


Figure 51: Tree of vowel harmonic systems, adapted from Hopkins (2022:111)

I now move to tentatively proposing my own trees, based on my exploration of cladistics and all previous work in Armenian dialectology. Since this project is necessarily limited in scope, I must consider these results provisional, subject to change with the inclusion of more features in a future project, especially phonological ones. In Figure 52 and 53, the dotted lines represent the proposed seeding of speakers of a dialect into the pool of speakers of another dialect, much like how one might represent the position of certain dialects of Ancient Greek toward the Attic koine dialect (Colvin 2007:63-71); in other words, crossdialectal influence from another branch.

436 Ačarean (1952)’s upper limit is the 11<sup>th</sup> century, whereas Muradyan M. H. (1962) dates it to the 5<sup>th</sup> century.

437 Contact likely induced further expansion or complexification of certain harmony systems (Hopkins 2022:35), but likely did not trigger them.

Figure 52 is a minimalist tree of the main dialect groups of WA – Syrian, Cilician, Mush-Tigranakert, Van are truly their own clades and can be adequately modeled by a tree; Hamshen, Crimea-Transylvanian (Artial), less securely the Black Sea dialects, the Kesaria group (explicitly drawn in the figure below), and core Asia Minor are indeed their own clade but harder to place on a tree; and all the rest of Asia Minor, Jerusalem, Yozgat-Gamirk, peripheral Cilician dialects like Beylan are not clearly their own clades and can only be roughly modeled by a tree. I have trusted the results of the great majority of the cladistic trees that separated Khodorjur before CA and incorporated this finding here. I group the Syrian and Cilician dialects together and due to their great differences from the rest of the dialects, I propose an early split from CA (I am erring on the side of conservatism, but I suspect that the area was already seeded by speakers of a post-CmA variety that was not CA). Proto-Mush-Van-Tigranakert must have also separated soon after the 5<sup>th</sup> century, and Tigranakert (its vowel phonemes which are not straightforwardly derivable from CA and unique vowel harmony system are difficult to ignore) or perhaps dialects around Lake Van could have been intermixed with speakers of a sister dialect to CA. I consider a 7<sup>th</sup> century Proto-Hamshen-Edesia stage which is the approximate split when the ancestors of the Hamshen and Edesia speakers would have ceased living in the same area (southwest of Tigranakert). I consider an 11<sup>th</sup> century split of Artial, and a 13<sup>th</sup> or 14<sup>th</sup> century split of Crimea from an old form of Asia Minor (which I label “Proto-Asia Minor” in this tree).

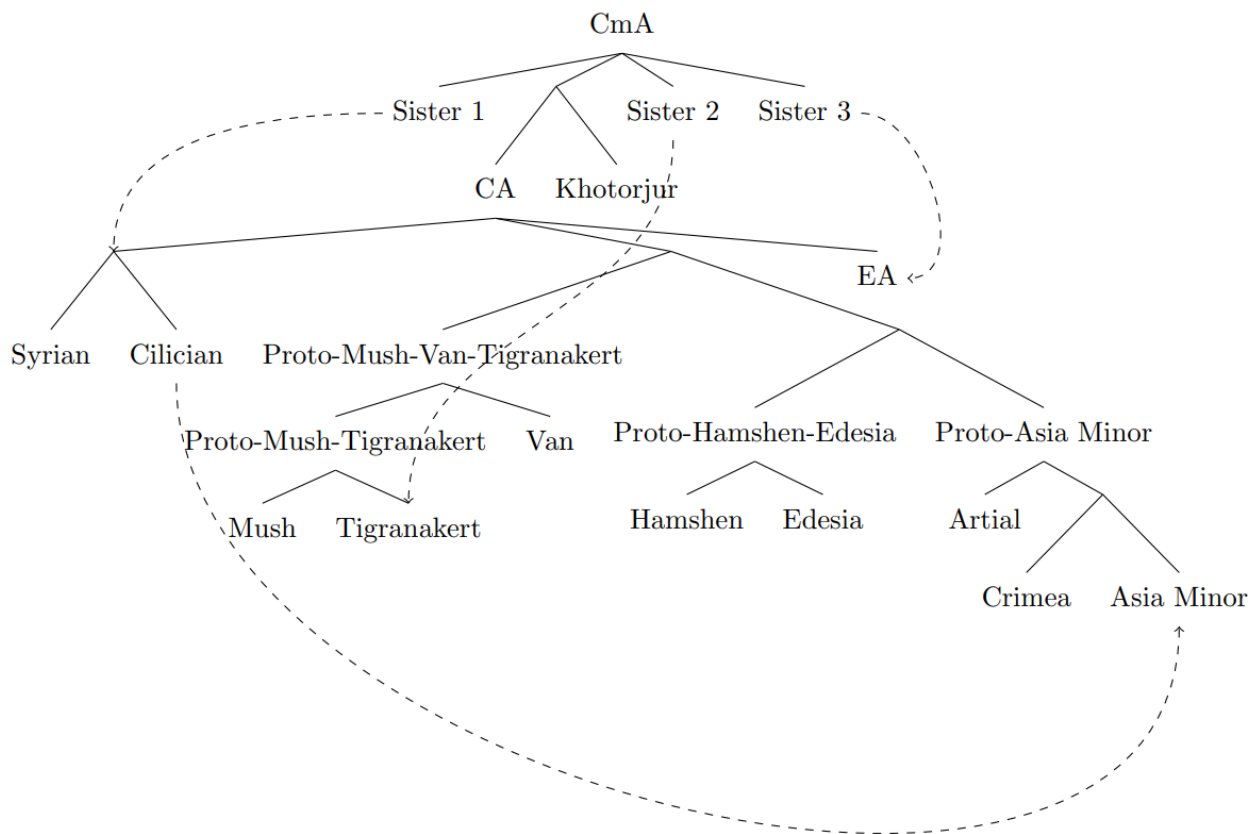


Figure 52: Tentative simplified tree of Armenian dialects

In the trees of the above section (6.2.3), each edge represents (which are descent edges), in theory, a historical episode of dialect descent. Descent edges illustrate vertical inheritance from a common ancestor, while contact edges (shown as lateral connections in Figures 52 and 53) depict horizontal influence between different dialects. These contact edges posited so as to be compatible with what is known about the geography of the languages in question and the relative chronology of the family's diversification events (Ringe 2022:58).

CmA is shown with four daughters – the placeholder names “Sister *n*” are simply to distinguish them from Winter (1966)'s use of Roman numerals and Hopkins (2022)'s use of *An*. CmA here must also be considered tentative, as it is not sufficiently well-supported with verbal morphology alone – nominal morphology, lexical, and phonological reconstructions may yield better results (Tigranakert and the Cilician-Syrian group seem especially promising, and from the eastern dialects, so does Agulis and Artsakh). Semantic archaisms (for example, footnote 44 for *\*h<sub>2</sub>éwis* ‘bird’) can add to our understanding as well, plotting semantic shifts carefully in comparison with PIE and CA sources.

The Asia Minor group is much more difficult to fit into any kind of tree. I give my attempt in Figure 53. The Black Sea group is not very secure as the cladistic analyses caused them to jump around considerably, and it is unclear to what extent their traits are affected by areal influence. The Kesaria group is quite clearly defined (except Yozgat-Gamirk, hence the question mark) and is sufficiently different and isolated from the rest to warrant proposing an early split. Many of the branches in the middle had considerable influence from emigrants of Cilicia starting from the 14<sup>th</sup> century – it is highly probable that a large percentage of speakers that would eventually form Bardizag and Amasia were from Cilicia (hence the dotted line from Cilicia to Asia Minor in the previous figure). The splits of Sivrihisar, Syolyoz, Gurin, and Malatya are uncertain, for both their dates and position within the tree. Since the Karin dialect is very well-attested and we have historical records Baberd and Gyumri (to which I can safely add four more dialects that I did not cover in this project, Akhuryan and Artik, which are close to Gyumri, and Akhalkalaki and Akhaltsikhe in Javakhk, Georgia), it is safe to assume a Proto-Karin ancestor dialect. I can date the split between Karin and Gyumri to the early 19<sup>th</sup> century, the differences being mainly influences from SEA for the latter, which is the same for all extant WA dialects within the modern borders of the Republic of Armenia.



Smyrna, Constantinople, Rodosto, Aslanbeg (a once Armenian neighborhood of Köseköy founded in the early 1600s, renamed Kartepe), Eudokia, Sebastia, and Nicomedia. Geographically more westward dialects are also more difficult to place within a tree. I drew a dotted line<sup>438</sup> from Crimea to Constantinople due to the clear influence some older variety of Crimea had on that dialect in the 15<sup>th</sup> century. The node linking the Kharberd-Erznkay group (Dersim, Erznkay, and Kharberd proper), Gamakh, Akn, Charsanchag, Altun-Husein, and the somewhat closely-related Arabkir, Halvorig, and Chmshgadzak cluster form the core of the Asia Minor group, which makes sense because they are all located well within the traditional Armenian highlands. Splits within a large political union<sup>439</sup> (as speakers of Armenian of any dialect were for most of their history, be it under Hurrian, Assyrian, Roman, Persian, Arab, Byzantine, Mongol, Ottoman, or Russian rule) are often not very “clean”, unlike island-hopping in, say, Micronesia.

It is well-known that when one community splits into two, different changes will occur in each speech variety, *provided that contact between them is minimal or nonexistent* (Ringe 2004:235). This proviso is especially relevant here, as, at least for the Asia Minor group (and other groups of dialects to a lesser extent), there appears to have been much contact. If one consults the Y-DNA haplogroup breakdown by Balanovksy et al. (2017)<sup>440</sup>, we can see a near-homogeneity of WA-speaking populations, with the exception of Hamshen (who carry far more of the Northwestern Caucasian G-M201 haplogroup due to intermarriage with other Caucasus-derived Muslim groups in the Black Sea, more of I-M710, and far less of the R-M198, R-M269, and R-M124) and to a lesser degree, Sasun (who have more of the T-M184 haplogroup, shared with many Mesopotamian populations). The fact that Hamshen became so genetically distant from the rest should not be a surprise, given that they separated at least 13 centuries ago into a non-Armenian-majority area in the Black Sea, and later converted from Apostolic Christianity, and are the only Armenian Muslim converts who did not linguistically assimilate into the mainstream Ottoman population. There are earlier linguistic divisions that precede the Edesia-Hamshen split, but these did not result in significant genetic differentiation due to ongoing contact, even reduced to a trickle during some eras. The Asia Minor group appear to be very genetically close, further lending credence to the notion of sustained contact among different subgroups.

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438 By this, one may posit an explicit phylogenetic network as defined by Nakhleh et al. (2005), McMahon and McMahon (2005:111–18), and Barbançon et al. (2013).

439 Part of the reason there is a stark EA/WA divide is precisely because the two lived in separate political unions.

440 See their electronic supplementary material (URL: <https://link.springer.com/article/10.1007/s00439-017-1770-2#Sec52>). They analyzed a large genetic sample of 446 individuals unrelated at least up to the third degree – for WA communities, they were able to collect enough samples for Alashkert, Van, Erzurum (Karin), Sasun, “Western Armenian (mostly South-West Asia) [we can infer Asia Minor]”, Hamshen, Don, Krasnodar, and Adigei (Maikop), the latter three of which are in the area between Crimea and the northern Caucasus in Russia. For EA communities, they had Gardman, Artsakh, Syunik, Ararat (Oshakan), Salmast, New Julfa, and Bayazet.

## CONCLUSION

I laid the groundwork in Chapters 1 and 2, which gave an overview of Armenian dialectology and displayed multiple lines of accumulated evidence for the existence of CmA. Chapter 3 described various classifications based on geography, morphology, and phonetics; the current status of these dialects and an assessment of prior scholarly contributions in the field, especially by Aytənian, Ačərean, Ałayan, Łaribyan, Djahukyan, and DeLisi, and covered known population movements. Chapter 4 gave a comprehensive overview of the WA verbal system, while Chapter 5 focused on about a dozen notable shared innovations, cataloged their reflexes in the dialects, and gave plausible explanations for the mechanisms of change and a systems-level crossdialectal diachronic analysis (i.e. chain shifts).

Chapter 6 contained the cladistic portion of this project. I pushed the cladistics as hard as one can reasonably do so, notwithstanding certain technical difficulties I experienced with the settings of the software programs used. Essentially, after thinking about it for extended periods of time, many meetings with fellow linguists, and learning more about other dialect groups (Tocharian, Ancient Greek, early Slavic, Algonquian, etc.), I think that what I am seeing with these trees is an inherent limitation of treelike structures when the reality on the ground is closer to waves. Essentially, I think it is safer to conclude that many dialectal traits spread out in waves, with urban dialects acting like magnets that accumulated lots of disparate nearby changes, and the two modern standardized languages appear to be artificially more conservative because of their constantly classicizing nature. Like Latin for Medieval Europe, CA (in modern times, SWA and SEA have taken over this role, Ovsepyan & Gevorgyan 2013:322) kept diglossically influencing dialects, especially urban ones – cities, which are focal areas, i.e. zones of prestige from which innovation spread outwards, then influence surrounding areas. So in general, many of the trees I produced roughly correspond to clear dialect group divisions, but I am left with too many cases of dialects chaotically jumping all over the place – this is precisely what Germanic, Balto-Slavic, Albanian, Greek, and Armenian suffer from in an Indo-European cladistic context. This should be taken as evidence for wave-like developments of dialect chains.

Geographically, what we have is a very messy situation – none of the scenarios of Figure 5 is what I suspect actually happened. My initial hypothesis was that some WA (which would include dialects labeled “MA”) split off from CmA, especially those found outside of the Armenian highlands, with successive waves of dialects that were derived from CA; such a hypothesis captures a number of loose threads (this partly explains why the Cilician grouping is so diverse), but I have insufficient evidence through verbal morphology alone to prove its validity. Even if I still suspect that at least some of the dialects may have descended from an older variant than CA, I likely could not prove it beyond a low evidentiary threshold because the dialects ended up influencing each other so much in the intervening sixteen and a half centuries.

Even if CA was artificially rendered more uniform by early standardization efforts, the situation on the ground would have been different due to various waves of expansion and contraction of Armenian speakers, leaving pockets in certain areas who would have been speaking sister dialects to CA. Furthermore, we have to contend with the additional difficulty that within the prehistory of CA, much evidence of its multidialectal past exists. Though Winter was referring simply that there are multiple genuine PIE reflexes under identical syntagmatic conditions and phonological environments, he saw no way but to acknowledge the fact that CA preserves more than one code, which means that more than one dialect served as the basis for the koine of Grabar (Winter 1992:118).

The Ancient Greek situation seems instructive – its diversification of dialects was likely wavelike, not treelike. For example, South Greek has some innovations on its own, but a few are shared with Pamphylian, yet another is shared with Lesbian; changes spread through what must have been a dialect continuum. Some clusters share lots of innovations, but sometimes one of its members does not have such-and-such innovation (Risch 1955). There likely no unitary South Greek dialect or Ionic dialect or Northwestern dialect, just like I cannot precisely pinpoint a unitary Asia Minor dialect. I agree with Kortlandt (2003:143)'s assessment that perhaps the CA situation vis-à-vis the dialects is parallel with that of Mycenaean and the other Greek dialects known from later times. And much like how the Koine variety had an overriding influence on the world of Greek dialects, a similar process seems to have taken place, first with CA as an earlier and high-prestige medium of communication, which seems to have forced a partial convergence of ancient dialects contemporaneous with CA (following Djahukyan 1992c:103 and Ałayan 1958a), then with the spread of characteristically western features across much of Asia Minor and connected dialect groups.

As for the wave vs. tree debate – the Wave Theory compliments the Tree Model in two ways – it has better assumptions with regard to the mechanisms of language change, and it provides a graphic representation of one particular type of language change – the spread of linguistic innovations – though it ignores others, especially that of linguistic inheritance, which the Tree Model excels at (cf. Fox 1995:139). Schmidt may have been right when he said that no proto-language is entirely uniform, but consists of a series of dialects which gradually became more differentiated. Modern sociolinguistic research also proves that language is inherently variable, thus to posit an entirely uniform proto-language is implausible, if not entirely impossible. I am now thoroughly convinced by the preponderance of evidence that the situation on the ground in the 5<sup>th</sup> century during the late Arsacid dynasty in historical Armenia was that there was not one invariant, uniform dialect.

Another possibility is that diversification was network-like, where members not directly connected still persisted within the dialect network. In this scenario, the lateral edges in cladistic trees could symbolize innovations that disseminated throughout the network during its diversification, with their scarcity merely reflecting their original disconnected positions. Overall, as explained in Ringe (2022:58), cladistics cannot distinguish between this and a straightforward treelike structure. Language



change generally occurs within one speech community and may often spread to other communities, even if the latter split off from the same trunk or branch at an earlier date.

Armenian could be analogous to the notoriously difficult situation of building a dialect tree for Ancient Greek, especially in the central region of Asia Minor where there seems to be constant dialect borrowing. The fact that the generally flatter (though by no means flat) areas where many of the Asia Minor WA dialects (once east of the Armenian Highlands) developed were easier to travel by foot, ox, or horse, may have contributed to more interdialectal mixing.

## Open questions

For a future research project – carefully addressing all four points below could help smooth out some of the anomalies observed in some of the trees, and perhaps give us a more accurate tree:

- 1) Expanding data coverage by incorporating all EA dialects as well;
- 2) Including all manner of morphology (nominal, adjectival, adverbial, etc.);
- 3) Integrating phonological changes and innovations and giving them slightly less weight than the morphological changes; and,
- 4) Including lexical items, though by perhaps deliberately giving them far less weight than either morphology or phonology.

Perhaps, by including all EA dialects as well, we may see interesting effects that cross higher-order dialect boundaries. One particular claim of Djahukyan's that I was not able to verify was whether the Van-area dialects are indeed intermediate between the Mush-Tigranakert group and Khoy-Maragha group, since this would require a full-spectrum analysis of all attested dialects. Including phonological and lexical innovations may help solidify the position of certain dialects such as Sebastia, which is phonologically close to the dialects of Karin and Kharberd, and morphologically to Constantinople (Martirosyan 2019b:192).

Other worthy and more focused projects to pursue are: systematically breaking down northern and southern variants of MA, exploring the rationale behind the traditional Armenian scholarship's differentiation between dialects and interdialects, thoroughly documenting all dialectal evidence which may point to CmA being the most recent common ancestor to all dialects (expanding upon the work done in Section 2.4), and going into much greater detail regarding the PIE stop isoglosses (expanding upon the work done in Section 3.1.2).

## Broader reflections

Reflecting on the broader implications of this research, several key lessons emerge that extend beyond the immediate scope of Armenological studies. These lessons span from practical insights about programming and coding methodologies to more expansive considerations of how we construct and interpret historical narratives in linguistics. By stepping back from the specific details of this work, advice and reflections can be offered that are relevant to a wider audience interested in the challenges and intricacies of historical linguistic research. For the project as a whole, I hope to have made a great wealth of information available material to an Anglophone readership that would otherwise have remained entirely outside of most scholars' acquaintance.

One of the fundamental takeaways from this research is encapsulated in the phrase “every tree tells a story.” This metaphor highlights the core challenge of historical linguistics: the need to construct coherent narratives from fragmented and complex data. Unlike many areas of linguistics, where theories can often be more straightforward and clean, historical linguistics requires us to integrate dimensions of phonology, morphology, syntax, and semantics into a cohesive story. The process is inherently messy, reflecting the non-linear and multifaceted nature of language evolution. The “best” tree, therefore, is not necessarily the one that claims to be the definitive account, but rather the one that offers the most compelling and plausible narrative *without* being demonstrably incorrect.

Automated cladistics is not a tool that can be used in isolation from other modes of analysis. Put briefly, the results can be suggestive, never conclusive. Results are comparatively secure when different lines of evidence converge on the same result, hence my analysis of previous dialectological classifications and known historical population movements in Chapter 3. Computational cladistics yields only one line of evidence and should be used in conjunction with traditional methods within linguistics and without, such as archaeology, genetics, history, and everything else that might be relevant (Ringe 2022:61), which I partially attempted to do in Section 6.3.

Furthermore, this research underscores the value of the cladistic method not just in constructing these stories, but in identifying the gaps within them. Cladistics serves as a tool to highlight what is missing from our reconstructions, pointing us towards areas where further investigation is needed. This aligns with the broader function of theoretical models in linguistics, which often generate new and interesting questions rather than providing exhaustive answers. The gaps and discrepancies revealed by cladistic analyses are not failures but opportunities for deeper exploration and understanding (Noyer, p. c.).

It would also be prudent to foreshadow future difficulties in the use of lexical characters in either a future derivative project or any other cladistic project. While lexical data can offer valuable insights, it also presents significant risks, especially due to the difficulties in reliably detecting borrowing and the lack of robust theories on semantic change. As highlighted by Eric Hamp's “Apple

Indo-European” example (Hamp 1979, Adams 1985, Hamp 2013, Piwowarczyk 2014), a single missing or misinterpreted data point can disrupt entire clades, demonstrating the precarious nature of relying heavily on lexical characters for linguistic reconstruction, hence the use of lower weights for lexical characters relied upon in cladistic analysis, which is a good practice.

A prudent approach, as suggested by Don Ringe’s advice to “rely only on the etymologies that we cannot do without,” is equally applicable to cladistics (Noyer, p. c.). This principle emphasizes the importance of discerning which characters are indispensable and which can be discarded. The computational tools employed in this research have been instrumental in identifying characters that potentially matter, aiding in the judgment calls necessary for constructing a reliable phylogenetic tree. The goal is to achieve a “clean” model – not one that tells the complete story, but one that identifies the essential characters that provide a robust foundation for further inquiry.

This process of selective inclusion and exclusion is part of the larger endeavor of historical linguistics. It mirrors the evolution of Indo-European studies, where centuries of (mostly phonological but increasingly morphological and syntactic) research have allowed scholars to sift through vast amounts of data, distinguishing well-supported evidence from less certain conjectures. The early days of etymological dictionaries and reconstructions were fraught with uncertainty, but over time, a clearer and more reliable picture has emerged. This historical perspective underscores the importance of a meticulous and cautious approach in contemporary research, while also highlighting the iterative nature of scientific progress.

## APPENDIX A: DATA SOURCES

These dialects were chosen primarily because of the accessibility of dialect descriptions and text samples, though the source data has remained somewhat inaccessible to Western scholars by virtue of the fact that it is written in WA for most pre-1915 publications and in EA for most publications released in the previous century. I could have chosen an even greater number of dialects and subdialects, though our record for some of them is quite poor, so I limited myself to dialects that have a sufficient amount of written material. Some sources are more anthropological or ethnographic than linguistic, but they generally contain at least some data. Here they are in alphabetical order, along with alternate names (many have WA-specific or foreign glossonyms) and the main sources consulted:

Dialect	Other glossonyms	Sources
Classical Armenian “CA”	Grabar, Krapar, Old Armenian, Mesropian Armenian	Cirbied 1823, Hübschmann 1899, Meillet 1913, 1936, Godel 1975, Schmitt 1981, R̄ Ghazaryan 1987, 1993, Vaux 1995b, R̄ Ghazaryan 2001, Van Damme 2004, Krause & Slocum 2022
Middle Armenian “MA”	Cilician Armenian, Medieval Armenian	Karst 1901, Hübschmann 1901, Finck 1903, 1904, S. G. Ghazaryan 1960, Schmitt 1972, Ant’osyan 1975, Greppin 1986, Svazlyan 1994, Hovsep’yan 1997, Ač’arean 2003, Khachatryan et al. 2019, Dat’evik 2022
Adapazar	Adapazarı, Agrilion	Xazkonc’ 1898, Byurakn 1898:597, 887, 1900:676, Gevorgyan 2017
Akn	Agn, Eğin, Kemaliye	Čanikean 1895, Berberian 1897:62-67, 1898:23-24, Byurakn 1898:101, 330, 360, 393, 429, 557, 565, 601, 827, 895, Berberian 1900:254-266, Byurakn 1900:388, 695, Berberian 1903:145-168, Mak’sudeanc’ 1910:57-63, Ač’arean 1911:222-224, Maxudianz 1911, Gabriëlean 1912, Maxudianz 1912, Azatean 1943, Ač’arean 1951:349, K’ēč’ean & Parsamean 1952, Vaux 1993b, Vaux 1994a, Abrahamyan 2016:7-23
Alashkert	Alaškert, Eleškirt	Yovsēp’eanc’ 1892:47, Haykuni 1894, Byuragn 1899:316, Nždehean 1899, 1902, 1908, 1910, Örbeli 1959, Madat’yan 1970, 1985, Zatikyan 1992
Altun-Husein	Altinhüseyin, Altunu	Byurakn 1898:36, 329, 331, 334, 583, Baṛramyan 1960:52
Amasia	Amasya	Ač’arean 1951:350-351
Aramo	Syrian Armenian, Jisr	Ayceamn 1907, Łaribyan 1958a:9-77

	al-Shughur, Arima, Uremi, Urima	
Arabkir	Arapgir, Arapkir	Byurakn 1900:135, Dawit <sup>c</sup> -Bēk 1919, Baxtikean 1934, Ačārean 1951:348-349, P <sup>c</sup> olatean 1969
Arjesh	Archesh, Erciş, Erdiş, Agants, Akanc, Arsissa, Arzes	Haykuni 1901c, 1902a, 1902b, 1904, 1906
Artial (Kuti & Suceava)	Ardeal, Erdély, Polish Arm., Austro-Hungarian Arm., Romanian Arm., Transylvanian, Suczawa, Bukovina, Kutu, Koty, Cuturi	Hanusz 1886, 1887a, 1887b, 1887c, 1888a, 1888b, 1889, Bazmavep 1899:112, 218, 325, 516, 557, Finck 1907, Ačārean 1911, Ačārean 1951:355-356, 1953, Greppin & Khachaturian 1986:11-21, Pisowicz 1997, 2003, Száva 2020
Aslanbeg	Arslanbey, Aslanbey, Aslanbek	Ačārean 1898, Tēr-Yakobean 1960, Vaux 1993a, Vaux 2001a
Aygetun	Aykedun, Sasun-Talvorik (Talori)	Djahukyan 1972
Ayntab	Aynt <sup>c</sup> ap, Gaziantep, Aīntāb, Aintap	Byurakn 1898:772, 826, 1899:668-685, 1900:682-7, Muradian 1924, Coc <sup>c</sup> ikean 1947, K <sup>c</sup> asuni 1953, Sarafean 1953:313-380, Vaux 1999a, 2000a, K <sup>c</sup> asuni 2008, 2010:313-380
Baberd	Papert, Bayburt	Tarpinian 1899, Byurakn 1899:520, 567, 587, 611, Ačārean 1911
Bardizag	Bahçecik, Bardızağ, Kojayeli, Partizak	Byurakn 1898:396, 471, Tēr-Yakobean 1960
Beylan	Kaza Belen, Bailam	Ēaribyan 1953:418-425, 1955:224ff, Mik <sup>c</sup> aelyan 2022a, 2022b
Bitlis	Baghesh, Paghesh, Balalesa	Haykuni 1904, Tarōnean 1961, Dankoff 1990, Hovannisian 2001
Charsanchag	Ismail, Charsandjak, Çarsancak, Akpazar	Haykuni 1895, 1896a, 1896b, Antranik 1900, Haykuni 1901, Bałramyan 1960:41
Chmshgadzak	Çemişgezek, Chmshkatsag, Chämishkäjäk, Chemishkedzek	Bałramyan 1960:29, Kasparian 1969, Muradyan 1982, 1985b, Vaux 1999b, Muradyan 2010

Constantinople	Polis, Istanbul, Bolis, Bolsevar, Bolsahayeren	Riggs 1847, Mordtmann 1883, Ačarean 1902, 1911:249-257, Kazanjian 1924, Ačarean 1941, 1951:353-354, Muradyan 1983, Greppin & Khachaturian 1986:155-168, Svazlyan 2000a, Vaux 2006c, Sommer & Kainz 2014, Sayeed & Vaux 2017
Crimea	Crimean Arm., Nor-Naxijewan, New Nakhichevan, Nakhichevan-on-Don, Proletarsky	T <sup>o</sup> rosean 1794, Patkanov 1875a, Dikranian 1892, Patkanian 1893a, 1893b, 1904, Navasardian 1906-07, 1907-09, 1909-11, Ačarean 1911, 1925, 1951:354-355, P <sup>o</sup> rk <sup>o</sup> šeyan 1971, Jalašyan 2012, Ačarean 2021
Darende	Daranda, Dalandis, Saratsen, Turanda	Byurakn 1899:295, 498, 572
Edesia	Edesia, Urfa, Urha, Edessa	Byurakn 1900:331, Ęaribyan 1958a:146, Haneyan 1982, Gappenjian n.d., Ter-Petrosyan n.d.
Erznkay	Kharberd-Yerznka, Erzincan, Arzinjan, Kiđi, Tunceli	Byurakn 1898:536, 1899:386-388, Ačarean 1911, 1951:342-343, Bałramyan 1960, T <sup>o</sup> r-Vardanean 1968, Kostandyan 1972, 1973, 1979, Greppin & Khachaturian 1986:22-36
Eudokia	Eudocia, Evdokia, Tokat	Byurakn 1898:317, Gazančean 1899, Ačarean 1901, 1951:350, Alp <sup>o</sup> yačean 1952:1366-1457, Khachatryan 2016
Evereg	Averek, Avirak, Everek, Örence, Develi, Evereg-Fenese	Panaser 1902, Ačarean 1911, Alboyadjian 1937:1644-1657
Gamakh	Kemah, Kamax, Ani-Gamakh, Kamachon	T <sup>o</sup> r-Vardanean 1968, Zatikyan 1992:43-48
Gop	Kop, Bulanık, Pulanux	Haykuni 1896c, 1896d, 1901d
Gyumri	Kyumri, Leninakan, Alexandropol	Gevorgyan 1989, Schirru 2012, Hovannisyan & Sahakyan (2020).
Gyurin	Gürün, Kyurin, Girîn	Biwrakn 1898:839, 1899:410, 425, 478, 820, Ačarean 1909
Haji-Habibli	Eriklikuyu, Karaçay, Svedia	Ačarean 1948, Pashayan 1963, 1964, Greppin & Khachaturian 1986:192-201, Ačarean 2003:482-490 Vaux 2021
Hajin	Hajen, Hač <sup>o</sup> n, Hađ <sup>o</sup> n, Haçin	Boyajian 1889:47-51, Byurakn 1898:779, 1899:41, 1900:331, P <sup>o</sup> łosean 1942, Gasparyan 1966, Greppin & Khachaturian 1986:50-64, Ačarean 2003

Halvorig	Halvori, Alevor, Karşılar	Djahukyan 1972, Gasparyan 1979
Hamshen	Hamsetsnak, Hamšenahay, Hemshenli, Homshetsma	3 well-attested subdialects: Mala, Martil, and Zefanos (though more exist). Bžškean 1819, Haykuni 1892, Byurakn 1899:508, 558, 603, 654, 699, 752, and 779, 1900:14, 29, 42, 59, 82, and 120, Muradean 1901, Taşean 1921, Ačarean 1947, 1951:344-345, Dumézil 1964, 1965, 1967, T'orlak'yan 1981, 1986, Greppin & Khachaturian 1986:65-76, Dumézil 1986-87, Gurunyan 1991, Bläsing 1992, 1995, Dankoff 1995, Dankoff et al. 1996, Vaux, La Porta & Tucker 1996, Vaux 2000b, 2001b, Bläsing 2003, Vaux 2007, Simonian 2007, Bläsing 2007, Chiribka 2008, Vardanyan 2009, Hovannisian 2009, Altunkaya 2012, Özkan 2014, Şahin 2019, Abrahamyan 2022, Özkan 2023
Hazzo	Kozluk	Byurakn 1898:538, 1899:37, 75, 641, Ačarean 1911:160-164
Jerusalem	K'atak'ac'i	Stone 1997, 2002, Vaux 2002a, Stone 2007
Kabusiye	Çevlik, Mağaracık, Svedia, K'abusie, Kabusie, KapısuYu	Łaribyan 1958a:78-145, Pashayan 1963, 1964, Vaux 2021
Karin	Kars	Tomson 1887 (Akhalkkha subdialect), Lalayean, 1892, 1897, 1983, Mxit'areanc' 1901, Ačarean 1911, 1951:337, Mkrtč'yan 1952, Malxasyanc' 1958, Hakobyan 1974:409-437 (Basen subdialect), Greppin & Khachaturian 1986:91-102
Kesab (Galaduran sub.)	Kessab, Kasab, K'esab	Byurakn 1899:443, 1900:731, Martiryan 1952-53, Łaribyan [Gharibyan] 1953:444-457; 1955:196, 201-202, Ant'osyan 1966, Andreyan 1967, Svazlyan 1984, Č'olak'ean 1986, Svazlyan 1994, Hananyan 1995, Gyoalyan 2001, Ačarean 2003, Hambardzumyan 2009, Č'olak'ean 2009, Scala 2021b, Mik'aelyan 2022a, 2022b
Kesaria	Caesaria, Caesarea, Kayseri, Gesaria, Mazaka, Mazaca, Mažak'	Byurakn 1898:331, 406, 454, 580, 647, 1899:74, 200, 1900:469, 636, Banaser 1902:174-175, Ačarean 1911, Kalfayan 1930, Alboyadjian 1937:1607-1672, Ant'osyan 1961, Grigorean & Garakēōzean 1963, Ant'osyan 1966
Kharberd/Dersim	Xarberd, Harput, Kharpert, Tersim, Elaziğ	Byurakn 1898:331, 473, 583-4, 623, 671, 776, 1899:18, 402-405, 1900:233, 316, 331, 491, 519, 730, Andranik 1900 (Dersim), Sargisean 1932 (Balu), Ačarean 1951:342-343, Hayk 1959, Bałramyan 1960, Srapean 1960 (Kghi), Halajyan 1973:31-100,

		Gasparyan 1979 (Dersim), Srvanjtyanc <sup>ć</sup> 1978, Kostandyan 1979, 1982, Srvanjtyanc <sup>ć</sup> 1982 [1884], Kostandyan 1985, Alahaidoyan 2009 (Balu)
Khodorjur	Khotrdjur, Xotorj <sup>ur</sup> , Xodorçur, Khndadzor, Khotorjur, Khodorchur, Xodorchur, Sırakonak	Gawařac <sup>ı</sup> 1903, Haçean 1904, 1907, 1915, Açařean 1951:337-338, YuřamXotorj <sup>ur</sup> 1964, Petrosyan et al. 1975, Bařramyan 1976, Kostandyan 1985, Vaux n.d., Vaux 2012b
Malatya	Malatia	Byurakn 1898:620; 1899:772, Benneian 1899, Byurakn 1900:118, Açařean 1911:196, 1951:345-346, Alpōyaçean 1961, Danielyan 1967
Manazkert	Manzikert, Manazgerd, Malazgirt	Haykuni 1906, Açařean 1911, Bařnasyan 2016
Marash	Kahramanmarař, Germanicea	Mēlik <sup>ć</sup> -Dawit <sup>ć</sup> pēk 1896, Byurakn 1898:179, 360, 387, 425, 452, 465, 481, 535, 570, 585, 597, 693, 860, 888, 1899:101, 314, 349, 405, 425, 1900:185, 363, Vaux 1996, Vaux 1997b
Marzvan	Merzifon, Marsivan	Byurakn 1900:427, P <sup>ć</sup> umayean 1930, T <sup>ć</sup> umayean 1930
Moks	Mokk <sup>ć</sup> , Moxoene, Bahçesaray	Abeghyan 1889, Hay-Armen 1890, Sarkavag 1892:61-151, Yovsēp <sup>ć</sup> eanc <sup>ć</sup> 1892:3-46, 205-254, Xalat <sup>ć</sup> eanc <sup>ć</sup> 1901:45-56, Abeghyan 1902, řahpazean 1913, Lalayean 1914b, Muradyan 1962, 1978, 1982, Orbeli 2002, Hambardzumyan 2005
Mush	Muř, Muř	Sedrakean 1874, Sruanjteanc <sup>ć</sup> 1874, Patkanov 1875b, Sruanjteanc <sup>ć</sup> 1876, Mseriantz 1897, 1899, 1901, Açařean 1911, Lalayean 1917a, Açařean 1951:338-339, Bařdasaryan-T <sup>ć</sup> ap <sup>ć</sup> alc <sup>ć</sup> yan 1955, 1958b, Tapaltsian 1958, Tarōnean 1961, Melik <sup>ć</sup> ean 1964, Bulanəx 1972, Shahnazarian 1972, Greppin & Khachaturian 1986:128-141, Hovannisian 2001, Bařnasyan 2016, Mkrtç <sup>ć</sup> yan 2021a, 2021b, 2021c, 2021d, 2022a, 2022b
Nicomedia	Nikomedia, İzmit	Açařean 1898, Kabasian 1913, Açařean 1951:352-353, Tēr-Yakobean 1960, Gevorgyan 2016:39-59
Nish	Nich (Sasun-Motkan)	Djahukyan 1972
Ordu	Altınordu, Cotyora,	Byurakn 1900:72, Açařean 1951:351-352, Łarıbyan 1953:93-97,



	Kotyora	Djahukyan 1972:133
Ozim	Vozm, Ozm, Ozmi, Vozim, Gümüşören, Ozni	Byurakn (Kaycorik) 1899:20-21, 119-120, 298, Ačarean 1911:147-150, Łaribyan 1953:93-97, Hovsep'yan 1966, Arewikyan 1967, Hovsep'yan 1970
Prknig	Brgnik, Dört Eylül, Pırknig, Çayboyu	Ačarean 1911:227
Rodosto	Thrace, Malgara, Tekirdağ	Byurakn 1898:756, Ačarean 1911, 1951:354, Pachajian 1971:235-248, Mesropyan 2016
Sasun	Gelieguzan	K'alant'ar 1895, Tomaschek 1896, Byurakn 1900:121-122, Abeghyan 1944, Petoyan 1954, Karapetyan 1962, Petoyan 1965, Grigoryan & Grigoryan 1977, Grigoryan 1983 Greppin & Khachaturian 1986:169-178, Xaç'atryan 1999, Kharatyan 2018:427-439
Şabinkarahisar	Shapin-Garahisar	Ačarean 1911, 1951:343-344, Tēōvlēt'ean 1954, Xaç'atryan 1985
Sebastia	Sivas, Sebasteia	Ačarean 1911, Gabikean 1914, Ačarean 1951:349-350, Gabikean 1952, Dankoff 1983, Weitenberg 1984
Shatakh	Şatax, Çatak	Byurakn 1898:558, 569, Haykuni 1902c, Ačarean 1911, Muradyan 1962
Sivri-Hisar	Sivrihisar	Tēr-Yovhannēsean 1965, Mkrtč'yan 1995, 2006:104-201
Smyrna	Zmurnia, İzmir	Stepannos 1835, Mordtmann 1883, Ačarean 1951:352, Vaux 2012a:111-126
Stanoz	St'anoz, Yenikent	Byurakn 1899:443, 670, 1900:233, Ōtean-Gasbarean 1968, Mkrtč'yan 2006:202-222, 293-294.
SWA	West Armenian, Modern West. Arm., Standard West. Arm.	Gulian 1902, 1957, Fairbanks 1958, Torosian 1961, Gulian 1965, Bardakjian & Thomson 1977, Samuelian 1989, Gulian 1990, Bardakjian & Vaux 2001, Sakayan 2012, Yeghiaian 2022
Syolyoz	Sölöz	Ačarean 1911
Tigranakert	Dikranagerd, Digranagert, Diyar Bekir, Diyarbakır, Diarbekr	Sruanjteanc' 1884[1978], Ekinian 1892:59-64, 68, 70-71, 73-5, 92, 95, 97, 100, 131, 144-6, 200, 202, 207, 210, 214, 218, Byurakn 1898:332, 337, 413, 445, 470, 569, 654, 700, 1899:545, 731, 1900:330, 450, 677, Ačarean 1911, Tsotsikian 1947, Mkund 1950, Ačarean 1951:341-342, Harut'yunyan 1965, Haneyan 1978, Greppin & Khachaturian 1986:213-223, Vaux 2006b

Tomarza	Dumarza	Kalfayan 1930, Alboyadjian 1937:1659-1663, Djahukyan 1972, Petrosyan 1987
Trabzon	Trapizon, Drabizon, Zefanos	Ačarean 1911:178-183, 1951:343-344, Yovakimean 1967, T'orlak'yan 1986, Hovannisian 2009
Van	Tosp, Tushpa, Wan, Eua, Eva	Sedrakean 1874, Sruanjteanc' 1874, Tēr-Sargsenc' 1875, Sruanjteanc' 1876, Šērenc 1885, 1899, Byurakn 1898:183, 459, 558, 583, 1899:15, 151, Haykuni 1900-13, Ačarean 1902[1903], 1904, Lalayean 1910, Ačarean 1911, Lalayean 1912, Šahpazean 1913, Lalayean 1914a, 1915, 1917b, Ačarean 1951:339-341, 1952a, Ter-Mkrtč'yan 1970, Bałramyan 1972 (Sevan), Avagyan 1978, Sruanjteanc' 1978, Greppin & Khachaturian 1986:224-239, Hovannisian 2000, Mik'ayelyan 2009, Mesropyan 2018, T'uršyan 2018, Mesropyan 2022
Vartenis	Vardenis, Diadin, Diyadin, Tatēon, Pasarkeshar	Ačarean 1911:140, 145f, 1951:339, Bałramyan 1972:116-134, Zatikyan 2002, Xač'atryan 2004, Katvalyan 2012, Martirosyan 2019b:220
Xlat	Ahlat, Khlat, Bznunik	Haykuni 1901g, 1906, Shahnazarian 1972
Xnus	Xanus, Xnis, Xnut, Xnuz, Hınıs	Byurakn 1898:739, Haykuni 1902b, Haykuni 1906, Melik'ean 1964, Zatikyan 1992
Xtrbek	Khdrbeg, Svedia, Khodr Bey, Kheter Bey, Hıdırbey	Hananyan 1995
Yoghunoluk	Yoğunuluk, Yoghun-Oluk, Svedia	Pashayan 1963, 1964, Vaux 2021
Yozgat/Gamirk	Bozok	T'emurč'yan 1970, Mkrtč'yan 2006:11-102
Zeytun	Zeyt'un, Zeitoun, Marash-Zeytun, Süleymanlı, Zmyur'nia	Byurakn 1898:744, 1899:18, 137, 443, 545, 1900:74, 228, Allahvērtean 1884:159, Mak'sudeanc' 1911, Galustean 1934, Ačarean 1951:352, Guyumčean 1990, Ačarean 2003

## APPENDIX B: MAPS

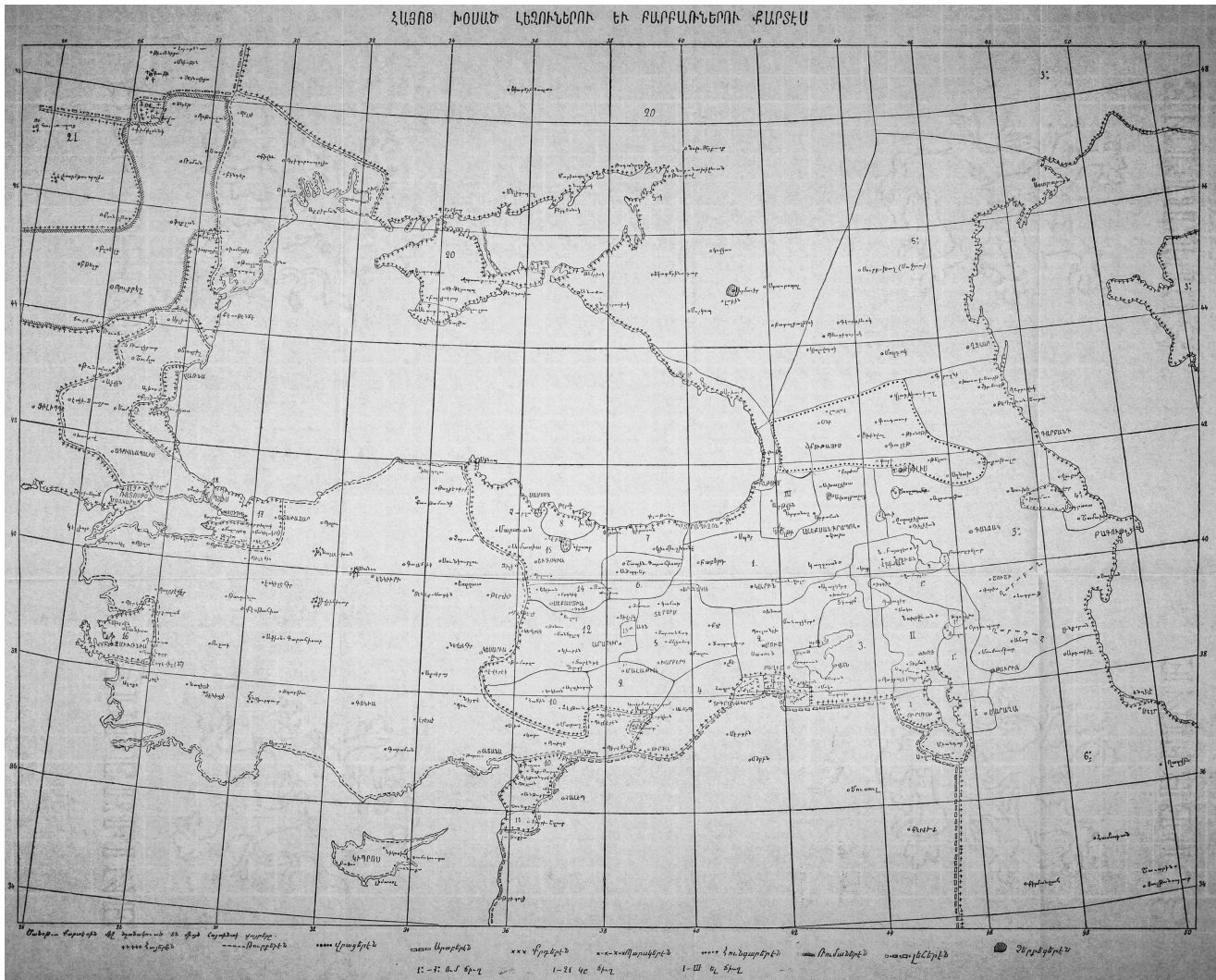


Figure 54: Ačařean’s hand-drawn map of dialects (1911:325)

Figure 54 is the original hand-drawn map of dialects featured in Ačařean’s (1911) *Armenian Dialectology*. Below in Figure 56, I have drawn up a map showing the three main dialect groupings based on the morphological tripartite division (blue = *gə*, green = *-um*, gray = *-el*), which is an expansion of the method used by Ačařean. The only dialect not shown due to space limitations is the Jolfa - *um* dialect, in Isfahan, Iran. In the map shown in Balabanian 2024b (reproduced in Figure 1), I have further separated the dialects based on what form the indicative particle or the participial suffix take (for the Western dialects: blue = *gə/g’/kə/k’*; dark blue = *ka/ga*; violet = *ha*; for the Eastern dialects: green = *-um*; red = *-s*; gray = *-l*; and for the Classical pattern, yellow). Except where otherwise stated, all maps were created by the author using the tools built into Google Maps. URL: <https://bit.ly/3te9vTx>

Both the maps created by the author and Ačařean's and Weitenberg's maps are deficient in the sense that they do not properly convey the geographical scale or density of the speakers. Sargsyan (2008)'s map is ideal for those looking at vowel features. A complicating factor is the coexistence of speakers of various dialects of Cappodocian and Pontic Greek, Kurdish, Turkish, Arabic, Laz, and other languages. With the use of existing demographic studies of the Ottoman Empire, the 1914 Ottoman census, and other ethnographic data, I will combine both the one-dot-per-dialect approach used in Figures 1 and 56, and Ačařean's more traditional territorial dialect map to form a coherent picture of scale and population densities right before the start of the Armenian Genocide. Also note, however, that many dialects saw their populations dwindle before the Genocide, due to Turkification<sup>441</sup>, and various pogroms such as in Tigranakert (25,000 deaths in 1895: Angold et al. 2006), in the Adana vilayet, which affected many Cilician (sub)dialects (15,000-30,000 deaths in 1909: Akçam 2006:69-70), in Ayntab, Trabizon, Sasun, and more than two thousand villages, as part of the 1894-1896 Hamidian Massacres (300,000 deaths: Akçam 2006:42), in Van (20,000 deaths in 1896: Balakian 2004, Deringil 2009), and other areas.

---

441 Ačařean (1911:30-32) meticulously documents which Armenian communities then spoke exclusively Turkish – like those in Niksar, the island of Cyprus, European Turkey (including Bulgaria and Eastern Rumelia, starting from Marmara) especially Gallipoli, Silivri, Çorlu, Ereğli, Çatalca, Adrianopolis, Dimetoka, Gyumyurdjina, Dedeğaç, Silistra, Razgrad, Shumla, Sliven, Aytos, Karnobat, Yambol, Eski Zagra, and Haskovo; in the formerly Ottoman-controlled of Romania, Moldova, and Bessarabia, such as Babadag, Tulcea, Sulin, Galați, Ibraila, Constanța, Ismail, Balti, Bender, Chișinău, Akkerman, Grigoriopol, Odesa, and Cherson; Armenians living in Lazistan (eastern side of Trabizon) were also Turkish-speaking, so were those living in the western side of Akhalkalak (Bavra, Khulgumo, Kartikami, Turtskh), in the region of Olti (Kalkos and surrounding villages), on the northern banks of Urmia (Sovushpulagh and Miandoab). Ačařean optimistically noted that some formerly Turkish-speaking communities were readopting Armenian as their everyday language, which was sometimes reinforced by recent migrants from other Armenian-speaking areas and intense feelings of national awakening, though this proved to be short-lived.

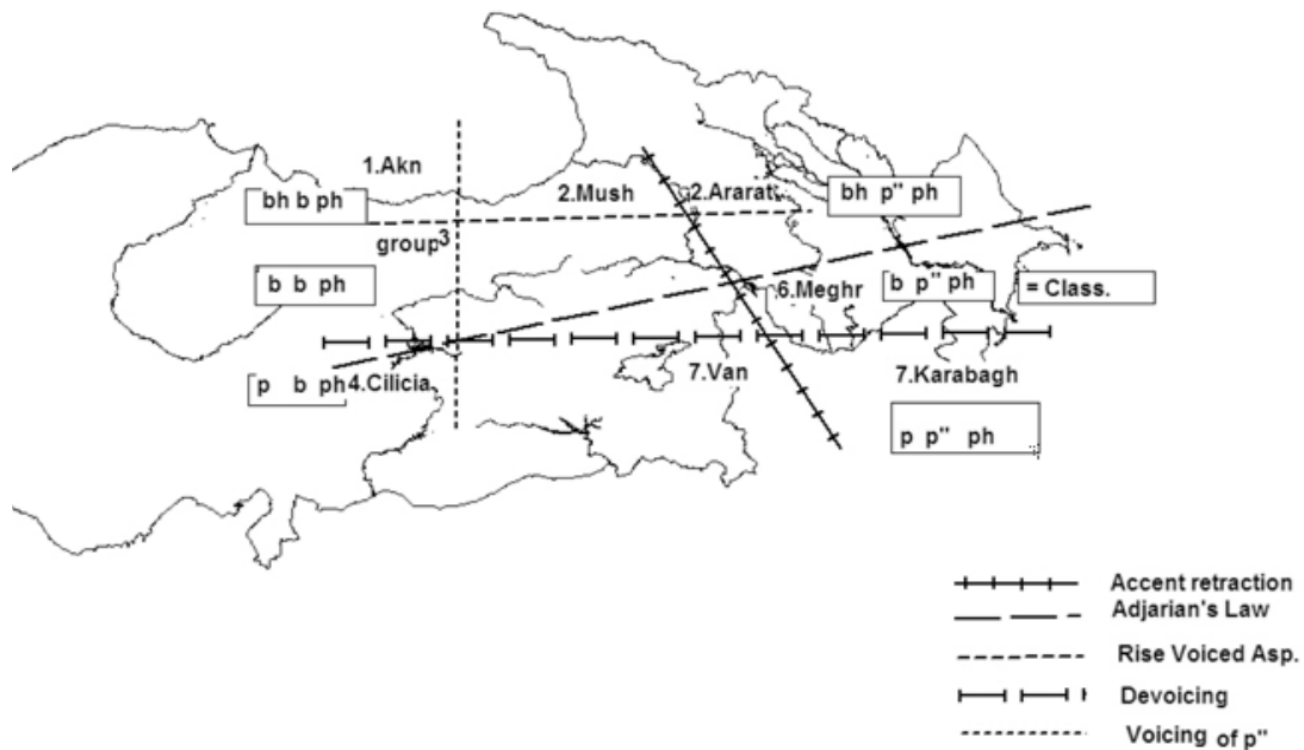


Figure 55: A tentative map of the main isoglosses based on plosives (Weitenberg 2017:1140, based on Kortland 1978, 1998)

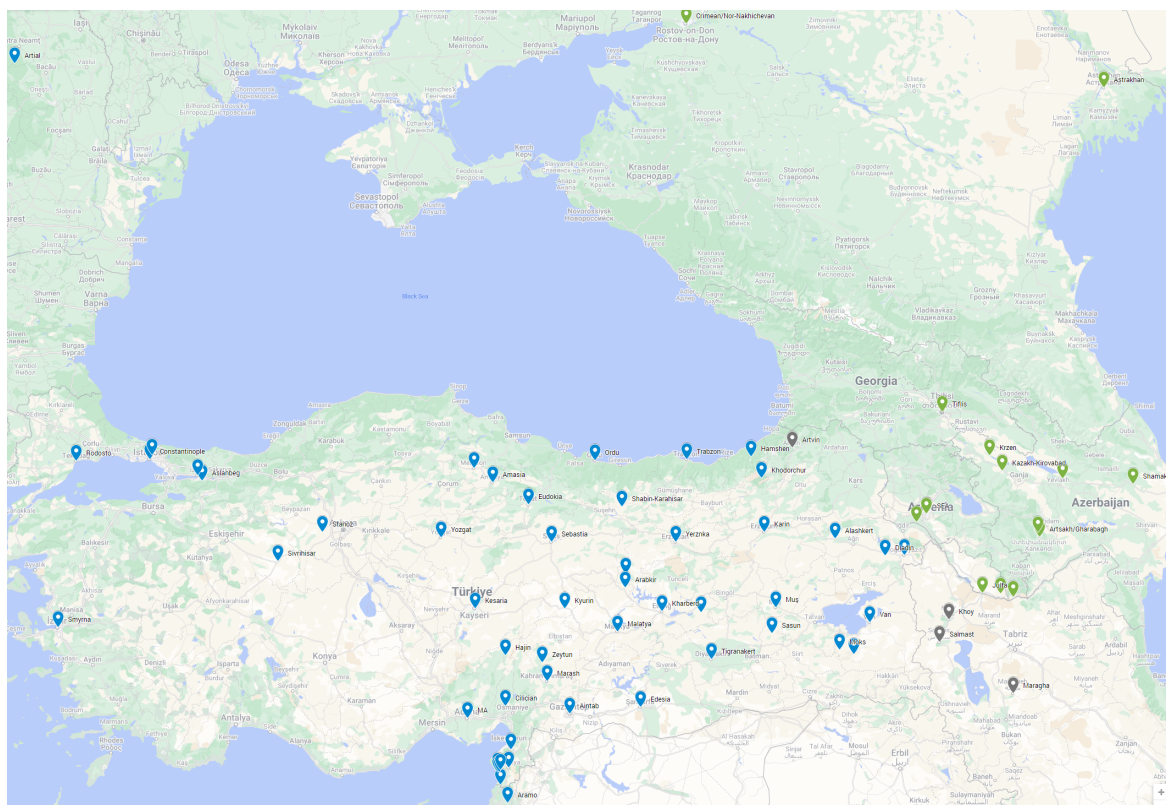


Figure 56: Three-way division of dialects, adapted from Ačarean (1911)'s work<sup>442</sup>

442 Blue = *ka/gə* branch (includes *ka/ga*), green = *-um* branch, gray = *-el* branch.

## APPENDIX C: HEURISTIC SEARCH SETTINGS

For a complete set of files with the different settings I used, see <https://github.com/gbalabanian/Cladistic-data-for-Armenian-dialects/branches>.

Early attempts:

```
set crit=lik;
lset clock=yes;
charpartition types = morphological:1-53;
set criterion=parsimony maxtrees=100 increase=no;
hsearch start=stepwise addseq=random nreps=25 swap=tbr;
filter best=yes;
set maxtrees=100 increase=no;
hsearch start=current swap=tbr hold=1 nbest=1000;
Set AllowPunct=Yes
q warnTsave=no;
```

Figure 57: Basic settings used for the PAUP\* heuristic search

```
paup> bootstrap / nbest=all;

Bootstrap method with heuristic search:
Number of bootstrap replicates = 100
Starting seed = generated automatically
Number of characters resampled in each replicate = 103
Optimality criterion = parsimony
Character-status summary:
  Of 103 total characters:
    All characters are of type 'unord'
    All characters have equal weight
    8 characters are constant (proportion = 0.0776699)
    20 variable characters are parsimony-uninformative
    Number of parsimony-informative characters = 75
  Gaps are treated as "missing"
Starting tree(s) obtained via stepwise addition
Addition sequence: random
Number of replicates = 25
Starting seed = generated automatically
Number of trees held at each step = 1
Branch-swapping algorithm: tree-bisection-reconnection (TBR) with reconnection limit = 8
  Steepest descent option not in effect
'Maxtrees' setting = 1000 (will not be increased)
Branches collapsed (creating polytomies) if maximum branch length is zero
'MulTrees' option in effect
No topological constraints in effect
Trees are unrooted

100 bootstrap replicates completed
Time used = 00:26:10 (CPU time = 00:25:55.4)
```

Figure 58: Settings for unrooted cladistic analysis

Heuristic search settings:  
Optimality criterion = parsimony  
Character-status summary:  
Of 103 total characters:  
All characters are of type 'unord'  
All characters have equal weight  
8 characters are constant (proportion = 0.0776699)  
20 variable characters are parsimony-uninformative  
Number of parsimony-informative characters = 75  
Starting tree(s) obtained via stepwise addition  
Addition sequence: random  
Number of replicates = 25  
Starting seed = generated automatically  
Number of trees held at each step = 1  
Branch-swapping algorithm: tree-bisection-reconnection (TBR) with reconnection limit = 8  
Steepest descent option not in effect  
'Maxtrees' setting = 100 (will not be increased)  
Zero-length branches not collapsed  
'MulTrees' option in effect  
No topological constraints in effect

Figure 59: Settings used for the early tree shown in Section 6.2.1

Data matrix has 79 taxa, 60 characters  
Valid character-state symbols: ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz  
Missing data identified by '?'  
Case significant for alphabetic character-state symbols

Heuristic search settings:  
Optimality criterion = parsimony  
Character-status summary:  
Of 60 total characters:  
All characters are of type 'unord'  
All characters have equal weight  
3 characters are constant (proportion = 0.05)  
8 variable characters are parsimony-uninformative  
Number of parsimony-informative characters = 49



Starting tree(s) obtained via stepwise addition

Addition sequence: random

Number of replicates = 25

Starting seed = generated automatically

Number of trees held at each step = 1

Branch-swapping algorithm: tree-bisection-reconnection (TBR) with reconnection limit = 8

Steepest descent option not in effect

'Maxtrees' setting = 100 (will not be increased)

Zero-length branches not collapsed

'MulTrees' option in effect

No topological constraints in effect

Trees are unrooted

Search terminated prematurely (no room to store new trees)

100 trees retained

Time used = 0.97 sec (CPU time = 0.83 sec)

Tree-island profile:

Island	Size	First tree	Last tree	First Score	Times replicate	hit
1	100	1	100	277	1	1

Tree filter retaining trees that satisfy all of the following criteria:

Best score according to current optimality criterion

Results:

Number of trees originally in memory = 100

Number of trees retained by filter = 100

(All trees satisfied the filtering criteria)

Tree description:

Unrooted tree(s) rooted using outgroup method

Note: No outgroup has been defined; tree is (arbitrarily) rooted at first taxon.

Optimality criterion = parsimony

Character-status summary:

Of 60 total characters:

All characters are of type 'unord'  
All characters have equal weight  
3 characters are constant (proportion = 0.05)  
8 variable characters are parsimony-uninformative  
Number of parsimony-informative characters = 49  
Character-state optimization: Accelerated transformation (ACCTRAN)

Tree 1 (rooted using default outgroup)

Tree length = 277  
Consistency index (CI) = 0.3574  
Homoplasy index (HI) = 0.6426  
CI excluding uninformative characters = 0.3358  
HI excluding uninformative characters = 0.6642  
Retention index (RI) = 0.6261  
Rescaled consistency index (RC) = 0.2238

Lengths and fit measures of trees in memory:

Character-status summary:

Of 60 total characters:

All characters are of type 'unord'  
All characters have equal weight  
3 characters are constant (proportion = 0.05)  
8 variable characters are parsimony-uninformative  
Number of parsimony-informative characters = 49  
Sum of min. possible lengths = 99  
Sum of max. possible lengths = 575

Figure 60: Example of settings used for multistate trees

## APPENDIX D: DIALECT CLASSIFICATION OF AČAREAN (1911)

Ačarean (1911) presumes that CA is the origin of all modern dialects, and he breaks down the dialects by the form of the indicative mood marker. They grayed WA dialects are those not studied in this thesis due a lack of sufficient data. Alternate dialect names given in parentheses.

### WA (*gə*)

#### Karin

Baberd<sup>443</sup>

Gyumri

Kars

Khodorjur<sup>444</sup>

Akhalkalaki

Akhaltskha

Basean

#### Mush

Alashkert

Arjesh

Bitlis

Gop

Manazkert

Sasun

Xlat

Xnus

Adamxan

Adyaman

Alikrykh

Aparan

Artske

Avdalaghalu

Dzoragegh

Gölköy

Karnen

---

443 “The Baberd subdialect forms a midpoint between the Karin and Trabzon dialects [...] The villages of Baberd are more faithful to the mother dialect [Karin], as they are almost the same..” (*ibid.*:112). Every quote in this appendix is my translation.

444 He was not sure if to place it as a separate dialect or as an intermediate dialect between Hamshen and Karin, as he noted that there were still many things unknown about this dialect (*ibid.*:112).

Lower Gyuzeldara  
 Lower Karanlug  
 New Bayazet  
 Tsakkar  
 Upper Gyuzeldara  
 Xuyt  
 Yeranos  
 Zaghalu  
 Zolakhach  
**Van**  
 Moks  
 Ozmi  
 Shatakh  
 Vartenis  
 Norduz  
**Tigranakert**<sup>445</sup>  
 Edesia (Urfa)  
 Hazzo  
 Hazro  
 Khian  
 Siverek  
**Kharberd-Erzuka**  
 Charsanchag  
 Dersim  
 Kiğı  
**Shabin-Karahisar**<sup>446</sup>  
**Trabzon**  
 Giresun (Kirason)  
 Gümüşhane (Kümüşxanē)  
**Hamshen**  
 Mala  
 Zefanos  
 Abgion  
 Küçük Şana (Şanlı)  
**Malatya**<sup>447</sup>  
 Adıyaman

---

445 "... occupies a middle ground between the Mush and Malatya dialects" (*ibid.*:160).

446 "... occupies a middle ground among the dialects of Kharberd-Erzuka, Sebastia, and Eudokia" (*ibid.*:174).

447 "... occupies a middle ground among the dialects of Tigranakert, Kharberd, Arabkir, and Cilicia" (*ibid.*:196).

Hisn-Mansur  
 Cilicia  
   Kesab (Antioch)  
   Hajin  
   Marash  
   Svedia  
   Zeytun  
   Alexandretta  
   Kilis  
   Payas  
   Stanoz (Yenikent)  
 Syria  
   Aramo  
 Arabkir  
   Darende  
   Gyurin  
   Kesaria  
     Evereg  
     Munjusun  
     Balages  
   Divriği  
 Akn  
 Sebastia  
   Pirknik (Dört Eylül)  
 Eudokia  
   Amasia  
   Marzvan  
   Ordu  
   Kirkoros (Hasanbaba)  
   Samsun  
   Sinop  
 Smyrna<sup>448</sup>  
 Nicomedia  
   Adapazar  
   Aslanbeg  
   Bardizag  
   Syolyoz

---

448 "... extremely similar to Constantinople and especially to Eudokia" which is also spoken in nearby Manisa, Kasaba, Menemen, Bayındır, Kırkağaç and a few surrounding villages (*ibid.*:239).

Benli  
Geyve  
Iznik  
Ovacık/Blur  
Pazarköy  
Yalova  
Constantinople  
Rodosto  
Malkara  
Crimea<sup>449</sup>  
Austro-Hungary  
Suceava  
Gherla (Armenierstadt)

EA

-um

Yerevan  
Bayazit  
Astabad<sup>450</sup>  
Tabriz  
Lori  
Tbilisi  
Gharabagh (Artsakh)  
Gandzak  
Agstafa  
Baku  
Bolnis-Khachini  
Burdur  
Derbent  
Dilijan  
Gandzak<sup>451</sup>  
Gazakh  
Gharakilisa  
Karadagh  
Lilava

---

449 “... very close to Constantinople” also spoken in Rostov, Stavropol, Maykop, Yekaterinodar, Yekaterinoslav, Taganrog, Dnipro, Nogaisk, Novocherkassk, Theodosia, Simferopol, Karasubazar, Bakhchisaray, and Yevpatoriya (*ibid.*:263).

450 “... lies in the middle of Yerevan, Artsakh, and Old Julfa” (*ibid.*:45).

451 “... between the Artsakh and Yerevan dialects” (*ibid.*:62).

Mujumbar

Nukha

Ödemiş

Shushi

Zanzegur

Shamakhi<sup>452</sup>

Astrakhan<sup>453</sup>

Julfa

Isfahan

Agulis

Çənnəb<sup>454</sup>

-el

Maragha

Urmia

Iki Aghaj

Isalu

Khoy<sup>455</sup>

Artvin

Olti<sup>456</sup>

---

452 “... forms a middle zone between the Artsakh and Old Julfa dialect” (*ibid.*:76).

453 “... is a middle ground between the Shamakhi and Yerevan dialects” (*ibid.*:82).

454 “... holds a middle ground between Agulis and Artsakh” (*ibid.*:100).

455 “... occupies a middle position between Maragha and Van” (*ibid.*:288).

456 “... occupies a midpoint among the dialects of Karin, Khoy, and Tiflis” (*ibid.*:291).

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