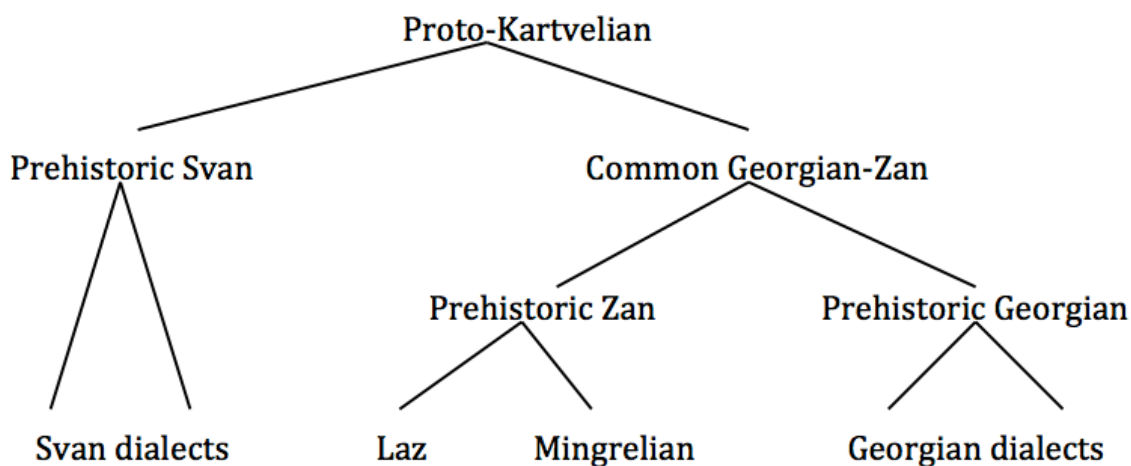


The Historical Morphology of Kartvelian
Kevin Tuite

The Kartvelian or South Caucasian language family is one of the three families endemic to the Caucasus region. It comprises four languages: Georgian, Mingrelian (a.k.a. Megrelian), Laz, and Svan. Svan is the outlier in the family, having split off from the ancestral speech community as early as the Bronze Age. Mingrelian and Laz are closely related, and represent the so-called Zan branch of Kartvelian, which in its turn descends from an ancestor common to Georgian and Zan.



Georgian, with nearly 4 million speakers, is by far the largest Kartvelian speech community. It is the official language of Georgia, and has been used as a written language since at least the 5th c. AD. Speakers of Mingrelian and Svan identify themselves as part of the Georgian ethnic group, and have not been counted separately in Georgian or Soviet censuses since 1926. Estimates of their numbers range from 300 000 to 500 000 for Mingrelian, and 14000 to 50000 for Svan. Most speakers of Laz live near the Black Sea coast in northeastern Turkey. The size of the Laz speech community is given as 22000 in the 25th edition of *Ethnologue*; although some estimates have ranged as high as half a million (Holisky 1991). The relatedness of the Kartvelian languages was recognized nearly two and a half centuries ago by the naturalist Johann Güldenstädt, who collected word-lists from Caucasus speech communities in 1770-1773 (Tuite 2008). On the other hand, no proposal to include Kartvelian in a larger genetic grouping with either the other Caucasus languages, or languages spoken elsewhere, has met with general approval from specialists. It was once commonly believed, especially in the Soviet Union, that Kartvelian, along with the East and West Caucasian languages, comprised a so-called Ibero-Caucasian family (Tuite 2008). The hypothesis which has received the widest support is the Nostratic macro-family (Illich-Svitych 1971-1984; Bomhard 2021), which, besides Kartvelian, includes Indo-European, Uralic, Altaic and several other Eurasian families.

There is a large body of linguistic work on Georgian and its sister languages, much of it produced by native speakers and to a considerable extent written in Georgian. Numerous descriptive and pedagogical grammars of Georgian have been published (Tschenkéli 1958; Vogt 1971; Aronson 1982; among others). Grammatical descriptions are also available for Old Georgian (Zorell 1930; Schanidse 1982), Mingrelian (Q'ipshidze 1914; K'art'ozia, Gersamia, Lomia, & Cxadaia, 2011; Rostovtsev-Popiel 2020), Laz (Chikobava 1936; Kutscher et al 1995; Lacroix 2009; Öztürk & Pöchtrager 2011); and Svan (Topuria 1967; Schmidt 1992; Tuite 1997; Oniani 2005; Chumberidze et al 2007). Two Kartvelian etymological dictionaries, employing distinct reconstructions of the ancestral sound system, appeared almost simultaneously (Schmidt 1962; Klimov 1964). Although it requires fewer assumptions about the early phonological inventory of Kartvelian (Schmidt 1978, 1989; see also Gamkrelidze & Machavariani 1982: 114-5; Testelec 1995; Tuite 2000), Schmidt's system was not adopted by subsequent researchers in

Kartvelian historical phonology, whereas the Proto-Kartvelian consonant system reconstructed by Gamq’relidze and Mach’avariani (1965), which includes syllabic sonorants and a third series of sibilants and affricates unattested in any Kartvelian language, is used in Klimov’s dictionary (1964; rev. 1998), and that of the team Sarjveladze and Fähnrich (2007).

§1. Morphological Profile of Kartvelian languages. In terms of word morphology, the Kartvelian languages are primarily agglutinative, with a preference for suffixation. The sequence of morphemes is fairly transparent in standard Georgian, whereas in the Svan dialects the morphological structure of the noun and verb is significantly obscured by morphophonemic processes such as syncope, umlaut and dissimilation. Bound morphemes are composed almost exclusively of higher-sonority phonemes and voiced and aspirate stops, to the exclusion of affricates and ejective consonants. (Ejectives, although highly frequent in noun and verb roots, also do not occur in some other closed lexical classes, such as personal pronouns, demonstratives and basic numerals).

§1.1. Lexical categories and derivational morphology. Kartvelian lexemes can be divided into nominals (nouns, adjectives, demonstratives); verbs; and various indeclinable categories (adverbs, adpositions, particles).

§1.1.1. Nominals. A formal distinction between nouns and adjectives has emerged in the modern Kartvelian languages, insofar as adjectives show at most partial agreement in case with their head nouns. In Old Georgian, however, adjectives agreed in both case and number (e.g. lod-n-i did-n-i [stone-PL-NOM large-PL-NOM] “large stones” (III Kings 5:17); gund-ad ert-ad did-ad [group-ADV one-ADV large-ADV] “as one large group” (II Kings 2:25)). In Proto-Kartvelian, the noun-adjective distinction may have been limited to the function of a nominal as either head or modifier of a noun phrase, without any formal distinction. On the other hand, it is likely that many nominals were rarely if ever used as modifiers, whereas other primary (**sam-* “three”) and derived (**u-ded-o* “motherless”) nominals were most often employed as adjectives.

The Kartvelian languages have small sets of demonstratives, which also serve as 3rd-person pronouns, and (in Old Georgian) as definite articles. Vowels indicating proximal and distal spatial relations can be segmented from the demonstrative stems, e.g. **a-ma-* “this”; **i-ma-* “that”. Georgian demonstratives and deictic adverbs show a three-way spatial distinction calibrated to the speech-act participants (e.g. ese “the one near me”, ege “the one near you”, igi “the one over there”), but this may be an innovation limited to Georgian.

Kartvelian has a rich inventory of affixes for deriving nominals. These include prefixes, suffixes, and also pairings of prefixes and suffixes (“circumfixes”) with specific meanings. Several circumfixes are attested in Svan and one or more sister languages, and thus are likely to have been inherited from Proto-Kartvelian (e.g. **me-X-e* “associated with X”, used to derive names of professions such as G. me-violin-e “violinist”, and ordinal numbers, such as **me-sam-e* “third” < **sam-* “3”). Many nominal-deriving affixes can be applied to both verb and nominal stems. With the former, they form verbal nouns and various types of participles, as shown in the following table. (Note that some participles are derived from the imperfective (Series I) stem, and others from the perfective (Series II) stem).

Table 1. Prefixes and circumfixes with both verb & noun roots (Examples from Svan)

	verb root (-g-[em]- “build, erect”)	nominal roots
	<i>imperfective stem (-g-em-)</i>	
mə-√	mə-g-em “builder” (agentive participle)	mu-šwän “Svan (person)” < šwän “Svaneti”
na-√-w	na-g-äm-w “footprint, site where building once stood” (past participle)	na-šuk’-w “former path (now overgrown)” < šuk’w “path”; na-zomax-w “after New Year” < zomxa “New Year’s Day”
le-√	le-g-em “to be built” (future passive participle)	le-päq’w “[material] to be used to make a cap” < päq’w “cap”

	<i>perfective stem (-g-)</i>	
lə-√	lə-g “built” (past passive participle)	lə-č’äš “having a husband” < č’äš “husband”
u-√-a	u-g-a “unbuilt” (privative participle)	u-pq’w-a “hatless” < päq’w “cap”

Compounding. Georgian makes abundant use of compounds of various types, including paired nouns denoting key members of a set (*col-kmari* [wife-husband] “married couple”; *saxl-k’ari* [house-door] “homestead, property”); modifier-head compounds (*q’vitel-pex-a* [yellow-leg-CHAR] “yellow-legged clearwing” (species of moth); *mc’ignobar-t-uxucesi* [scribe-OBL.PL-senior] “royal chancellor”, lit. “elder of the scribes”); and object-verb pairs (*potol-č’am-ia* [leaf-eat-CHAR] “leaf-eater” (species of beetle). Svan does not employ compounding as extensively as Georgian, though many of the same types of compound lexemes are attested, e.g. *xexw-č’äš* [wife-husband] ‘married couple’, *lezweb-letre* [food-drink] “food and drink” (Topuria 1959). Unlike Svan and Georgian, Mingrelian paired-noun compounds usually include the conjunction *do* “and”: *dida-do-muma* [mother-and-father] “parents” (cf. G *ded-mama* [mother-father]). Compounds can in turn undergo further modification and even another layer of compounding, e.g. G *xel-pex-šebork’ili* [hand-foot-shackled] “with shackled hands and feet”; M *da-do-ǰimal-oba* [sister-and-brother-NOMIN] “siblinghood”. One unusual form of compound, attested in Georgian since medieval times, is formed from determiner-noun phrases embedded in the privative circumfix *u-X-o*, e.g. *u-mis-q’m-is-o-d* [NEG-that.GEN-knight-GEN-SUFF-ADV] “without that knight” (Rustaveli VepxTq 754), *u-čem-nebartv-o-d* [NEG-my-permission-SUFF-ADV] “without my permission” (Suxishvili 1984; Harris 2006a).

§1.1.2. Verb roots and derived stems. The Kartvelian verb is considerably more complex than the noun. It is typically described as consisting of a dozen or more morpheme slots, of which 3 or 4 precede the root and the remainder follow it (Deeters 1930: 6–7; Boeder 2002, 2010). The basic architecture of the verb is the same in all Kartvelian languages (Table 2), and therefore was likely to have characterized the Proto-Kartvelian verb: a verb root (zone I); preceded and followed by stem formants (II); surrounded by inflectional affixes marking tense, mood, person and number (III and IV). Surrounding the verb complex are preverbs (to be discussed below), and various types of clitics (V).

Table 2. The internal structure of the Kartvelian verb

SLOTS	-4, -3	-2	-1	0	1-7	8, 9	10	11
<i>I. root</i>				ROOT				
<i>II. stem formants</i>			preradical vowel		causative/passive, verbal plurality, series marker			
<i>III. tense/mood</i>						imperfect, tense/mood		
<i>IV. person and number</i>		S/O person					person/number	
<i>V. clitics and preverbs</i>	preverbs, clitics							clitics

The derivational and inflectional morphology of the Kartvelian verb will be presented in the following sections. Here are Georgian and Svan verbs composed of morphemes from all five zones:

- (1) G $\sqrt{[še^{-4-IV}[v^{-2-III}[e^{-1-I}[b^0]^1-m^2-ev^3-in^5-eb^6-o^7]^I-d^8-e^9]^III-t^{10}]^IV]^V}$
 PV-S1-PRV-bind-SM-CAUS-CAUS-SM-EXT-IMPF-SUBJ-PL
 “were we to let ourselves be bound to it”
- (2) S $\sqrt{[la^{-3-IV}[m^{-2-III}[e^{-1-I}[q’ah^0]^1-ēn^5-]^{II-a^9}]^{III-x^{10}]^IV]^V}$
 IPV-O1sg-PRV-kiss-PASS.AOR-PST-PL
 “they kissed me” (pronounced *lämq’ahānx*)

§1.1.2.1. Primary verb roots. The verb stem comprises the root, and stem-formant suffixes expressing valence, aspect and Aktionsart. Verb roots can be readily adopted from other lexical classes, and therefore

can have almost any phonological shape, although primary verb roots tend to be monosyllabic or vowelless. Certain primary roots — which, on the whole, denote the application of violent or distorting force to an object — can be further decomposed into an initial segment followed by a VC coda (Vogt 1947), e.g. G *č'q'l-em*- “squash”; *č'q'l-et*- “crush”; S *b-eč'k'w*- “split, burst”; *b-etk*- “explode”; *b-eqw*- “split in two”. Several morphemes of other types appear to have originated as verb-root codas; e.g. the Svan series markers *-ēsg* and *-ēšg* (Mach'avariani 2002: 123-124), and the Georgian-Zan inchoative fomant *-(e)d* (Tuite 2014). Two types of vowel alternation operate on certain types of primary verb roots (including the composite roots mentioned previously), and particular stem formants in the immediately following slots. Kartvelian ablaut will also be discussed later in this chapter.

§1.1.2.2. Voice, valence and version. Shanidze (1980 §§344, 370) divided Georgian verbs into three primary classes on the basis of voice (*gvari*), which he labelled “active” (*mokmedebiti*, primarily telic transitives), “passive” (*vnebiti*, telic intransitives), and middle (*sašuali*) or atelic; the middle verbs were further subdivided into “medioactive” and “mediopassive” classes. Corresponding to each class is a set of verb roots for which the given voice is basic, whereas the others (if available) are formed by derivation. Verb roots of each type are shown in the following table: (i) telic transitive or inherent-agent roots, which subcategorize for the semantic roles of agent and patient; (ii) telic intransitive or theme-centered roots, which subcategorize for an argument denoting the locus of an action or change of state (Tuite 2018; cf. Nichols et al 2004); (iii) activity or medioactive roots, denoting events or sound/light/movement phenomena which lack inherent; (iv) stative or mediopassive roots, including those denoting static position, possession, psychophysical states, emotional experience, etc.

Table 3. Telic and atelic verb roots in Kartvelian.

Proto-form	Georgian	Mingrelian	Svan
TELIC			
<i>I. inherent-agent</i>			
*b- “bind”	a-b-am-s “binds”	o-b-un-s	x-a-b-em
*qan- “plough”	qn-aw-s “ploughs”	xon-un-s	a-qn-i
<i>II. theme-centered</i>			
*γ(a)r- “die, fade”	γr-eb-a “fades”	γur-u-n “dies”	x-e-γr-en-i “fades”
*š(w)ed- “remain”	št-eb-i-s “remains”	skid-u-n	sed-n-i
A TELIC			
<i>III. activity</i>			
*to(w)- “snow”	tov-s “snows”	tun-s	šduw-e
*didγ-in- “mumble”	didγin-i-s “mumbles”	dγirdγin-	dədyən
<i>IV. stative</i>			
*r- “be”	a-r-i-s “is”	o-r-e-n	ä-r-i
*γ(w)- “have (inanimate)”	—	u-γ-u-n “has”	x-u-γw-a
*q'war- “love”	x-u-q'var-s “loves”	u-?or-s	—

Most Kartvelian verb roots and stems, whatever their basic meaning, can be employed in verbs of other transitivity and telicity classes. Two types of intransitive can be derived from telic transitive verb stems: a telic intransitive marked by the preradical (“version”) vowel *i- (or *e- if the verb has an indirect object), and (for some verbs) a stative-passive. Transitive verbs with the preradical vowel *a- can be formed from intransitive, activity and stative roots, sometimes with the addition of a causative suffix. Telic intransitives, indicating a change of state or the beginning of an action, can be derived from many atelic roots.

Table 4. Basic and derived verb stems (Georgian and Svan)

	basic verb	telic transitive	telic intransitive	stative
I. telic transitive (“active voice”)	G. c'er-s S. a-jr-i “writes”		i-c'er-eb-a i-jr-i “is being written”	a-c'er-i-a x-a-jr-a “is written on sthg”

II. telic intransitive (“passive”)	G. dn-eb-a S. i-hn-i “melts (intr.)”	a-dn-ob-s ä-hn-e “causes to melt”		
III. activity (“medioactive”)	G. myer-i-s S. i-yrāl “sings”	a-myer-eb-s a-yrāl-n-e “causes to sing”	a-myer-d-eb-a — “begins to sing”	
IV. stative (“mediopassive”)	G. c’ev-s S. a-q’wr-e “lies, is lying”	a-c’v-en-s a-q’w-n-e “lays”	c’v-eb-a i-q’w-n-āl “lies down”	

Of the morphemes employed in the derivation of Kartvelian verbs, perhaps the most distinctive are the preradical vowels (PRV) directly preceding the root (slot -1). Much has been written about the functions of the PRVs, especially their role in the expression of category known in Kartvelian linguistics as “version” (G. *kceva*; Shanidze 1980 §393), which indicates the orientation of the action designated by the verb, either toward the grammatical subject (subjective version), or the indirect object (objective and superessive versions; Boeder 1969). The PRVs have also been associated with categories attested in other languages, such as voice and applicatives (Lacroix 2012; Tuite 2022). There are four PRVs in each Kartvelian language, with sufficiently similar forms and functions that all four can be attributed to the ancestral language. Only one PRV at a time can occupy slot -1, and many verbs have no PRV at all.

*a- (G, S a-; L, M o-): This PRV is primarily associated with transitivity. It also marks the superessive applicative (or superessive version), which adds an indirect object referring to the surface on which an action takes place, e.g. S *katal ži x-a-sgur ləgr-ol-s* [chicken:NOM up O3-PRV-sit egg-PL-DAT] “The hen is sitting **on the eggs**”

*i- (G, S, L, M i-): With transitive verbs, the PRV *i- signals subjective version, which typically indicates that the referent of the subject performs an action for his/her benefit in some sense (S. *zurāl diār-s i-k’wš-e* “the woman breaks the bread **for herself**”). It is also one of the markers of objective version (or the benefactive applicative), when the action is for the benefit of the 1st or 2nd person (S. *zurāl mi diār-s m-i-k’wš-e* “the woman breaks the bread **for me**”). The PRV *i- is one of the formants of a subclass of intransitive verbs (G *i-č’m-eba* “it is being eaten, it can be eaten”), and also appears with some medioactive verbs (S *i-twep* “shoots (a rifle)”).

Alongside the two primary PRVs just described are two others, both of which can be considered variants of *i- in particular contexts:

*u- (G, L, M u-; S o-): The principal function of *u- is to mark objective version when the indirect object is in the 3rd person (S. *zurāl bepšw-s diār-s x-o-k’wš-e* “the woman breaks the bread **for the child**”).

*e- (G, S e-; L, M a-): The main function of *e- is to indicate the addition of an indirect object to intransitive and medioactive verbs, the basic forms of which are marked by the PRV *i- (S *dāšt-w-s x-e-twep* “shoots (a rifle) **at the bear**”).

According to M. Mach’avariani (1987; see also Jorbenadze 1983), the core meaning of the PRV *i- is “introversion”, by which she means orientation toward the speech-act participants (1st and 2nd person; e.g. G. *sadils m-i-mzadeben* “they are making dinner **for me**”), or the subject of the sentence (G. *sadils i-mzadeben* “they are making dinner **for themselves**”). Contrasting with introversion are the extravert PRVs *a- and *u-, which indicate orientation of the denoted action toward a surface or site (G. *a-zis* “sits **on sthg**”), or a 3rd-person beneficiary not coreferent with the subject (G. *sadils Ø-u-mzadeben* “they are making dinner **for him/her**”), respectively. What appear to be PRVs also appear in nominals, including participles and a small number of deverbal nouns with the frozen prefixes *a- and *i- (e.g. G. *a-s-o* “(body) member, letter of alphabet” < *sv-* “set, attach”; *i-sar-* “arrow” < *svr-* “shoot”; Topuria 1947, Vogt 1974), in which the superessive or locative sense of *a- and the intransitive or middle-voice sense of *i-

can be detected. The contrasting characteristics of the two primary PRVs are shown in the following table (from Tuite 2021, with modifications):

Table 5. Primary PRVs *a- and *i-

*a-	*i-
EXTRAVERT	INTROVERT
subject → affected surface (superessive)	subject ↻ (orientation toward grammatical subject, speech context)
transitive	intransitive
adds argument (superessive, causative)	replaces overt actant with implicit reflexive

§1.1.2.3. Series and series markers. The tense/aspect/mood paradigms (sometimes called “screeves”, from G *mc’k’rivi* “row, array”) of the Kartvelian languages are traditionally grouped into three, sometimes four, sets or series (Shanidze 1980 §266-296). The contrast between Series I and II is expressed through stem morphology and the phenomenon of case shift (see below). The Series III paradigms of transitive and medioactive verbs are characterized by inversion of person markers and case-assignment patterns (more on this below). Furthermore, Mingrelian, Laz and some western Georgian dialects are said to have a Series IV comprising imperfective evidential verb forms (Rogava 1953; Harris 1985: 296-299), but these have the same case-assignment properties as the Series I paradigms. A partial inventory of Georgian and Mingrelian TAM paradigms is shown in the table below (Rostovtsev-Popiel 2020). Displayed are forms of verbs meaning “write” with 3rd-singular subjects and 3rd-person objects. (The Georgian Series I stem *c’er-av-* is nonstandard, but exactly cognate to Mingrelian *č’ar-un-*). The Series II permansive existed in Old Georgian, but has vanished from all but a handful of modern dialects.

Table 5. Georgian and Mingrelian TAM paradigms (partial list)

Series I		
<i>present</i> G c’er-(av)-s M č’ar-un-s [write-SM-S3sg]	<i>imperfect</i> c’er-(av)-d-a č’ar-un-d-u [write-SM-IMPF-S3sg.PST]	<i>present subjunctive</i> c’er-(av)-d-e-s č’ar-un-d-a-s [write-SM-SUBJ-S3sg]
<i>(perfective) future</i> G da-c’er-(av)-s M do-č’ar-un-s [PV-write-SM-S3sg]	<i>conditional</i> da-c’er-(av)-d-a do-č’ar-un-d-u [PV-write-SM-IMPF-S3sg.PST]	<i>future subjunctive</i> da-c’er-(av)-d-e-s do-č’ar-un-d-a-s [PV-write-SM-SUBJ-S3sg]
Series II		
<i>(permansive)</i> G da-c’er-i-s M — [PV-write-PERM-S3sg]	<i>aorist</i> da-c’er-a do-č’ar-u [PV-write-S3sg.PST]	<i>optative</i> da-c’er-o-s do-č’ar-a-s [PV-write-SUBJ-S3sg]
Series III		
<i>present perfect</i> G da-u-c’er-ia M d(o)-u-č’ar-u(n) [PV-PRV-write-STAT]	<i>pluperfect</i> da-e-c’er-a d(o)-u-č’ar-u-d-u [PV-PRV-write-(EXT-IMP)-S3sg.PST]	<i>pluperfect subjunctive</i> da-e-c’er-o-s d(o)-u-č’ar-u-d-a-s [PV-PRV-write-(EXT-IMP)-SUBJ-S3sg]

Most telic verbs in the Kartvelian languages form their Series I stems by the addition of a suffix of VC or V shape (*series marker*, abbreviated SM). Some Svan verbs take two SMs (Ivanishvili 1986). The SM appears in the Series I paradigms, but not in the corresponding Series II forms, as in the Georgian and Svan transitive verbs shown below. The original meaning of the Kartvelian SMs has been described as imperfective aspect (Aronson 1979), antipassive voice (Heath 1976) or verbal plurality (Harris 1985; see also Tuite 2003). For some verbs, the contrast is also characterized by suppletivism, with distinct roots for the Series I and Series II paradigms (as is the case for the Georgian and Svan verbs meaning “say”):

Table 6. Series I and II verb stems (Georgian and Svan)

Series	“bind, tie”	“say”
I: present	G a-b- am -s [PRV-bind-SM-S3sg] “binds” S a-b- em [PRV-bind-SM] “binds”	G a-mb-ob-s [PRV-say.I-SM-S3sg] “says” S q’əl- e [say.I-SM] “says”
II: aorist	G da-a-b-a [PV-PRV-bind-PST.3sg] S adbe < ad-a-b-e [IPV-PRV-bind-AOR]	G tkw-a [say.II-PST.3sg] “said” S rāk-w-e [say.II-AOR] “said”

The original semantic contrast between Series I and II stems was linear/punctiliar or imperfective/perfective (Machavariani 1974). In Old Georgian texts, this contrast could be used to characterize events as repeated or durative (Series I) vs. simulfactive (Series II), as in the following passage from a 10th-c. translation of the Book of Exodus:

(3) (And Moses came and told the people all the words of the Lord, and all the judgments)

OG mi-u-g-o er-man man qm-ita did-ita da **h-rkw-es**,
PV-PRV-reply-S3sg.PST people-ERG the.ERG voice-INST great-INST and O3-say.II-3pl.PST
q’ovel-ta sit’q’wa-ta romel-ta **i-t’q’-od-a** upal-i, v-q’-o-t
all-OBL.PL word-OBL.PL that-OBL.PL PRV-say.I-IMP-3sg.PST lord-NOM S1-do-SUBJ-S1/2PL
“And the people answered with a great voice, and **said to him** [*Series II: single event*], All the words which the Lord **said** [*Series I: multiple events*] we will do.” [Exodus 24:3 Oshki ms, 978 AD]

The Series I/II contrast could also be deployed at the level of narrative structure, to represent one event as temporally framing another, as in this passage from an Early Georgian (see §2.1) text:

(4) OG da vidre-igi **x-i-t’q’-od-a**, aha-esera iuda
and as-DEM O3?-PRV-say-IMP-S3sg.PST behold Judas:NOM
ert-i atormet’-ta-gan-i **mo-vid-a**
one-NOM twelve-OBL.PL-from-NOM PV-come.II-S3sg.PST

“While he (Jesus) **was speaking** [*Series I: framing event*], behold, Judas, one of the Twelve, **arrived** [*Series II: foregrounded event*].” (Mt 26:47; Birdsall 1971)

The Series III paradigms appear to be a relatively recent addition to the verb conjugation systems of Georgian and the other Kartvelian languages (Shanidze 1980 §487-493; Harris 1985: 288-295; Machavariani 2002: 131-133). In terms of their morphology, the present-perfects of transitive and bivalent intransitive verbs resemble stative passives; e.g. OG m-i-c’er-ie-s can mean either “it is written for me/in my sthg [e.g. book]” (stative passive), or “I have written it” (present perfect of transitive verb). The other Series III verb forms — pluperfect, perfect subjunctive — are of diverse origins. Those of Georgian transitives seem to have originated as the Series II forms of telic intransitives; e.g. OG m-e-c’er-a “it was written to/for me” (intransitive aorist), or “I had written it” (pluperfect of transitive verb).

§1.1.2.4. Causative, inchoative and verbal-plurality formants. Several other categories of derivational suffixes can appear in the Kartvelian verb stem. These include causative formants, and the Georgian-Zan *-d- suffix used to derive inchoatives from adjectives and atelic verbs. Old Georgian and Svan have suffixes expressing the plurality of absolutive arguments (direct objects and intransitive subjects), e.g. S. ä-šxb-i-jēl-i “sews many things” < ä-šxb-i “sews”. The Svan verbal-plurality morphemes can also indicate repeated or habitual action, and they frequently appear in atelic activity verbs (i-šdr-āl “plays, is playing”). In Old Georgian, the suffix -(e)n- signalled a plural direct object or intransitive subject, but only with Series II verb stems, e.g.:

(5) OG sit’q’wa-n-i čem-n-i ara da-marx-n-a
word-PL-NOM my-PL-NOM not PRV-preserve-VPL-PST.S3sg
‘He did not keep my words’ [I Samuel 15,11]

§1.1.2.5. Preverbs. The Kartvelian preverbs, like those of the Slavic languages, are directional and deictic morphemes situated to the left of the verb complex. The inventory of simple PVs varies from eight in Svan to about double that number in Mingrelian and Laz (Vešap'idze 1967; Kutscher 2003; Reseck 2015; Rostovtsev-Popiel 2016). All Kartvelian languages permit compound PVs, and clusters of three can occur in Old Georgian (e.g., 11a below), Mingrelian and Laz.

A core inventory of PVs denoting direction with respect to a landmark (up/down/in/out) and with respect to the speaker (hither/thither) can be reconstructed for Georgian-Zan, and at least the former set for Proto-Kartvelian (Schmidt 1976):

Table 7. Proto-Kartvelian and Georgian-Zan preverbs

Proto-form	Georgian	Mingrelian	Laz	Svan Outer PVs
GZ *ay- 'up(wards)'	a(y)-	o-	o-	—
PK *že 'up(wards), upon'	ze [adverb]	ži(n) [adverb]	ži(n) [adverb]	ži-
GZ *da- 'down(wards)'	da-	do-	do-	—
GZ c'ar- 'down, away, off'	c'ar- 'away'	c'o- 'below'	c'o-	—
PK *kwe 'below, down'	kve [adverb]	ko-	ko-	ču-
PK *šowa '(in the) middle'	šua [adverb] 'between'			(i)sga- 'in'
GZ *še- 'into'	še-	ša-	ša-, šk'a-	—
GZ *ga(n)- 'out(wards)'	ga(n)-	go-	go-	—
GZ *mi- 'away from the speaker'	mi-	mi-, me-	me-	—
GZ *mo- 'toward the speaker'	mo-	mo-	mo-	—

The two Zan languages differ from their sisters both in respect to their large arrays of simple and compound preverbs, and also the use of preverbs with non-motion verbs to indicate static position (e.g. M *mi-to-x-e* [in-under-sit-SM] 'is sitting below inside (e.g. in a cavern)', Kajaia #12659), which is not possible in Georgian or Svan (Reseck 2015: 120-1). In both respects, the Mingrelian and Laz preverb systems resemble that of Abkhaz, which some have attributed to long-standing contact among these languages (see §5 below). Most of the Mingrelian and Laz PVs have directional or spatial semantics, although their contribution to the meaning of the verb can range from transparent to lexically idiosyncratic. In addition, Mingrelian and Laz have a small number of preverbs qualified as "affirmative" or "perfectivizing" (M/L ko-, do-, o-, ge-, etc.), the functions of which will be discussed in §2.2 below.

The eight Svan PVs are conventionally divided into two sets (Deeters 1930: 15-24; Harris 2003). The four outer preverbs (OPV) have, as their primary meanings, movement with respect to an external landmark (up/down, in/out). Like the preverbs of Old Georgian (Schmidt 1969; Cherchi 1994), the Svan OPVs can be separated from the verb proper by one or more intervening clitics, as in (6), and the OPV can even be moved to a position after the verb (Boeder 2008).

- (6) S *ž<i> eser h<e> ār moš ānbūcix {an-i-būc-i-x}*
 OPV QT if someone:NOM at.all IPV-V-stretch-FUT-PL
 (he said) "if anyone (of you) will stretch it even slightly" (UB #120)

The four Svan inner preverbs (IPV), by contrast, cannot be detached from the verb, and indeed are usually fused to it by morphophonological processes such as assimilation and migration (Topuria 1967: 52-71). Also unlike the Svan OPVs, the IPVs have no known cognates in the other Kartvelian languages. The semantic content of the IPVs, especially *es-* and *la-*, is not easy to pin down, but all four can be associated with the orientation of the denoted action with respect to the speech-act participants, or the referent of the indirect object. With verbs of motion, the IPV *an-* indicates movement toward the speaker. In that role it contrasts with *a(d)-*, which can denote movement away from the speaker, although for most verbs its function is purely aspectual. The IPV *es-* is commonly selected by verbs denoting action directed toward a goal or surface (often, but not always, accompanied by the superessive version); and *la-* shows an affinity

for verbs in the subjective or objective version, and verbs of communication (that is, verbs denoting activities oriented toward a human participant).

The separability of Svan OPVs and Old Georgian PVs from the rest of the verb indicates that one group of Proto-Kartvelian PVs occupied a position to the left of a clitic chain preceding the person prefixes of the verb. The close morphophonological integration of Svan IPVs with the prefixal components of the verb, as well as their lack of obvious cognates elsewhere in Kartvelian, implies that they originated as a distinct type of morpheme placed closer to the verb. The placement of the Proto-Kartvelian preverbs would have been approximately as shown below. The outer preverbs (OPV) would be ancestral to the PVs of Georgian, Mingrelian and Laz, as well as the OPVs of Svan. The IPVs of Svan would go back to a class of prefixes, probably of deictic meaning, situated directly to the left of the person prefixes:

(7) OPV-...(clitics)...IPV-[S/O-PRV-√-(suffixes)]

§1.1.3. Derived adverbs. Each Kartvelian language has a small inventory of primary adverbs, some of which seem to have been inherited from the proto-language, e.g., G *ze*; M/L. *ži(n)*, S *ži* “up(wards), upon”; G. *ode-*, M. *onde*, S *wode* “slightly, barely, just” (Klimov 1998 63, 145). A far greater number are formed by the addition of case endings, postpositions and suffixes of uncertain origin. Adverb-forming case suffixes include the dative (G *dila-s*, S *ham-s* [morning-DAT] “in the morning”), and the so-called adverbial case (G *tetr-ad*, S *twetn-ad* [white-ADV] “(painted, dressed) in white”). Adverbial suffixes of unknown origin include G -iv: *mxr-iv* “on the side” < *mxare* “side”, *i-bed-iv* “by chance” < *bed-* “fate”, with an equally enigmatic prefix *i-* (Jorbenadze (1983: 206); S -b in directional expressions, e.g. *ži-b* “above” < *ži* “up”.

§1.2. Inflectional morphology. 1.2.1. Nominals. The case inventories of the Kartvelian languages are of moderate size, comprising three core cases (nominative [NOM], dative [DAT], ergative [ERG]), and 3-7 non-core cases (genitive [GEN], instrumental [INS], adverbial [ADV], etc.; Klimov 1962; Schmidt 1989; Mach’avariani 2002). In Old Georgian, the INS and ADV also were used with ablative and allative meaning, respectively, e.g. *huriast’an-it galilea-d* (Jn 4:47) “from Judea-INS to Galilee-ADV” (Schanidse 1982 §257-258). The Svan case ending -n (e.g., *ham-n i näboz-n* [morning-LOC and evening-LOC] ‘from morning to evening’), which I label provisionally as “locative” [LOC], may be cognate with the -n desinence in the ERG case forms of Georgian demonstratives (Mach’avariani 1985: 240). Several non-core cases in Mingrelian and Zan are derived from the GEN.

Table 8. Case desinences in the modern Kartvelian languages.

	Proto-Krtv.	Georgian	Mingrelian	Laz		Svan
				Arhavi	Ardeşen	
NOM	*-i, Ø, (*-e)	-i, Ø	-i, Ø	Ø	Ø	-i, Ø, (-e)
ERG	—	-m(a)	-k	-k	Ø	-em, -d
DAT	*-s	-s	-s	-s	Ø	-s, -w, -am
INS	?*-it	-it	-it	-te(n)	-te	-šw, -wš
ADV	*-(a)d	-ad	-o(t)	—	—	-d
LOC	?*-n	(-n)	—	—	—	-n
GEN	*-iś	-is	-iś	-ši	-ši	-iś, -eś
ALL	—	—	-iśa	-ša	-ša	—
ABL	—	—	-iśen	-šen	—	—
BEN	—	—	-iśo(t)	—	—	—
VOC	—	-o	—	—	—	—

The three core cases are used to mark the main clausal arguments — subject, direct and indirect object —, which can agree with the verb, and which are subject to the phenomena of *case-shift* and *inversion*, to be discussed below. The 1st and 2nd-person pronouns, however, are not marked for NOM, DAT and ERG case in any of the Kartvelian languages. In a sentence like Svan *si näy j-a-lät’-d* [you.sg we/us O2-PRV-love-

1/2.PL] “you love us”, for example, only the person and number affixes in the verb indicate who loves whom. (It is also interesting to note that the Ardeşen dialect of Laz no longer distinguishes the NOM, DAT and ERG for any type of nominal, whereas it retains three non-core cases (Kutscher 2006)). The non-core cases are added to the pronominal stem, which in the 1st and 2nd-person singular is distinct from that used in the core cases (Mart’irosovi 1964).

Table 9. 1st and 2nd person singular pronouns in Kartvelian.

	Svan	Georgian	Mingrelian	Laz
1ST SINGULAR				
core cases (NOM/ERG/DAT)	mi	me	ma	ma
stem for non-core cases	mišgw-	čem-	čkim-	čkim-
2ND SINGULAR				
core cases	si	šen	si	si
stem for non-core cases	išgw-	šen-	skan-	skan-

Kartvelian nominal plural suffixes precede the case endings. The one exception is the Old Georgian portmanteau suffix *-(a)*, which indicates both plural number and oblique (DAT, ERG, GEN) case. Compared to its sister languages, Svan has significant allomorphy for both case and number marking. It is the only Kartvelian language with declensional classes and composite case desinences (Gudjedjiani and Palmaitis 1985).

Table 10. Svan declension paradigms (Upper Bal dialect)

	<i>Class I</i>	<i>Class III</i>	<i>Class V</i>	<i>Class VIII, all plurals</i>
<i>NOM</i>	ala “this”	twetne ‘white’	miž ‘sun’	txum-är ‘heads’
<i>DAT</i>	ami-s	twetn-ām	məž	txum-är-s
<i>INST</i>	am-n-oš	twetn-ām-šw, twetn-oš	məž-wš	txum-är-šw
<i>ADV</i>	am-n-är-d	twetna-d	məž-d	txum-är-d
<i>ERG</i>	am-n-ēm-d	twetn-ēm-d, twetna-d	məž-em	txum-är-d
<i>GEN</i>	am-n-ēm-iš, am-iš	twetn-ēm-iš	məž-em	txum-r-eš

In Old Georgian, adjectives and other modifiers usually followed their head nouns, and agreed with them in case and number. This was also true of nouns in the GEN case, the GEN suffix behaving like an adjective-deriving formant in these contexts. Nouns in the GEN would take additional case and number markers to agree with their heads, and even another layer of suffixes if their head was itself a GEN, e.g.,

- (8) OG *k’lit’e-n-i* [sasupevel-isa ca-ta-ysa]-n-i
 key-PL-NOM kingdom-GEN sky-GEN.PL-GEN-PL-NOM
 “the keys of the kingdom of the heavens” (Matt 16:19).

In the above phrase, the stem *ca-ta-* “of the skies/heavens” agrees with both its immediate head *sasupevel-isa*, and the head of its head, *k’lit’e-n-i* (Boeder 1995). In the modern Kartvelian languages, modifiers typically precede their heads, although the older order is conserved in some compounds, especially possessed kinterms (S. *zomxa* < *za-maxe* [year-new] “New Year’s Day”; G *deda-čemi*, M *dia-čkimi* [mother-my] “my mother”). Adjective-head agreement has disappeared in Mingrelian and Laz, while reduced agreement in case still occurs in Georgian and Svan.

§1.2.2. Verbal inflection. The verb has two sets of person prefixes, commonly labelled “subject” (S) and “object” (O) markers, which occupy slot -2. Only one prefix at a time can occupy this slot, a phenomenon which has been analyzed in terms of slot-filling constraints, unusual allomorphy, inference, and hierarchical indexication (see, among others, Boeder 2002; Comrie 2017; Tuite 2021). The sole exception is S1 v- + O3 x/h-, which occurs in Georgian only.

Table 11. Person prefixes in the Old Georgian and Svan verb)

	“Subject” (S)		“Object” (O)	
	Old Georgian	Svan	Old Georgian	Svan
1sg	v-	xw-	m-	m-
1excl	v-	xw-	m-	n-
1incl	v-	l-	gw-	gw-
2nd	x/h/Ø-	x-	g-	ǰ-
3rd	—	—	x/h/Ø-	x/Ø-

When both subject and object are 1st or 2nd person, only the object marker appears, as in these two sentences in Svan:

- (9) S **m-i-sq’-i** [O1sg-PRV-do-SM] “You(sg.)/he/she does it **for me**”
ǰ-i-sq’-i [O2-PRV-do-SM] “I/he/she does it **for you(sg.)**”

For certain classes of verbs in Svan and Georgian, the two past-indicative tenses — the imperfect and the aorist — have distinct allomorphs of the stem in the 1st and 2nd-person subject forms. In Georgian the allomorphy is conditioned by person only, whereas in the Svan imperfect and aorist, the stems of the 1st and 2nd-person singular subject forms differ from those of the 3rd person singular and all plural forms. This alternation appears to be the vestige of what was once a leftward shift of the accent in the 1st and 2nd-person past-indicative.

Table 12. Accent shift in the 1st & 2nd-person past indicative (Svan and Old Georgian)

	Svan (Lower Bal dialect) -b- “bind”	Old Georgian -k’(a)l- “kill”
S1sg imperfect	xwäbm < *xw-á-b-em-aw [S1-PRV-bind-SM-IMPF]	vhk’levd < *v-h-k’l-áv-i-d [S1-O3-kill-SM-SM-IMPF]
S3sg imperfect	xabam < *x-a-b-ém-aw [O3-PRV-bind-SM-IMPF]	hk’lvída < *h-k’l-av-í-d-a [O3-kill-SM-SM-IMPF-S3sg.PST]
S1sg aorist	otab < *ád=xw-a-b-e [PV-S1-PRV-bind-AOR]	movk’al < *mo=v-k’ál [PV-S1-kill]
S3sg aorist	atäb < *ad=x-á-b-e [PV-O3-PRV-bind-AOR]	mok’la < *mo=k’al-á [PV-kill-S3sg.PST]

Occupying the slot directly preceding the person/number suffixes (slot 9) are morphemes consisting in a single vowel, which signal tense and/or mood. Due to the significant degree of allomorphy in the aorist and optative in Svan and Georgian, and the absence of specifically permansive or iterative forms outside of (Old) Georgian, reconstruction of the Proto-Kartvelian tense/mood morphemes is speculative at best. There is good evidence supporting the reconstruction of optative/subjunctive *-e and past-indicative *-a, the latter possibly being a portmanteau morph indicating 3rd-singular subject as well (Klimov 1964: 41-42, 77; Machavariani 2002: 128-130).

Georgian, Laz and Mingrelian — but not Svan — have multiple pairs of 3rd-person singular and plural subject suffixes, which are selected according to tense, mood and verb class. To illustrate, here are 3rd-person present, optative, aorist and imperfect forms of the verb meaning “eat” in Georgian and Mingrelian. Note the reflexes of 3sg *-s, 3pl *-en in the present and optative, vs. 3sg *-a, 3pl *-es in the past indicative:

Table 13. Allomorphy of S3sg and S3pl suffixes (Georgian and Mingrelian)

	present/subjunctive		past indicative	
	3 rd sing. *-s	3 rd pl. *(e)n	3 rd sg. *-a	3 rd pl. *-es
Series I present, imperfect	G č’am-s “eats” M č’k’um-un-s	č’am-en č’k’um-un-an	č’am-d-a “was eating” č’k’um-un-d-u	OG s-č’am-d-es č’k’um-un-d-es
Series II optative, aorist	G č’am-o-s “may X eat” M č’k’um-a-s	č’am-o-n č’k’um-a-n	č’am-a “ate” č’k’um-u	č’am-es č’k’um-es

§1.3. Morphosyntax: case shift and inversion. Kartvelian morphosyntax is primarily known outside of specialist circles for the phenomena of *case shift* and *inversion*, that is, the sensitivity of case assignment and person agreement to verb class, tense/aspect, and resultativity or evidentiality. Case shift (Braithwaite 1979) is clearly old in the Kartvelian family, although it has undergone realignment in Mingrelian and Laz. In Georgian and Svan, telic transitive and medioactive verbs assign ERG case to their subject, and NOM to their direct object (if any) in the aorist, and other verb paradigms formed from the aorist stem, such as the optative, permansive and imperative (grouped together as “Series II”, as noted above). If the verb is in the present, imperfect, or another Series I paradigm, the case assignment pattern is different. The subject is assigned NOM case; and the direct object takes on the attributes of an indirect object, in that it is marked by the DAT case and controls object agreement in the verb. To illustrate case shift, two Old Georgian renderings of a Biblical passage (Job 5:2), containing the same transitive verb root in the Series II permansive and Series I present tenses, respectively, are shown below. The subject and its associated agreement affix are marked by a single underline, and the direct object and its affix by double underlining.

(10a) OG rametu ugunur-i igi risxva-man mo-k’l-i-s
 for witless-NOM the:NOM anger-ERG PV-kill-PERM-S3sg
 “for anger (ERG) kills the witless (NOM)”

(10b) OG rametu umecar-sa mo-h-k’l-av-s risxva-y
 for ignorant-DAT PV-O3-kill-SM-S3sg anger-NOM
 “for anger (NOM) kills an ignorant person (DAT)”

In Proto-Kartvelian, the basic verb paradigms were those ancestral to Series II, and the alignment of the language was ergative (Chikobava 1948, Harris 1985). What were to become the Series I paradigms were at this stage the output of an antipassive transformation, which demoted the direct object to indirect object status. The verb, having become formally intransitive, thus assigned NOM rather than ERG to its subject (Harris 1985: 151-165). (For example, the permansive, which in Old Georgian was used as a gnomic or habitual-present tense, as in (10a) above, would have been the primary present tense, whereas the Series I present in (10b) would have been its antipassive counterpart (Chikobava 1948; Harris 1985: 93-99)). Georgian and Svan telic intransitive and stative verbs do not undergo case shift, resulting in a split system with nominative-accusative alignment in the present/imperfect tense group (Series I), and split-intransitive or active-inactive alignment in the aorist group (Series II) (Harris 1985, 1990, 2006b; Tuite 2017).

Table 14. Case shift and inversion in Georgian and Svan

tense/aspect/mode series	Medioactive	Transitive		Telic intransitive & stative
	"S _A "	"A"	"O"	"S _O "
I. Present series	NOM	NOM	DAT	NOM
II. Aorist series	ERG	ERG	NOM	NOM
III. Perfect series	DAT	DAT	NOM	NOM

In Laz, the Series II case assignment pattern has been extended to Series I as well, resulting in split-intransitive alignment across the board (Lacroix 2009). The subjects of transitive and medioactive verbs take the ERG case, and their direct objects (if any) are assigned the NOM in Series I as well as Series II:

(11a) L xurma-Ø i-mxor-s j̇oyoi-k (K’iziria 1982:90)
 persimmon-NOM PRV-eat-S3sg dog-ERG
 “The dog is eating a persimmon.” (G *xurma-s* Ø-č’am-s *dzayl-i* [persimmon-DAT eats dog-NOM])

(11b) L bozo-k i-bgar-s
 girl-ERG PRV-weep-S3sg
 “The girl is weeping” (Lacroix 678)

As for Mingrelian, the so-called ERG suffix could be considered the Series II allomorph of the NOM. It has been extended to nearly all transitive and intransitive subjects, regardless of the semantic role of the referent, and also to the objects of DAT-subject verbs in Series II, such as (12b) below. As a consequence, Mingrelian has the same nominative-accusative alignment in both Series I and II.

(12a) M k'oč-k do-yur-u
 man-ERG PV-die-PST.S3sg
 “The man-ERG died.” (Georgian: *k'ac-i mo-k'vd-a* [man-NOM died])

(12b) M bošala-k ki-g-m-a-šin-u
 childhood-ERG PV-PV-O1-PRV-remember-S3sg.PST
 “I recalled my childhood-ERG” (Kajaia Dict #3858)

The phenomenon known as *inversion* (Shanidze 1980 §238-241) affects essentially the same verb classes as case shift: transitives and medioactives. In a third series of tenses (Series III) — which includes the perfect, pluperfect and perfect subjunctive — the verb takes on all or most of the morphological attributes of a passive verb with an indirect object (§1.1.2.3.). Furthermore, the erstwhile subject adopts the traits of an indirect object, marked by DAT case and linked to Set O markers in the verb, while the Set S markers agree with the semantic direct object. In Mingrelian, the range of verbs undergoing inversion is basically the same as in Georgian or Svan, despite the realignment of case shift in Series II. Here are partial paradigms of the Svan transitive verb *k'wiš-e* “break” in the present and present-perfect tenses. Note that the Set O prefixes are linked to the indirect object in the former, but the agent in the latter:

(13) S	<i>present (Series I)</i>	<i>present-perfect (Series III)</i>
O1sg	m-i-k'wš-e “S/he breaks it for me ”	m-i-k'wš-a “ I have broken it”
O2sg	ž-i-k'wš-e “S/he breaks it for you_{sg} ”	ž-i-k'wš-a “ You_{sg} have broken it”
O3sg	x-o-k'wš-e “S/he breaks it for him/her ”	x-o-k'wš-a “ S/he has broken it”

§2. The development of morphology from historical sources.

2.1. Person and number agreement. The Georgian language was first used in writing after the adoption of Christianity by the East Georgian (Iberian) elite in the 4th c. The oldest known attestations of Georgian writing date from the early 5th c. Early Georgian, the language of the oldest texts, is close in most respects to the classical Old Georgian of the 9th-12th centuries, but is significantly different with respect to person marking. In fact, the difference was sufficiently noticeable that an 11th-c. translator of religious texts referred to the oldest manuscripts as “Xanmet’i”, that is “too many x’s” (Shanidze 1923). The so-called excess x’s were prefixes in the verb indexing a 2nd-person subject or 3rd-person object. In later varieties of Georgian, the S2 and O3 prefixes underwent lenition to /h/ or assimilated to /s/ or /š/ before sibilants; they disappeared entirely before vowels. S2 /x-/ is however retained in two high-frequency verbs (x-ar “you are”; -x-val “you will come/go”), and O3 /x-/ appears in the toponym Xertvisi, the name of several sites in Georgia located at the juncture of two rivers (< *x-e-rtv-i-s* [O3-PRV-join-SM-S3sg] “it joins it”). Here is a passage from the Early Georgian version of Luke 19:46 (6th c.), in which /x/ appears as the S2 and O3 prefix. In the 9th c. Adishi gospels, the three verbs are written *h-rkw-a*, *i-q'-o-s*, and *h-q'av-t*, respectively.

(14) OG da x-rkw-a mat, c'eril ars, x-i-q'-o-s saxl-i čem-i
 and O3-say-S3sg them:DAT written is O3?-PRV-do-SUBJ-3sg house-NOM my-NOM
 saxl salocvel, xolo tkwen x-q'av-t igi kwab avazak'-ta
 house for.prayer but you.pl S2-do-PL it:NOM den:NOM robber-GEN.PL
 “And he said to them, It is written, My house will be a house of prayer; but you made it a den of robbers”

As noted by Shanidze, the Early Georgian S2 and O3 prefixes are cognate with those of Svan, which are /x-/ in both cases. But the Early Georgian /x/-prefix also appeared in contexts less readily accounted for. The comparative degree of adjectives was formed by the circumfix x-u-√-e(y)s-, e.g. *t'k'bil-* “sweet” > *x-*

u-t'k'bil-eys “sweeter”. Since Svan comparatives also have the prefix /x-/ (e.g. x-o-mč'uxw-a “sweeter”), it has been surmised that Kartvelian comparatives were originally stative verbs, with the Set O prefix agreeing with the object of comparison (Schanidze 1982: 63; Jorbenadze 1983: 177-80; M. Mach'avariani 1987: 49-50; Tuite 1990). A far more puzzling use of /x-/ is in Early Georgian monovalent prefixal passive verbs, such as da-x-i-maril-o-s [PV-O3?-PRV-salt-SUBJ-S3sg] “it will be salted” (Mark 9:49; 6th c.) or x-i-kmn-a [O3?-PRV-make-S3sg.PST] “it became, it was made” (Luke 13:19; 6th c.). There is no indirect object — at least, none in surface structure — with which the /x-/ prefix can be linked. Several hypotheses have been put forward to explain this odd state of affairs. Gamq'relidze (1979: 47) saw in the /x/-prefix the vestiges of agreement with the underlying direct object, whereas this author associates it rather with the demoted agent (Tuite 1990, 2021). Yet a third explanation has been recently proposed by Hewitt (2015; see also Mach'avariani 2002: 98-9). Since no such prefix appears with monovalent prefixal passives in Svan, it is uncertain whether we have to do with an archaism or an innovation in Early Georgian, and the original motivation for an apparent O3 prefix in verbs such as x-i-kmn-a remains an enigma.

As shown in Table 11, Svan has distinct inclusive and exclusive 1st-person-plural subject markers, and (in some dialects) object markers. The Sincl prefix l- and the Oexcl prefix n-, which lack known cognates elsewhere in Kartvelian, are most likely Svan innovations. As for Oincl gw-, it is clearly related to the Georgian prefix gv-, which in the present-day language signals a 1st-plural object, inclusive or exclusive. In Old Georgian, however, especially in the older texts, gw- was more often than not associated with specifically inclusive 1st-plural objects, whereas the O1 prefix m-, which is now limited to the 1st-person singular, also served as a 1st-person exclusive object marker.

(15) OG (The foolish virgins said to the wise ones):

m-e-c-i-t		zet-i	zet-isa	magis	tkwen-isa-y ...
O1excl-PRV-give-AOR-S2pl	oil-NOM	oil-GEN	that:GEN		your.pl-GEN-NOM

“Give **us (exclusive)** some oil from your oil”

(The wise virgins replied):

nu-uk'we	ver	gw-e-q'-o-s		čwen	da	tkwen.
lest	cannot	O1incl-PRV-do-SUBJ-S3sg	us:DAT	and		you.pl:DAT

“No, lest there not be enough for **us and you (inclusive)**.” [Matthew 25:8-9]

Mingrelian and Laz no longer retain reflexes of the prefix gv-, and employ m- as a generalized O1 prefix, indifferent to number or clusivity.

Another morphosyntactic phenomenon which has undergone change in the historical period is number agreement. In Old Georgian, only arguments assigned NOM or ERG case could control plural agreement in the verb, including a now-extinct suffix -(e)n- for plural NOM arguments in certain verb tenses. Noun phrases assigned DAT case, even when denoting prominent arguments (such as the agents of transitive verbs which underwent inversion), could only control person and clusivity agreement, not number. In Georgian texts from the earliest period through the 19th centuries, one can follow the course of the realignment of the number-agreement system. The initial phase was limited to the 1st person. As noted above, the O1 prefix gv- initially signalled 1st-person inclusive objects, but over the course of time, beginning as early as the 7th century, this prefix was also attested with exclusive-plural objects. In the 9th-c. Adishi version of the passage cited in (15), for example, both verbs are marked by the O1 prefix gw-. Beginning in about the 11th-12th centuries, there is sporadic attestation of plural agreement with 2nd and 3rd-person DAT-case arguments, signalled by the suffix /-t/, which had hitherto marked the plurality of 1st and 2nd-person subjects only (a function its cognates have in all Kartvelian languages). This employment of the pluralizer /-t/ becomes more common from the 15th century onward, and is now the accepted usage in standard Georgian for all 2nd-plural objects. As for 3rd-person plural DAT-case arguments, number agreement in the verb is more likely if they refer to humans, and have the attributes of a semantic subject

(agent of an inverted transitive verb, experiencer of a psych-verb, etc.; Tuite 1998). In some nonstandard dialects, the clitic *-q'e*, of unknown origin, serves the same purpose (Schuchardt 1896; Tuite 1989).

Over the same period, agreement in *-(e)n-* with NOM-case direct objects declined, and vanished from written Georgian in the 18th c. It can still be heard in the specialized register of traditional ritual specialists in the northeastern Georgian highland province Khevsureti (Tuite 2011). To illustrate the shift in agreement patterns, here is an excerpt from I Chronicles 24:2 in Old Georgian, and the same passage in a Modern Georgian edition of the Bible:

(But Nadab and Abihu died before their father)

(16a) OG da švil-n-i ara Ø-e-sx-n-es mat
 and child-PL-NOM not O3-PRV-have-PL-3pl.PAST they:DAT
 “And they had no children”

(16b) G da važ-eb-i ar h-q'ol-ia-t (mat)
 and son-PL-NOM not O3-have-PERF-PL they:DAT
 “And they had no sons”

The verbs in (16a) and (16b) have plural DAT-case subjects and plural NOM-case objects, but in the Old Georgian version, the verb agrees in number only with the argument in the NOM (švil-n-i “children”) and not with the possessor. In the Modern Georgian version, on the other hand, the verb agrees in number with the latter argument, but not the former.

2.2. The changing roles of preverbs in the verb system. The verbal system manifested in the earliest Old Georgian texts — and the system most likely to have existed in the final phase of Proto-Kartvelian — was organized around the aspectual contrast between the perfective Series II verb forms and their imperfective Series I counterparts (§1.1.2.3; cf Shanidze 1980 §333; Schmidt 1963, 1989). Tense distinctions were less prominent in this system. The present could be expressed by the Series I present indicative or the Series II permansive (as in 10a and 10b above), or even by a special present-iterative form. The primary means for representing the future tense were the Series II optative and the Series I present subjunctive (often referred to as “conjunctive” [*G k'avširebiti*] II and I in the specialist literature). That is, the primary modal verb forms could express either subjunctive or future-indicative meanings, depending on context. The Series II forms of telic verbs usually had preverbs, but often lacked them. For many verbs, the presence or absence of a preverb did not affect its temporal or aspectual interpretation. In a 12th-c. rendering of Deuteronomy, for example, the phrase “he will never leave you” is translated by a preverbless optative in Deut 31:6 (ara g-i-t'e-o-s [not O2-PRV-leave-SUBJ-S3sg]), and by a preverbed optative two lines later (ara da-g-i-t'e-o-s [not PV-O2-PRV-leave-SUBJ-S3sg]; Deut 31: 8).

From the 9th-century onward a new means of expressing the future indicative of telic verbs appears in Old Georgian texts: the present indicative with an added preverb (Shanidze §335; Ch'umburidze 1986: 54-55). One of the earliest attestations is in the Jruch'i (936) and P'arxali (973) recensions of Mark 14:27:

(17a) **da-v-s-c-em** mc'q'ems-sa ama-s da sacxoar-i igi
 PV-S1-O3-hit-SM shepherd-DAT this-DAT and sheep.herd-NOM the:NOM
 mi-mo-da-i-bni-o-s
 PV-PV-PV-PRV-scatter-SUBJ-S3sg
 “I will strike the shepherd, and the sheep-fold will be scattered”

Other versions, such as Adishi (896) have the optative:

(17b) **da-v-s-c-e** mc'q'ems-i
 PV-S1-O3-hit-SUBJ shepherd-NOM
 “I will strike the shepherd”

Note that the new preverbed-present (PV+PRS) form of future in the Jruch'i and P'arxali manuscripts is accompanied by the older optative-as-future in the verb *mimodaibnios* “will be scattered here and there”. Over the following centuries, the PV+PRS progressively supplanted the use of modal verbs to express the future indicative, eventually becoming the dominant form for telic transitive and intransitive verbs (Shanidze 1980 §333-341; Ch'umburidze 1986: 54-84).

The rise of the PV+PRS future indicative appears to have been the first step in the restructuring of the Georgian verbal system, to one in which the expression of tense is more prominent. Rather than being a context-dependant interpretation of the optative and subjunctive, the future tense now had its own form for most telic verbs. Meanwhile, the permansive and present-iterative forms fell out of use in written Georgian and most dialects, leaving the present-indicative as the primary form expressing present tense.

The new function of preverbs as a means of signaling future tense was added to their directional and lexical meanings, resulting in a variety of formal relations between present and future tenses of telic verbs. The most common case is for the present to lack the PV which appears in the future. It is not rare that a single PV-less present corresponds to two or more distinct future-tense forms, each taking a different PV, as shown in the first column of Table 15a below. Other verbs have distinct perfective and imperfective stems, with the present based on the latter and the future on the former. For these suppletive verbs, the presence or absence of preverbs is lexically determined, and not linked to tense. Finally, a small but not insignificant number of verbs have identical present and future forms, either with or without PVs (Table 15b; examples from Tschenkéli 1958 I: 90-97)

Table 15. Present and future forms of Modern Georgian verbs

a. FUT ≠ PRS	FUT = PV+PRS	PV-less, suppletive	PV-ed, suppletive
present	i-xd-i-s “takes off; pays; doffs”	xed-av-s “sees”	šc-mo-d-i-s “comes in”
future	(1) ga-i-xd-is “will take off [clothes]” (2) gada-i-xd-is “will pay” (3) mo-i-xd-is “will doff [hat]”	nax-av-s “will see”	šc-mo-v-a(ls) “will come in”

b. FUT = PRS	PV-less	PV-ed
present	brdzan-eb-s “says, orders”	gamo-tkv-am-s “pronounces”
future	brdzan-eb-s “will say, order”	gamo-tkv-am-s “will pronounce”

Besides marking future tense, preverbs took on a new aspect-marking role, indicating the completion of an action. As a consequence, a new contrast emerged for many telic verbs, between preverbed aorists, which imply that the denoted action reached its anticipated endpoint, and (less-commonly used) preverbless aorists, which signalled that the action ended before attaining completion. Several Georgian proverbs exploit the contrast between preverbless and preverbed aorists (Shanidze 1980 §331). In the following example, the preverbless aorist *cxva* indicates a not-yet finished stage in the baking of the loaf, whereas its preverbed counterpart *gamo-cxva* indicates the completion of the process. (The sense of the proverb is that the orphan may have to wait a long time before everything turns out for the better).

- (18) G obl-is k'ver-i *cxv-a-o*, *cxv-a-o*, gvian **ga-mo-cxv-a-o**,
 orphan-GEN loaf-NOM bake-S3sg.PST-QT late PV-PV-bake-S3sg.PST-QT
 magram k'arg-ad **ga-mo-cxv-a-o**
 but good-ADVPV-PV-bake-S3sg.PST-QT
 “The orphan’s loaf baked and baked [INCOMPLETE], it baked late, but it baked well [COMPLETE]”

The two new functions of preverbs are illustrated here (on Mingrelian, see Reiseck 2015: 121-122):

Table 16. Preverbs signalling future tense and completion (Georgian and Mingrelian)

	— preverb	+ preverb
present/future	G c'er-s “is writing” M č'ar-un-s	G da-c'er-s “will write” M do-č'ar-un-s
aorist	G c'er-a “wrote (for a while, then stopped)” M č'ar-u	G da-c'er-a “wrote (and completed) sthg” M do-č'ar-u

The restructuring of the Georgian verbal system also had important consequences for atelic verbs (medioactives and statives). In earlier texts, atelic verbs employed modal forms for their future indicative, as did telic verbs, e.g. (v)-u-galob-d-e-t upal-sa [(S1)-PRV-chant-IMP-SUBJ-PL lord-DAT] “we will sing to the Lord” (Exodus 15:1). As this means of expressing the future declined, atelic verb classes acquired new future-indicative forms, which, however, for most such verbs were not marked by the addition of PVs. Instead, Georgian atelic verbs employ what are formally telic transitive and intransitive stems preceded by the PRVs i- and e- (Shanidze 1980 §§518, 526-528). The same stems, without their SMs, are also used to form the Series II aorist and optative:

Table 17. Future-indicative and aorist of Georgian atelic verbs

	present	future	aorist
medioactive	m̃er-i-s “sings”	i-m̃er-eb-s “will sing”	i-m̃er-a “sang”
stative	a-nt-i-a “[candle] is lit”	e-nt-eb-a “will be lit”	e-nt-o “was lit”

Mingrelian. As far as the expression of tense is concerned, the Mingrelian verbal system is structurally quite similar to that of Georgian. Telic verbs form their future-indicative by the addition of a PV to the present tense, in particular, one of the perfectivizing PVs še-, do-, o-, ga-/go- (e.g. **do-č'ar-un-s** “will write” in Table 16 above; Ch'umburidze 1986: 140-3). Stative verbs employ distinct stems preceded by the PRVs i-/a- (or e-); e.g. **rz-u-n** “[candle] is lit” [light-STAT-S3sg.PASS] > **a-rz-en-u-u** [PRV-light-CAUS-SM-STAT] “will be lit” (Ch'umburidze 1986: 139). The future tense of medioactive verbs can be formed either by addition of the PRV i- (**jab-en-s** “is distressed” > **i-jab-en-s** “will be distressed”), or the emphatic PV ko-; e.g. **pun-s** “boils” > **ko-pun-s** “it will boil”.

On the other hand, Mingrelian has specifically imperfective future forms, for which Modern Georgian has no direct equivalent, but which might continue the older use of modal forms to convey the future tense. The imperfective future consists of the present subjunctive followed by the 3sg future of the copular verb; e.g. **č'ar-un-d-a-s iʔuapu** [write-SM-IMP-SUBJ-S3sg will.be] “will be writing”; **i-ngar-d-a-s iʔuapu** [PRV-weep-SM-IMP-SUBJ-S3sg will.be] “will be weeping” (Ch'umburidze 1986: 137; Rostovtsev-Popiel 2020).

Laz. Among the modern Kartvelian languages, the Laz verbal system bears the closest resemblance to that of Old Georgian (Mach'avariani 1974). The primary form of the future indicative is based on the optative, either alone (19a; Chikobava 1936 II #33; Chikobava 1944), or with a suffix (19b; Ch'umburidze 1986: 151-3; Lacroix 2009: 372-6).

(19a) L para mo-m-č-i do ke-g-i-č'op-a
 money.NOM PV-O1-give-S1/2.PST and PV-O2-PRV-sell-SUBJ
 “Give me the money and I will sell it to you”

(19b) L žurneč ndga do žurneč seri-s mteli b-i-xoron-a-t-en-ya
 forty day and forty night-DAT complete S1-PRV-dance-SUBJ-PL-AUX-QT
 (They said) “We will dance continually for forty days and forty nights”

The suffix *-en* in (19b) is derived from the copular verb *ren* “is” (Lacroix 2009: 372-3). In the Xopur dialect of Laz, the auxiliary verb *unon* “wants” is added to the optative to form the future, which has been attributed to contact with Pontic Greek (Chikobava 1944; Ch’umburidze 1986: 151-4).

The completive meaning of preverbs is less evident in Laz than in Mingrelian or Modern Georgian. PV-less aorists are not uncommon in Laz, and they do not necessarily imply incompleting action. For example, the aorist of the verb *-rd-* “grow up” is attested in texts both with a PV (*bere d-i-rd-u* [child.NOM PV-PRV-grow.up-S3sg.PST] “the child grew up”), and without a PV (*i-rd-u* [PRV-grow.up-S3sg.PST] “he grew up”), with no aspectual contrast (Mach’avariani 1974: 131).

The Laz tense labelled “*présent général*” by Lacroix (2009: 342-5) is formed by the addition of one of the four “affirmative” preverbs (*ko-*, *do-*, *o-*, *menda-*; Lacroix 2009: 433-444) to the present indicative. The Laz general present can refer to future events, but can also denote habitual, regularly repeated actions. When used with future meaning, the general present “*indique un événement dont la réalisation n’est pas certaine*” (Lacroix 2009: 344), e.g.:

- (20) L *b-i-mt’-a-t-ya* *vana padisai-k do-m-p’-il-om-an-ya*
 S1-PRV-flee-SUBJ-PL-QT *lest sultan-ERG PV-O1-kill-SM-PL-QT*
 “Let us flee, or the sultan will kill us!”

Svan. The two sets of Svan preverbs described above (§1.1.2.5), the outer preverbs (OPV) and inner preverbs (IPV), both participate in the tense and aspect system, but their functions are quite distinct. The four OPVs behave rather like the PVs of Old Georgian, to the extent that they primarily indicate direction, or are lexically specified by the verb stem. OPVs occur frequently, but not obligatorily, with Series II verbs. In the following two sentences, the presence of the OPV *ču-* in one of the two verbs meaning “he died” has no implications for the tense (past indicative) or aspect (punctiliar, completive).

- (21a) S *al kweq’n-i xelc’ip čw-a-dgan*
 this land-GEN ruler:NOM OPV-IPV-die:AOR
 “The ruler of this country died”

- (21b) S *mare ej c’äm-ži a-dgan*
 man:NOM that moment-at IPV-die:AOR
 “At that moment, the man died”

On the other hand, OPVs can indicate tense when added to the present indicative; that is, Svan also has a PV+PRS future tense (Ch’umburidze 1986: 185). The future formed this way is characterized by Margiani-Subari (2012: 118-126) as the “categorical future”, which implies a degree of certainty on the part of the speaker:

- (22) S *eji-s aywe ka x-a-sačkwärn-e ečka ka lok pišt’w-e*
 that-DAT if OPV O3-V-gift-SM then OPV QT release-SM
 “If you give me that as a gift, I will release you”

The four Svan IPVs, unlike the OPVs, are closely aligned with the Series II verb stems. With the exception of verbs with distinct roots for Series I and II (e.g. PRS *x-a-t’q’c-i* “strikes” [Series I]; AOR *x-ä-qd-e* “struck” [Series II]), all verbs have an IPV in their Series II forms, as in the verbs in (21 a,b) above. This correlation implies that Svan IPVs have become grammaticalized as markers of perfective aspect. IPV-less aorists, with the exception of the suppletive verbs just mentioned, no longer occur in Svan, but a handful of such forms attested in oral poetry indicate that they disappeared from use fairly recently (Margiani-Subari 2012: 60-2).

- (23) S ešxwi pitil mad ĵ-i-k'war-e
 one morsel not O2-PRV-throw-AOR
 “He did not throw a single morsel to you” (SbMat XXXI: 34)

Margiani-Subari (2012) has identified an interesting correlation of the Svan IPVs with the category of status. For several verb paradigms — the future, conditional and perfect — the addition of an IPV signals that speaker is relying on secondhand information, or inference, or is less confident that the outcome will come about. Contrasting with the “categorical future” mentioned above, which is formed by addition of an OPV to the present, is the form Margiani-Subari labels “inferential future”, which signals doubt or supposition on the part of the speaker. It is formed by addition of an IPV (whether or not an OPV is also present), and usually a suffix (Margiani-Subari 2012: 122):

- (24a) S bāzi gim-s čw-ä-k'wrem-i i kartebil ču-i-dwäš-i
 tonight earth-DAT OPV-PRV-freeze-SM and potato:NOM OPV-PRV-ruin-SM
 “Tonight the ground will freeze (CATEG. FUTURE) and the potatoes will be ruined”

- (24b) S bāzi gim-s čw-**ad**-(a)-k'werm-**isg** kartebil ču-i-dwäš-i
 tonight earth-DAT OPV-IPV-PRV-freeze-FUT potato:NOM OPV-PRV-ruin-SM
 “Tonight should the ground freeze (INFER. FUTURE), the potatoes will be ruined”

The suffixes added to the IPV-prefixed future forms of most Svan verbs (-isg/-i, -ine) are of uncertain origin (Topuria 1967: 115-125). One possibility is that they might have once had modal meaning. If this were the case, the Svan “inferential future” would parallel the modal futures of Old Georgian and Laz.

In addition, Svan, like Mingrelian, has specifically imperfective future verb forms (Topuria 1967: 112-115; Ch'umburidze 1986: 161-184). These are the primary means of indicating future tense for atelic verbs, but imperfective futures can also be derived from telic verbs. Atelic verbs form their imperfective futures by the addition of the PRVs *i-* or *e-* (the latter if an indirect object is present) and the suffix *-i*, sometimes preceded by what appears to be the causative formant *-in-* or *-un-*, e.g.

- (25) S mi isgwa-zum jar ğal m-e-lt'-i?
 I you.sg-much who.NOM EMPH O1-PRV-love-FUT
 “How will I love someone as much as you?” (cf. PRS *m-a-lät'* “I love him”)

In the Lower Bal dialect, the imperfective futures of telic transitive verbs are formed in the same way, e.g. *a-qn-i* [PRV-plow-SM] “plows” > *i-qn-un-i* [PRV-plow-CAUS?-SM] “will be plowing”; *x-o-qn-i* [O3-PRV-plow-SM] “plows for sb” > *x-e-qn-un-i* [O3-PRV-plow-CAUS?-SM] “will be plowing for sb” (Topuria 1967: 113). Formally, these are passive verbs; that is, the imperfective future of a telic transitive verb is a type of deponent (Tuite 2002). In other dialects, the imperfective futures of transitives have the same PRVs as their base forms: *a-qn-un-i*, *x-o-qn-un-i*. Alongside these forms are optatives and subjunctives occasionally employed as the (imperfective) futures of stative verbs, e.g.

- (26) S šomwäj rok w es-c'əx-ən-es mica ši, kā-w x-ä-bžin-e
 when QT IPV-need-IMP-SUBJ his hand:NOM OPV-OPT O3-PRV-inform-AOR
 (He said) “When you will need his (i.e. my) hand, let me know”.

Conclusion. The morphology of the future indicative tense in the Kartvelian languages is summarized in Table 18 (primary forms are marked in boldface). In Old Georgian, and probably Proto-Kartvelian as well, the verb system was organized around the aspectual contrast between perfective (Series II) and imperfective (Series I). In this system, modal verb forms could also have future-indicative meaning. As for the preverbed present-indicative form (PV+PRS), in view of its early appearance in Old Georgian

texts, and its presence in all modern Kartvelian languages, it is likely to have been at least an optional means of expressing future tense in late Proto-Kartvelian.

Table 18. Morphology of the future indicative tense in the Kartvelian languages

Expression of future indicative	Modal (optative, subjunctive)	Preverbed present (telic verbs)	New atelic or imperfective future-tense forms
Old Georgian	FUT=MOD	emerging PV+PRS	
Modern Georgian	—	PV+PRS	FUT in i-/e- for atelic verbs
Mingrelian	imperfective future = present subjunctive + AUX	PV+PRS	FUT in i-/e- (a-) for atelic verbs
Laz	FUT=MOD(+AUX)	PV+PRS = “présent général”, including FUT meaning	
Svan	1. IPV+PRS+(modal?) suffix for telic & medoactive verbs 2. alternative FUT for atelic verbs (= subjunctive)	OPV+PRS = “categorical future”	Imperfective future in i-/e- √-(un)-i (telic and atelic verbs)

§3. Historical reconstruction: Quantitative and qualitative ablaut. The publication of Gamq’relidze and Mach’avariani (1965) was a significant landmark in Kartvelian linguistics. As had been noted above, the authors’ reconstruction of the Proto-Kartvelian sound system quickly gained the upper hand over the competing proposal by Schmidt (1962). The appearance of this book also signalled a turning-away by a younger generation of linguists from the hitherto-dominant Japhetic or Ibero-Caucasian comparative frameworks, with their presumption that Kartvelian’s nearest kin were to be sought in the two North Caucasian language families (Tuite 2008). Along with their contemporaries Klimov (1978, 1994) and Ilich-Svitych (1971-1984), Gamq’relidze and Mach’avariani turned their attention toward Indo-European, either as a genetically-related family or at least as a language group with which Kartvelian could be compared typologically, and with which it shared a history of contact. One such typological parallel is ablaut. Indo-European, as is well known, had a system of vowel alternations in noun and verb morphology, characterized by both qualitative and quantitative contrasts. Vowel alternation is also a feature of Kartvelian verb morphology, and is especially visible in Georgian and Svan.

The verb stems shown in Table 19 are among the several dozen Georgian stem-alternating (*puɖzedrek’adi*) verbs. These verbs, according to Gamq’relidze and Mach’avariani (1965) and Vogt (1947), have roots that were once bimorphemic, consisting of an initial segment representing the primary root, and a VC coda — with an alternating vowel — contributing additional semantic information. (Some Georgian and Svan examples were presented in §1.1.2.1). Note that the vowel alternation e/i/∅ is not linked to one specific verbal category: in some cases, i-grade distinguishes the aorist stem from the present; in others the contrast is associated with transitivity or even person.

Table 19. Quantitative ablaut in the Georgian and Svan verb

grade	verb stem			
/e	G bned-s “stuns” (transitive present)	S pxež-n-i “spreads” (intransitive present)	G glej-s “tears” (transitive; athematic)	G mo=ved “I came” (1 st p.)
/i	bnid-a “stunned” (transitive aorist)	pxiž-e “spreads” (transitive present)	glij-av-s “tears” (transitive; thematic)	mo=vid-a “came” (3 rd p)
∅	bnd-eb-is “faints” (intransitive)	ä=pxž-e “will spread” (transitive future)	g(l)j-eb-a “tears” (intransitive)	—

The alternation e/i/∅ is interpreted by Gamq’relidze and Mach’avariani as a manifestation of quantitative ablaut, with /e/-vocalism representing full grade, and /i/ and ∅ reduced grade. Furthermore, they postulate lengthened grade /ē/ in transitive verbs with thematic aorists which do not undergo reduction:

Table 20. Lengthened-grade ablaut in transitive verbs (Gamq'relidze and Mach'avariani 1965)

TRANS PRS (athematic, full-grade)	v-drek'-Ø “I bend sthg”	v-c'er-Ø “I write sthg”
TRANS AOR (thematic, reduced or lengthened-grade)	v-drik'-e	*v-c'ēr-e

The attribution of lengthened grade ablaut — and long vowels in general — to Proto-Kartvelian is problematic, however (Schmidt 1976). Of the Kartvelian languages, only Svan has long vowels (in three of the five dialects), and most occurrences of vowel length in Svan can be explained as resulting from the coalescence of adjacent vowels, compensatory lengthening, expressive phonosemantics, etc. (Zhghenti 1947; Chumburidze 1987). Relatively few verbal and nominal roots have long vowels that cannot be accounted for on these grounds, and the number of minimal pairs distinguished only by vowel length is small. The alternation between full-grade and reduced or zero-grade vocalism in some verbs, but not others, could have resulted from mobile stress, for which some evidence exists in the past-indicative paradigms (as shown in Table 12; Gamq'relidze/Mach'avariani 1965: 370; Harris 1985: 175-6; Tuite 2003).

Less attention has been paid to another type of vowel alternation, between the vowels /e/ and /a/, which Gamq'relidze & Mach'avariani label as “qualitative ablaut” (1965: 367; cf Vogt 1947; Shanidze 1980 §§515). Unlike the e/i/Ø alternation discussed above, Kartvelian qualitative ablaut only appears in verb roots, and is associated with only one semantic contrast: transitivity. Qualitative ablaut is maintained intact in a small number of Old Georgian verbs, such as the pair /qad/ “make X come/go” and /qed/ “come, go”, shown here with the directional preverb /gan/ “out(ward)”:

- (27) TRANSITIVE gan=qd-i-s “drives out”, aorist S1sg gan-v-qad-e
 INTRANSITIVE gan=qd-eb-i-s “goes out”, aorist S1sg gan-v-qed

Comparison with Svan supports the hypothesis that this alternation, as a mark of transitivity, goes back to Proto-Kartvelian (Harris 1985: 186-187; Tuite 2018). (For example, the Svan transitive *xw-a-dgär-i* “I kill sb” preserves the a-grade counterpart to the Georgian e-grade intransitive *v-a-dger* “I stopped, rested (somewhere)”; Chant'ladze 2012: 140). The two types of ablaut — qualitative and quantitative — appear to have operated in different segments of the verb stem: e/a qualitative ablaut in the primary root, and e/i/Ø quantitative ablaut in the extension of bimorphemic roots, and some other slots close to the root.

Requiring further study is evidence pointing to a third qualitative ablaut grade. Several Svan ablauting verbs form i-grade statives denoting states of affairs resulting from previous events (*x-a-t'ix* “has returned”; *šid* “is allowed”; Topuria 1967: 242; Ch'k'adua 1999). Georgian seems to have once had static verbs of this kind, a handful of which are preserved as adjectives or nouns (*č'in-* “(eye)sight” < *čan-s* “is visible”; *c'mid-a* “holy, saint” < *c'md-eb-a* “becomes clear”; *pšik'* “stiff” < *pšek'-s* “stretches (legs)”; Neisser 1953: 38; Gamq'relidze & Mach'avariani 1965: 312).

At least one i-grade stative can be reconstructed at the proto-language level. The Proto-Kartvelian root *qid-, derived from the above-mentioned ablauting verb *qad/qed- “(cause to) go/come”, has reflexes in Georgian and Svan, with an interesting divergence in meaning. Old Georgian qid-, and its modern reflex xid-, means “bridge”. An etymological association between OG qid- and the verb *qad/qed- was postulated by Mach'avariani (1965: 21), who reconstructed the initial meaning of *qid- as “for going, for carrying, for taking across” (*savali, sat'ari, gadasat'an-gadmosat'ani*; see also Klimov 1998: 338-9; Fähnrich and Sarjveladze 2007: 706). The Svan reflex qid denotes a gift, usually one offered to the host by a visitor. Underlying the rather different meanings of the Svan and Georgian cognates is the notion of transfer, going across from one place to another, or one person to another.

§4. Case and definiteness. As shown in Table 8, only a handful of the case suffixes can be securely ascribed to the proto-language. Noticeably absent from this short list is the ERG. Although all Kartvelian have ERG cases (allowing for the shift of its distribution in Mingrelian), their phonological forms are too divergent to permit the postulation of a common ancestor. To account for the diversity of ERG desinences, as well as allomorphs of the NOM, several Kartvelian specialists have identified demonstrative stems as the source of at least some of the morphology of these two cases. The declensional system of Old Georgian, which was considerably more elaborate than that of the modern language, provides clues toward understanding how this might have come about. In Old Georgian, certain classes of nominals had no marking for either NOM or ERG case. As noted earlier (Table 9), 1st and 2nd-person pronouns are indeclinable in NOM, ERG and DAT contexts, that is, precisely where person marking in the verb would identify the participants. In Old Georgian, proper names appeared as bare stems when assigned NOM or ERG case, giving phrases such as the following, in which the only cues distinguishing the agent from the patients are word order and context:

(28) OG c'ar-i-q'wan-a iesu-Ø p'et're-Ø iak'ob-Ø da iovane-Ø
 PV-PRV-take-S3sg.PST Jesus-ERG Peter-NOM Jacob-NOM and John-NOM
 “Jesus took Peter, James and John” [Matthew 17:1]

Common nouns had distinct NOM and ERG case forms, and in addition were marked for definiteness. Three degrees of definiteness were contrasted in the NOM, DAT, and some other cases (Harris 1985: 80-87), as shown in the partial paradigm in Table 21:

Table 21. Case and definiteness for Old Georgian common nouns

	generic	indefinite	definite
NOM	k'ac-Ø “man”	k'ac-i “a man”	k'ac-i igi “the man”
ERG	—	k'ac-man	k'ac-man man
DAT	k'ac-s	k'ac-sa	k'ac-sa mas

The generic NOM appeared in contexts such as predicate nominals (e.g. *kwab-Ø avazak'-ta* “den of robbers”, in (14) above), and time and distance expressions (*ormeoc-Ø dye-Ø* [40-NOM day-NOM] “[Jesus was in the desert] (for) forty days” (Mark 1:13)). Postposed demonstratives functioned as definite articles, although with an added deictic component. In the followed excerpt from the 9th-c. Adishi version of the Gospel of St Mark (3:1-5), a man and his withered hand are first introduced through nouns marked by the NOM suffix *-i* and no demonstrative, the equivalent of an indefinite article:

(29) OG i-q'-o mun **k'ac-i** romel-sa ganqmel Ø-e-dg-a **qel-i**
 PRV-be-S3sg there man-NOM which-DAT dry:NOM O3-PRV-stand-S3sg hand-NOM
 “And there was **a man** who had **a hand** that was withered.”

Further on in the story, when the man and his hand are mentioned again, the definite articles are employed:

(30) OG h-rkw-a **k'ac-sa mas:** c'ar-mo-i-ratx qeli šeni . . .
 O3-say-S3sg.PST man-DAT the:DAT PV-PV-PRV-stretch hand:NOM your.sg
 da gan-cocxl-d-a **qel-i** **igi** **misi**
 and PV-revive-INCH-S3sg.PST hand:NOM the:NOM his-NOM
 “And he said to **the man**: Stick out your hand . . . and **his hand** (the hand of him) was revived.”

The distinction between definite and indefinite was limited to common nouns. Old Georgian also had a covert class of nouns used as titles — such as *upal-* “lord”, *mep-* “king” — which were rarely marked for definiteness even when denoting a presupposable referent. In Table 22 are shown the marking options for different categories of nominals when assigned ERG case by the verb. To the left, 1st and 2nd-person

pronouns, and proper names, have no marking at all. To the right are common nouns, which have explicit exponents of the ERG case, as well as distinct definite and indefinite forms.

Table 22. Definiteness marking in ERG contexts (Old Georgian)

	1 st /2 nd person	proper name	demonstrative	title	common N
				“lord”	“youth”
definite	∅ (N/D/E)	∅ (NOM/ERG)	ma- n	upal- man	q’rma- man man
indefinite	—	—	—	upal-man	q’rma-man

Overall, the Old Georgian declensional system manifested a correlation between what Silverstein (1981: 241) called “the unavoidability and transparency” of reference associated with various types of nominals, and the explicitness of marking definiteness. At one end of Silverstein’s unavoidability-of-reference scale are 1st and 2nd-person pronouns, the referents of which are constituted by the mere fact of one person speaking to another. At the other end are common nouns that could in principle designate any being, real or imaginary, that fits the criteria for successful denotation. In between are nominal classes with zones of reference bounded by the preceding discourse (anaphors), or shared social grouping (names, titles).

It has been proposed that sentences such as (28) would have once been the norm for all classes of nominals, that is, Proto-Kartvelian would have had no NOM or ERG case endings at all, but rather bare stems for nominals appearing in the roles of grammatical subject or direct object (Chikobava 1948: 114-115; Boeder 1979: 457; Mach’avariani 2002: 79. For a summary of this discussion, and a reconstruction of the emergence of case morphology similar to that proposed here, see Harris 1985: 75-91). The NOM desinence *-i, and the allomorph *-e attested in Laz and archaic registers of Svan (Fähnrich & Sarjveladze 2007: 143-144), have been linked to the vowels appearing in demonstratives and deictic adverbs, such as G i-g-i, “that”, M-L (h)i-š-o “(over) there”, S i-m-eg “there”; and G. e-g-e “that (near you)”, S. e-j-a “that” (Klimov 1998: 45, 80-82). The attested NOM suffixes might have originated as postposed demonstratives which underwent phonological reduction (N-i < N-*igi “the N”; Harris 1985: 80; Mach’avariani 2002: 78), or from the simple addition of deictic vowels to the noun stem (N-*i “that/the N” > N-NOM). The heavier and more diverse exponents of ERG case (G -m(a), S -m, M/L -k) are almost certainly traceable to postposed demonstratives based on the stems *m(a)-, *g-, and perhaps others (Klimov 1998: 2-3, 24, 112-113; Fähnrich & Sarjveladze 2007: 92, 276; Mach’avariani 2002: 79). In Modern Georgian the demonstratives i-g-i and e-g-(e) are specifically NOM case forms, but traces of their earlier, purely deictic, function remain in Old Georgian compound relative pronouns, such as romelsa-igi in the following phrase. Although the relative pronoun is assigned DAT case by the verb, the form of the deictic igi remains invariant (Imnaishvili 1957: 520-524).

- (31) OG romel-sa-**igi** ∅-a-kwn-d-e-s, mo-∅-e-c-e-s mas
 which-DAT-DEIC O3-PRV-have-IMP-SUBJ-S3sg PV-O3-PRV-give-SUBJ-S3sg that:DAT
 “To whomever has, shall [even more] be given” (Mark 4:25).

One can propose the following scenario for the emergence of the NOM and ERG desinences in Kartvelian: At first, common nouns could appear in their basic, unsuffixed form, or with postposed vowels (*-i, probably *-e). These vowels contributed deictic meaning (distal vs proximal), and could signal definiteness as well. In Stage II, demonstratives could also be postposed to common nouns, perhaps in order to reinforce the marking of definiteness. By contrast, the bare-stem and vowel-suffixed forms came to be associated with indefinite or generic reference. Finally, in Stage III, the indefinite suffix *-i/-e and the various definiteness markers were reinterpreted as signals of the grammatical roles most strongly associated with indefinite and definite reference, that is, direct object and intransitive subject (absolutive),

and transitive subject (ergative), respectively.¹ This final stage played out in the individual Kartvelian branches after the break-up of the ancestral speech community, resulting in a Zan (Laz-Mingrelian) ERG marker evolved from the demonstrative stem *-g-, while the Georgian ERG and one of its Svan allomorphs go back to the stem -*m(a)-.

Table 23. Emergence of the NOM and ERG desinences in Kartvelian

Stage I	Stage II	Stage III
N-Ø [base form]	N-Ø [generic]	N-Ø [absolutive]
N-*/i/*e [deictic/definite]	N-*/i/*e [indefinite]	N-*/i/*e [absolutive]
	N-*/i-g-/*e-g-/*e-m(a) [definite]	N-*/g-/*(e)-m/ etc. [ergative]

§5. Contact-induced changes: evidentiality and m-reduplication. Although opinions differ as to whether the Caucasus itself constitutes a Sprachbund (Tuite 1998; Chirikba 2008), it is evident that linguistic convergence areas exist within the Caucasus. One such area is the Black Sea coastal region, including Mingrelian and Abkhaz, and at an earlier time, Laz (Hewitt 2001; Chirikba 2006). The central-west Caucasian area encompassing the Ossetic, Karachay-Balkar, Circassian and Svan speech communities is the locus of contact and bilingualism, leading to numerous lexical borrowings (Abaev 1949; Klimov 1963).

There is also evidence of the diffusion of linguistic features within a larger area of which the Caucasus is a part. The grammatical category of evidentiality — or, more accurately, the category of status, defined as the speaker’s stance or attitude with respect to the narrated event (Friedman 1996, 2000) — appears to have emerged relatively recently in the Kartvelian languages. In Modern Georgian, one of the principal functions of the perfect is to signal the speaker’s lack of direct knowledge of the event being narrated. In Old Georgian, however, the perfect was primarily a resultative tense. This is still the case for the rarely-used Laz perfect (Lacroix 2009: 369). In Svan, the perfect when not preceded by an inner preverb is a pure resultative (32a), whereas the addition of an IPV yields an evidential interpretation (32b; Margiani-Subari 2012: 72):

(32a) S kirs mi-j ču-m-i-m-a
 lentil:NOM I-also OPV-O1-PRV-eat-PERF
 “I too have eaten lentils” (i.e., I have had the experience at least once).

(32b) S kirs lä-m-(i)-mam-a i demeg la-m-lat’-a
 lentil:NOM IPV-O1-PRV-eat-PERF and not IPV-O1-love-PERF
 “I apparently have eaten lentils and I didn’t like them” (i.e., They told me I once ate lentils as a child, but I do not remember)

The extent to which status is incorporated into the verbal system differs sharply between the eastern and western halves of Kartvelian territory. In the eastern Georgian dialects, including the standard language, the expression of non-witnessed evidentiality (and other marked status types, such as admirative and dubitative), is primarily through the use of the perfect (Boeder 2000). In Svan, Mingrelian, Laz and some western dialects of Georgian, however, more elaborate status-marking systems have evolved, including the previously-mentioned Series IV paradigms (§1.1.2.3) which serve as the inferential/evidential counterparts to those of the imperfective Series I (Harris 1985: 296-300; Lacroix 2009; Margiani-Subari 2012; Rostovtsev-Popiel 2020). According to Friedman (1996, 2000), the marking of status is one of the more notable linguistic features shared by most of the languages in the area encompassing the Balkans and the Caucasus, which includes languages from the three Caucasian families, Turkic, and five branches of

¹ Crosslinguistic studies of discursive practice, such as Dubois (1987, 2017), have revealed a strong tendency, in languages of all morphosyntactic alignments, to introduce new topics as direct objects or intransitive subjects (that is, absolutes). Transitive subjects, by contrast, tend to denote already-introduced, presupposable referents.

Indo-European. In the Caucasus, besides the Kartvelian languages, forms based on the perfect/resultative express evidential status occur in several East Caucasian languages (Forker 2018).

Among the other features which have diffused in the Balkan-Caucasian region, one can mention the reduplication of words with substitution of /m-/ for the initial consonant (or addition of /m-/ if the word is vowel-initial), e.g. G axlo-maxlo “hereabouts” < axlo “near”; xurda-murda “small change”, etc. (Neisser 1953: 56; Kikvidze 2016; cf Grannes 1996, Sergienko 2021). Svan collective nouns can be formed by reduplication with insertion of the formant –ma-, e.g. ṽən-ma-ṽən “festivals” < ṽən “festival, feast-day”; qid-ma-qid “things brought back and forth, offerings” < qid “something brought (as gift, tribute)” (Saghliani 2016: 470-2). Outside of Kartvelian, m-reduplication is attested in Abkhaz (čək'-mək' “horses and so on”) and Armenian (ptuḡ-mtuḡ “tutti-frutti” < ptuḡ “fruit”; Vaux 1996).

§6. The development of 3rd-person subject marking. It was mentioned above that Georgian, Mingrelian and Laz have paired sets of 3rd-person singular and plural subject suffixes. Three such pairs have been identified, shown in Table 24.

Table 24. Cognate S3 suffixes in Old Georgian and Zan.

	A. PAST INDICATIVE		B. PRESENT/ SUBJUNCTIVE		C. ITERATIVE/PRESENT	
	3sg	3pl	3sg	3pl	3sg	3pl
OGeo:	-a	-es	-s	-en/-an	-n/-ed	-ed
Zan (Mingrelian and Laz)	-u	-es	-s	-an	-n	-nan
Georgian-Zan:	*-a	*-es	*-s	*-en	*-n/-ed	*-n/-ed

The distribution of each set is similar in the three languages: Set A in the past-indicative (aorist and imperfect); Set B in the present-indicative and various modal paradigms (optative, subjunctive and permansive); and Set C in the Old Georgian iterative/jussive, and the Mingrelian and Laz intransitive present. The three sets can be ascribed to the Georgian-Zan ancestral language, but any projection further in the past runs to the problem of accounting for the absence of such pairs in Svan. In most Svan verb paradigms, there is no S3sg ending at all, and the 3pl is always marked by the suffix -x, of unknown origin. It might therefore have been the case that the paired 3rd-person desinences represent an innovation in the Georgian-Zan branch of the family. One potential clue to the origin of the 3rd-person suffixes is the curious fact that /s/, /n/ and /ed/ appear in both singular and plural desinences, although not necessarily in the same set. The phoneme /s/ appears in the 3pl of Set A, and the 3sg of Set B. The Set B 3pl, Set C 3sg and the Zan Set C 3pl suffixes contain /n/. Since the suffix -(e)n marks agreement with plural NOM arguments in the Series II paradigms of Old Georgian, one could imagine it spawning the Set B 3pl morpheme, as well as those of Set C, taking into account that iterative aspect is one expression of verbal plurality (Cabredo Hofherr 2010). It should also be pointed out that the Set C 3rd-person endings do not show as clear a link to number-marking as those of Sets A and B. The Set C suffix -ed, which is limited to Old Georgian and has no evident cognates elsewhere in the family, is attested with both singular and plural arguments (Sarjveladze 1984: 394-403). The Zan Set C 3pl suffix -nan appears to have resulted from the addition of Set B 3pl -an to the Set C 3sg suffix. As for Svan, it does have a S3sg suffix -s in the optative/subjunctive mood, and the morpheme -a is part of the imperfect endings of some verbs, although it appears in all three persons in the plural as well as the 3rd singular.

Thus, the Georgian-Zan 3rd-person suffixes could have emerged from the reinterpretation and redistribution of morphemes which initially marked other categories, including tense (past-indicative *-a), mood (optative *-s) and plurality (*-(e)n). The emergence of 3rd-person singular and plural markers from these morphemes might have been underway before the separation of Svan — hence, the limitation of -s to the 3rd singular of the optative/subjunctive paradigms — but only carried to completion in the Georgian-Zan branch of the family.

Much more could be added concerning Kartvelian morphology. Those desiring further detail can consult Boeder's overview of the Kartvelian family (2005); the chapters in Harris (1991); Deeter's (1930) insightful monograph on the Kartvelian verb, and the descriptive grammars of individual languages mentioned earlier. Those who read Georgian will of course have access to an enormous library of relevant publications, including G. Mach'avariani's posthumously-edited comparative grammar of the Kartvelian languages (2002). Also recommended are Boeder's 1982 translation, with extensive commentary, of Gamq'relidze & Mach'avariani (1965); and Klimov's (1969) and Hewitt's (2004) introductions to Caucasian linguistics.

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