

PHONETICS

2.0. The phonological system of Upper Bal consists of 44 phonemes, 14 of them being vowels. Since there is no vocalic length in Lower Bal, there are 37 phonemes in it. As well as in the other Kartvelian languages, the phonological class of sonants is not represented in Svan because Proto-Kartvelian sonants have become vocalized (G a m k r e l i d z e—M a c h a v a r i a n i, 1965, 1982). The articulatory characteristic of all segmental units of Upper Svan is the following: syllabic low open back *a*, syllabic low palatal open front *ä*, syllabic mid labial open back *o*, syllabic mid palatal front *e*, syllabic mid/high close centre *ə*, syllabic high labial close back *u*, syllabic high palatal close front *i*, plosive labio-labial pulmonic voiced *b*, plosive labio-labial pulmonic voiceless aspirated *p*, plosive labio-labial ejective voiceless *p̥* (glottalized *p'*), plosive apico-alveolar pulmonic voiced *d*, plosive apico-alveolar pulmonic voiceless aspirated *t*, plosive apico-alveolar ejective voiceless *t̥* (*t'*), plosive apico-prealveolar pulmonic voiced *ɟ* (affricate *dz*), plosive apico-prealveolar pulmonic voiceless aspirated *c* (*ts'*), plosive apico-prealveolar ejective voiceless *ç* (*t's*), plosive apico-postalveolar pulmonic voiced *ʒ* (*dʒ*), plosive apico-postalveolar pulmonic voiceless aspirated *č* (*tʃ'*), plosive apico-postalveolar ejective voiceless *č̥* (*tʃ'*), plosive dorso-velar pulmonic voiced *g*, plosive dorso-velar pulmonic voiceless aspirated *k*, plosive dorso-velar ejective voiceless *k̥* (*k'*), plosive dorso-uvular pulmonic voiceless aspirated *q*, plosive dorso-uvular ejective voiceless *q̥* (*q'*), fricative apico-prealveolar pulmonic voiced *z*, fricative apico-prealveolar pulmonic voiceless aspirated *s*, fricative apico-postalveolar pulmonic voiced *ʒ*, fricative apico-postalveolar pulmonic voiceless aspirated *š*, fricative dorso-velar pulmonic voiced *ɣ*, fricative dorso-velar pulmonic voiceless aspirated *x*, fricative pharyngeal pulmonic voiceless aspirated *h*, frictionless labio-labial voiced continuant *w*, frictionless dorso-palatal voiced continuant *j*, nasal labio-labial pulmonic voiced *m*, nasal apico-alveolar pulmonic voiced *n*, lateral apico-alveolar *l*, rolled apico-alveolar *r*.

2.1.1. Vocal phonemes may be described as having trapezial correlation:

ī	ū
ē	ō
ǣ	ǫ

We do not agree with T h. G a m k r e l i d z e and G. M a c h a v a r i a n i (1965, 1982) it is cubic — one cannot ascribe the phonological status to the combinations *wē*, *wī*: no phonemes ~~*ǣ*, *ǫ*~~ can be ascertained on the contemporary level of description already

because of the existence of the phonemes /w/, /ē/, /ī/. It could be applied only to morphemes realized through the combinations of phonemes /w + ē/ and /w + ī/. In fact it is impossible to differentiate the etymological combinations wē, wī from the umlautized \bar{o} , \bar{u} , cf. *ḥwen* 'marten' with the etymological -w + e- (Geor. *ḥwerna*) and *skwēr* 'rank' with the umlautized \bar{o} (av. *skōrus* 'in ranks') or *xwīgēm* 'I build it for myself' with the etymological -w + i- and *woxwīsd* 'five' with the umlautized u (Geor. *xuti*). The cluster wē (etymological or not) manifests as pure [ē] after #m, 2.1.2. Various degrees of umlaut can be observed mostly by comparing corresponding grammatical forms with ablaut alternations:

ā	→	ä	→	e
ō	→	ö	→	o
ū	→	ü	→	i
ø	→	y	→	i

cf. *otḥon* "thou hast tied" vs. *otḥwēn* "he has tied", or *axgub* "thou hast destroyed" vs. *axgwiw* "he has destroyed", *qan-ār* "oxen" vs. *qān* "ox". The grades ē, ī in the second and in the third instances are in fact the result of delabialization in certain positions (cf. 2.3.5). The redistribution of these combinations with the transference of w to the end of the word after metathesis is also attested, e. g. *pwir* "cow" and *pirw*. In Lower Bal such final -w is dropped as a rule: *pir*, or: U.B. *bepšw* "child" vs. L.B. *bepš**.

Umlaut may be both palatal and non-palatal.

2.1.2.1. The main rules of the palatal umlaut are:

a) the strongest umlautizer is *i*; it causes the \bar{a} -umlaut unconditionally, therefore the umlautizing of \bar{a} appears to be a living phenomenon; the umlautizing of \bar{o} and \bar{u} , which is possible merely by *i*, is historical as *i* has not been preserved;

b) *e*, when short and thus subject to reduction, is the umlautizer of the single *a* (historical umlaut):

NOM. *ladey* "day" — GEN. *lātyis*;

c) *i* and *e*, while being a result of umlaut, do not umlautize any vowels;

d) \bar{a} may be umlautized in all positions, \bar{o} and \bar{u} — provided they belong to the stem.

2.1.2.2. M. Kaldani (1969) has discovered the non-palatal umlaut operating in the opposite direction, i. e. *e* or *i* are lowered to \bar{a} under the influence of the following *a*, *o* > w, w which may undergo reduction:

Geor. *dldeba* "glory" → Svan *didāb*

*Usually historical umlautizing of \bar{a} to \bar{e} and of \bar{a} to \bar{i} is pointed out. I. Melikishvili (1981) argues the first and supposes the umlautizing of the labialized *a* > o with the subsequent dropping of w, e. g. **zaywi* "dog" > **zoywi* > **zwey* > **zeyw* > *zey*. This is not to be excluded at least in words with more than two consonants, although the very example **zaywi* > *zey* is doubtful (the result would have been **zwey* > **zeyw* > **zēy* as in Geor. *toḥi* "rope" → Svan *rveḥ* > *wāḥ*, see 2.1.2.2) while in words with two consonants \bar{a} > \bar{e} > \bar{i} is still to be supposed, cf. Svan *jeḥd* < */*jāf* (for **f* > *ḥd* see Melikishvili, 1981), Geor. *ati* "ten". The final result of such processes is represented in Lashkh.

Geor. *gemo* "taste" → *gemw* > *gām*

Geor. *satitur-i* "thimble" → *satitwir* > *sätetwr* > *sätätwr*

(all the stages are represented).

2.1.3. Reduction is not old – there was no reduction in the 13th–14th c. Svan, as it is seen from the ecclesian "Matiane" lists of deceased souls. Up to now no reduction has occurred in Lentekh. In Zan, also, reduction has hardly developed. Some data show the onset of the word to be stronger in respect to reduction in comparison with the ultima where all historically long vowels seem to have been reduced to short ones and all the short vowels – to zero (cf. DAT. *māra* "to a man" < **ā*, but *kor-s* "to a house" < **a* because of GEN. *korāš* in comparison with *bāk* "untruth", GEN. *bākīš*).

If a prefix and a suffix are added to a stem, only the prefix causes the reduction of the stem vocalism. The short vowel of the syllable coming immediately after or preceding that, which causes reduction, is reduced to zero, *u* (sometimes *o*) being reduced to *w* (*u* → *w* is possible even in Lentekh with no reduction). Long vowels are never reduced:

U. B. *addāwše* < (Lentekh) *addāwāše* (*ad-*, *-e* being affixes) "I have offended (against him)"

U. B. *laxxenid* < (Lentekh) *laxxenid* (*lax-*, *-en-* being affixes) "we all are turned back".

2.1.4. The main rules of elision and contraction in Upper Svan are the following:

a) elision or contraction of the final vowel with the initial *i-* or *u-* of the following word is impossible;

b) the combinations *-o + a-*, *-o + e-*, *-u + e-* do not contract;

c) the contraction of the same vowels (the elision of the final vowel before the same initial vowel of the following word in Lower Bal) results in one (Upper Bal long) vowel of the same quality:

ka anqad → *k'anqad* "(he) came out"

imte esyrid → *imt'esyrid* "where will you go?"

d) by the elision (*-o*, *-u* turning into *w*) before a different vowel the resulting vowel is long in Upper Bal if the one vanished was not *i*; in Lower Bal the spheroids of the initial vowel is also possible:

ka ādqid → *k'ādqid* "he has payed"

ka eseru adkwār → *k'eseru adkwār* "let him throw (it) out, he says"

korte onqu → *kort'ōnqu* "I have brought (it) home"

do esguras → *dw'esguras* "nor (let him) seat (him)!"

ču akre → *čw'akre* "(he) opens (it)"

U. B. *ži ade* → *ž'ade* "go!"

U. B. *ži esad* → *ž'esad* "thou hast put (it)"

U. B. *ži oxkid* → *ž'oxkid* "(he) has taken (it) from him"

L. B. *ka eserow aqkwār* → *ka'serow aqkwār* "let him throw (it) out, he says"

L. B. *amži eser legd* → *amži'ser legd* "so badly, he says"

-u of the preverb *ču* is always dropped by elision in Lower Bal:

ču otdagra → *č'otdagra* "(he) killed (it) for him" (Kaldani, 1953).

2.2.1. The system of consonants is characterized by such typical Kartvelian and Caucasian (as well as Proto-Indo-European, Gamkrelidze-Ivanov, 1984) feature as the 3 series of stops and fricatives: voiced, voiceless-glottalized and voiceless aspirated:

	labials	dentals	sibilants		velars	back uvulars	pharyngeal
voiced	b	d	ʒ	ʃ	g	ɣ	ħ
glottalized	p	t	c	č	k	q	
aspirated	p'	t'	s	š			

The resonants are: /j/, /w/, /m/, /n/, /l/, /r/.

Besides, there are morphonemic clusters *sg*, *šg*, *šk* functioning as phonemes similar to Zan *šg*, *šk*, *čk*, *čk*.

2.2.2. As for the resonants, *w* may be met as prothetic (*od* || *wod* "until") and -*j* as filling hiatus (*ije* "yes", *lijēxwe* "to unite") or prothetic (*ješd* || *ešd* "ten"). We write *w* and *j* everywhere, whether they are etymological or not.

/w/ shows some peculiarities. It is realized as a bilabial voiced fricativeless [w] in all positions except *t-a*, *l-a*, *e*, *V-V* and *-j*. In the two latter instances it is pronounced as a bilabial voiced fricative [w] (*gawa* "force", *səwjaš* "of North Caucasus") while in the three former instances it merges with the preceding consonants *t*, *l* and results in labialized [tʷ] (pronounced as in Abkhaz), [lʷ] (*štwara* [štʷara] "tepid", *kałwāš* [kałʷāš] "of a threshing-floor", *alwerda* [ałʷerda] "(he) corned beef"). Between two consonants *C-C* *w* is pronounced as a semi-vowel [w] though short and weak. The same is true of the final position after a consonant *C-**. Since in the latter instance *w* does not manifest syllabic, it cannot be considered a sonant: *likw/še* "to crack", *likw/du/ne* "cheating", *bepšw* "child".

2.2.3. The correspondences of sibilants between the Kartvelian languages are crucial for the division of the family into the West (Svan, Zan) and East (Georgian) areas. According to the current reconstructions, Proto-Kartvelian sibilants correlated as follows:

Opinion I						Opinion II					
G. Machavariani, G. Klimov						G. Tsereteli(1), K. H. Schmidt(2)					
front series	ʒ	c	ç	z	s	ʒ	c	ç	z	s	front series
middle series	ʒ₁	c₁	ç₁	z₁	s₁	ʒ̣	č̣	ç̣	ẓ	ṣ̌	back series
back series	ʒ̣	č̣	ç̣	(ẓ)	ṣ̌	ʒ̣	č̣	ç̣	(ẓ)	ʒ̣	1. back velarized or
						ʒ̣g	č̣k	ç̣k	(ẓg)	lk	2. clusters' series

I: While in the Eastern area the middle series have turned into the front ones, thus coinciding with the original front series, in the Western area they have turned into the back series, the original back series having produced clusters **šg*, **čk*, **çk*, **šk*. Therefore, e. g. Geor. *s* may correspond to Svan and Zan *s* as well as to *š*.

II: In the Eastern area the back and the back velarized (G. Tsereteli), or clusters'

(K. H. Schmid) series merge into the back ones while in the Western area they merge into the back velarized, or clusters' series. The result is the same, i. e. Geor. \mathfrak{z} = Svan or Zan \mathfrak{z} , \mathfrak{z} .

Opinion II, now adhered to by I. Melikishvili, 1980 (Variant 2), more suits chronologically and typologically. H. Fährnich (1982), however, has recently shown the inadequacy of clusters (2). Since both I and II systems of signification are in a kind of complementary distribution and since they signify phonemes and not the real allophones, i. e. since they are mere conventional signs, we will adopt the first system for the sake of tradition and greater simplicity. The reader can choose for himself, whether, e. g.

$/\mathfrak{z}_1/ = [\mathfrak{z}']$, $/\mathfrak{z}/ = [\mathfrak{z}]$ or $/\mathfrak{z}_1/ = [\mathfrak{z}]$, $/\mathfrak{z}/ = [\mathfrak{z}']$ (or $[\mathfrak{z}g]$), etc.

In Svan: * $\mathfrak{z}g > *z_g > sg$
 * $z_g > \mathfrak{z}g /-w$
 original * $\mathfrak{z}g > z_g > sg$
 * $\mathfrak{c}k > *s_k$
 $\mathfrak{s}g$
 * s_k
 $\mathfrak{s}g > sg /-w$
 * $\mathfrak{c}k > \mathfrak{s}k$
 $sk > sg$

As a result, the main correspondences between Georgian and Svan sibilants are:

Geor.	\mathfrak{z}	\mathfrak{c}	c	z	s	\mathfrak{z}	\mathfrak{c}	\mathfrak{c}	\mathfrak{z}	\mathfrak{s}
Svan	$\mathfrak{z}, z, \mathfrak{z}$	$\mathfrak{c}, s, \mathfrak{c}, \mathfrak{s}$	$c, s, \mathfrak{c}, \mathfrak{s}$	z, \mathfrak{z}	s, \mathfrak{s}	$sg(w)$	$\mathfrak{s}k$	$\mathfrak{s}g$	-	$\mathfrak{s}g$

As for non-sibilants, the main correspondences are:

Geor.	g	k	k	t
Svan*	\mathfrak{z}, g	\mathfrak{c}, k	\mathfrak{c}, k	$\mathfrak{s}d, t$

This complicates the final picture of correspondences between Svan and Georgian sibilants:

Svan	$\mathfrak{z} \mathfrak{c} c$	z	s	$sg(w)$	\mathfrak{z}	\mathfrak{c}	\mathfrak{c}	\mathfrak{z}	\mathfrak{s}	$\mathfrak{s}k$	$\mathfrak{s}g$
Geor.	$\mathfrak{z} \mathfrak{c} c$	\mathfrak{z}, z	s, \mathfrak{c}, c	\mathfrak{z}	\mathfrak{z}, g	\mathfrak{c}, k	c, k	\mathfrak{z}, z	s, \mathfrak{c}, c	\mathfrak{c}	$\mathfrak{c}, \mathfrak{s}$

2.3.1. The articulatory sequence of Kartvelian consonant clusters is decessive (G. Akhvlediani) in most instances. In Svan these clusters are transformed as follows:

*The first members of the pairs are historically palatalized (the Kartvelian "atemization").

bg	pk	pk	by	pg	px
dg	tk	tk	dy	ig	tx
	šg	šk	žy	šg	šx
ʒg		čk	ʒy (çg)		čx
	sg	sk		sg	sx
ʒg	(çk)	ck	ʒy (çg)		cx

The clusters *çg*, *çk*, *çg* are not originally Svan since in Svan they have turned correspondingly into *šg*, *šk*, *sg*. Another two clusters with sibilants – *šd*, *št* – correspond to *šg*, *šk*. For *tw*, *hw*, see above 2.2.2. Accessive clusters (e. g. with *-w*) are combinative.

2.3.2. Among combinative changes assimilation is widespread. Spirants are assimilated to affricates, affricates to resonants, *n* to labials, *m* to praeinguals, pharyngals to uvulars, voiced to voiceless, e. g. *liçsi* > *liçci* "to invite"

niglāw > *nizlāw* "bet"
linbe > *limbe* "to let have"
linçwme > *linçwme* "to witness"
liqhāl > *liqχāl* "to kiss"
lišdx > *lištxe* "to exhaust"

The historical changes *nx* > *x* and *dx* > *t* are important to understand the 2nd-person forms with the preverbs *an-*, *ad-*, e. g. *axmāri* "thou wilt prepare", *atgemne* "thou wilt build", 4.3.2.2.1.

The assimilation of voiceless to voiced is alien to Svan, cf. *sga* "in", not *[*zga*]!

Diaeresis of *j* in position *w-V* is typical of Lower Bal, e. g. U. Bal *liclāwǰel* vrs. L. Bal *liclawel* "to litigate". For the disappearance of *w*, see 2.3.5 and 2.1.2.

If there is a labial in the stem, it accommodates *ə* incontinuously, e. g. *liji* "to take away", *ləje* "taken" vrs. *liçwile* "to marry" but *luçwile* "married"; *məzān* "Megrel (= Zan)man" but *murwis* "Russian" – *o* is possible as well as *u* after *m*: *mərdāb* > *murdāb* > *mordāb* "feeling of inconvenience").

2.3.3. It is interesting that the dissimilation of voiced is as preferable as the assimilation to voicelessness (the result is voiceless in both instances): *mižladāy* > *mišladāy* "Sunday".

The dissimilation *r* > *l* is apparent in the plural morpheme *-ər*: *māre* "man" – PL. *mārāl* < *-ər*.

2.3.4. Epenthesis, prothesis and metathesis are attested.

Epenthesis is richly represented by secondary nasalization:

lizwri → *linzōrdl* "to gather"
nēsga > *nēnska* "in the middle"
na-n-gwmi "heaviness" out of *gwami* "heavy"
 Geor. *a-čkar-eba* → *linčkre* "to hasten"
mepwēr > *mempwēr* "bird", etc.

For the epenthesis of *j* to fill hiatus, see 2.2.2.

For the prothesis of *w*-, *j*-, see ibidum.

For metathesis, *ligweb* > *libegw* "to be found" may be an example.

2.3.5. The superfluity of labials is avoidable in a word: *w* often disappears if there is another labial in the stem, cf. NOM/ABS. *eḡxu* "one" – DAT. *aḡw* and NOM/ABS. *semi* (with *i* recreated due to Georgian influence*) "three" – DAT. *sam*, as also NOM/ABS. *maḡ* "worm" < **maḡw*, Geor. *maḡl*.

2.3.6. All consonants (including resonants) are possible at the beginning, in the middle and at the end of the word. Clusters are also possible there instead of simple consonants. For vowels, except *u*, *i*, the initial position is weak. *ə* is impossible in it and joins the prothetic *j* in Upper Bal: *j-əgen* "he stands it up". *j* is often added as well to *e*-, cf. *er||jer* "(in order) to", though *a*- and *ə*- join *h*-. *harəq* "whisky", *həzw* "yard" (these borrowings from Geor. *anaq-i*, *ezo* show the same process having taken place in the native words too). As for *o*-, it is especially avoided, e. g. *okwr* > *wokwr* "gold" with the prothetic *w*-. Many words with initial *o*-, *e*-, *a*-, *ə*- have them due to the preverbs *a*-, *ad*-, *an*-, *es*- since prothesis does not develop in preverbs. As for *u*- and *i*-, they never join the corresponding prothetic *w*-, *j*-.

2.3.7. There are at least 34 types of syllables in Svan. Syllables beginning with a vowel are initial and those ending in two or three consonants (not resonants!) are final. The others may occur in all positions. The patterns are: *V*-, *CV*-, *RV*-, *VC*-, *VR*-, *CVC*-, *RVR*-, *CVR*-, *RVC*-, *CRV*-, *VCR*-, *VRC*-, *VRR*-, *VCC*-, *CVCR*-, *RVCR*-, *CRVC*-, *CRVR*-, *RCVR*-, *CRCV*-, *CVRR*-, *RRVC*-, *VCCR*-, *VRCC*-, *CVCRC*-, *CVCRR*-, *RVCRC*-, *CVCRCR*-, *CRVRC*-, *VRCCR*-, *CRVRCR*-, *CRRVRC*-, where *R* is a resonant and *C* may be a simple consonant or a decessive cluster. The pattern *RCV* is absent because of the pleophony so typical of Svan and Zan. The patterns *VCC*-, *VRCC* are of one-syllable words, only. Most of the words consist of 2, 3 or 4 syllables in various combinations. The resonant *w*, being a reflection of a vowel, belongs to the former syllable between two consonants of different syllables, e. g. *əngw||lez* "angel".

2.3.8. Among the morphonemic alternations some are of combinatorial origin. Cf. the coexistence of the two allomorphs of the ethnonymic prefix *mə*- and *mu*- (*məzān* "Megrel-man" vs. *mušwān* "Svan-man"), the latter having occurred in accordance with 2.3.2.

As for the alternations with the grammatical function, i. e. the ablaut, Svan not only has a qualitative vowel gradation, as *a* : *ā*, or *a* : *e*, (*qān* "ox" : *qanār* "oxen", *žey* "dog" : *žayw* "to a dog"), but it is the single Kartvelian language conserving all the grades of the ancient quantitative vowel gradation: the zero, the normal and the grade of lengthening (*liḡxe* "to return" : *aḡix* "he has returned" : *xoḡixa* "he is who returned", or *berg* "hoe" : *libērgē* "to hoe").

2.4. Svan accent has not been investigated as yet. It seems to be free as it is especially clear in radical verbs with preverbs unstressed in the 3rd person in aorist and often stressed in the 1st and 2nd persons (T o p u r i a, 1967). As for the pitch accent (i. e. tone or the syllable accent), the problem has not been even set. The existence of the distinctive degrees of the vocalic length in Svan, side by side with the

*Geor. *sam-i*; cf. also *jōri*, Geor. *ori* "two" and Svan *jeru* "two". Numerals are weak in Kartvelian: nowadays the Svans often use Georgian numerals similarly as Georgians use Russian numerals.

"desonantized" tautosyllabic complexes of the Baltic type *īl, ūr, āl, ūr, ēl, ēr*, etc., makes us assume the possibility of the Baltic-like pitch-accent. In the course of our common work we have ascertained that: a) the length in the tautosyllabic complexes may be shorter than in the pure vocalic syllables: *mare* "man" vrs. *bi.nfw* "fog", *de.mēiks* "never", or in a diphthong: *ešxawai* "a little to there", though *xolamxānka* "from evil"; b) as well in the pure vocalic syllables the "longer" and the "shorter" variants of length occur: *le.sw* "be" (half-long) vrs. *mare* "man" (long) vrs. *la:no* "give us" (super-long).

Auditory experiments have shown that the Lithuanians auditors, who do not speak Svan but have two pitches in their native language, uniformly distinguish the different character of length in such homonyms as *lisōme* "to wait for unpleasant" and "to keep the rain out":

čū	ližrē	lisōme	mamčir	i	gəgib	čukwān
PV'	getting-wet GEN	waiting NOM	I dialike	and	pineDAT	under
maķu	lisōme					
I want	keeping-out NOM					

"I do not want to wait for getting wet and want to keep the rain out under a pine-tree" — the first *lisōme* seems to have the high pitch on *ō*.

Since this phenomenon has not been thoroughly examined, we did not dare mark the supposed tones in our dictionary though the differences in length sometimes are very distinct (cf. also in grammatical forms, e. g. *xwīg^hni^d* "we shall be standing" vrs. *mēgni* "by me it will be standing" with the high and circumflex pitch).