HURRO-URARTIAN BORROWINGS IN OLD ARMENIAN

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This study examines a number of lexemes in Armenian which appear to have Hurro-Urartian etymologies. It attempts also to isolate the chronological periods during which these borrowings took place and to describe the linguistic changes that these words underwent in Armenian.

ARMENIAN IS AN INDO-EUROPEAN LANGUAGE which recalls English in that it is saturated with borrowed lexical material. Apart from the usual amount of occasional borrowings for which it is difficult to establish a valid historical reason, most of the borrowings correspond to certain cultural innovations in the Armenian society itself. In this paper we shall not dwell on the strata which involve Neo-Armenian. However, in the Old Armenian (Grabar), which up to the 19th century was the literary language for all Armenians, there are also several clearly definable strata of borrowings. Grabar is a literary language whose core was formed between the 5th and the 8th centuries A.D., but the stratum of borrowings which shall be discussed here goes back to a period before the 5th century B.C. Roughly, the following strata in Old Armenian can be identified:

(1) Middle Iranian (predominantly Parthian but also Middle Median and especially Middle Persian) is responsible for the greatest number of borrowings. They denote abstract notions, terms of the feudal society, but the strata in question also contain a considerable number of words denoting objects of daily life; they have probably ousted older lexemes with a similar semantic of a Common Indo-European origin. Note that there are few certain Old Iranian borrowings, if any;

(2) The Syriac Aramaic dialect, and to a lesser degree Greek (partly also through the mediation of Syriac) are responsible for words referring to religious and ecclesiastical matters, and also to writing and literary activities etc.;

(3) A separate stratum consists of borrowings from an earlier Aramaic dialect (possibly connected with the resettling to Armenia of city-dwellers of Aramaic and Jewish origin under Tigranes II and Artavazdes I in the 1st century B.C., but also with the Aramaic traders, scribes etc. of the Hellenistic and Achaemenian periods). This stratum is responsible for terms connected with trade and traders, names of wares which were

in circulation, some implements etc. These words are mostly easily discernible because they preserve a number of early North Aramaic peculiarities and mostly lack the typical final Aramaic -ā (> Arm. -ay) which at that epoch was still an article in Aramaic. A number of originally Akkadian words have passed into Armenian probably via Aramaic mediation;

(4) Below these strata lies a stratum whose origin was until lately undetermined, and which was usually referred to as the "Caucasian substratum". A considerable number of words have been identified (mainly by Hr. Adjarian) as originating from certain Kartvelian (Georgian) dialects; some were thought to be akin to Udi (a southern dialect of the Lezghian group in the North-Eastern Caucasian linguistic family), or as originating from the languages of Asia Minor and the Aegean world. However, hundreds of words are hitherto unexplained, even tentatively.

Since the Armenian nation, as seems to follow from written sources, has been formed in the territories inhabited in the 2nd millennium B.C. by Luwian, Hurrian and Urartian speakers, a search for Luwian, Hurrian and Urartian (or Hurro-Urartian)[1] etymologies applicable to Armenian words, might be rewarding. Much work has been done in this direction by a number of authors,[2] but it is only in the last few decades that our knowledge of the languages in question has increased sufficiently, and now this problem has been tackled by J. A. C. Greppin,[3] G. B.

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[1] Apart from the written Hurrian and Urartian languages there must have existed a number of intermediate dialects which had not been committed to writing.

[2] I am thinking of the well-known works of P. de Lagarde, J. Markwart, N. G. Adontz, Hr. Adjaṛyan, G. A. Kapantsyan and others.

[3] J. A. C. Greppin, Hittite -za and Armenian z- and the "Theory of Armeno-Hittite borrowings," *Journal of Indo-European Studies* 3 (1975), id., Armeno-Luwica, *Revue des*

Djahukyan,[4] N. Mekertchyan,[5] N. V. Harouthiounyan (toponymics), and the author of the present paper.[6]

In the following we will try to present a list of more or less dependable results, hitherto achieved:[7]

I. SOCIAL TERMINOLOGY

1. *aɫaxin* 'servant girl, slave girl' < *Hurr. al(l)a(e)ḫ-ḫe/inne*[8] 'keeper (male or female) of that which pertains to the lord of the house/family' i.e., of household (or temple) stores, mostly of food (cf. Akkad. *ala(ḫ)ḫinnu* do.,[9] NAss. *laḫīnu, laḫīnatu* do., Mishn. Hebrew *ləḫēnå*, Aram. *ləḫentā* 'concubine'). The Hurrian form should be analyzed as **all-ae* 'lady (of the house)' (but dialectally 'lord of the house' is also possible),[10] *-ḫḫe*

études arméniennes 13 (1978/79); id. "Armenian *laxur* and Hittite *laḫḫur*," ibid., 15 (1981); id., "The Anatolian substrata in Armenian—an Interim Report," *Annals of Armenian Linguistics* (1982); id., "Luwian Elements in Armenian," *Hin Arevelk^c—Drevnij Vostok* 3, Erevan, 1978, pp. 115–26, 267–68, et al.

[4] G. B. Dzhaukjan (Djahukyan), *Očerki po istorii dopis'mennogo perioda armjanskogo jazyka* [*Studies in the Pre-Literate Period of the Armenian Language*], Erevan, 1967; id., *Khajasskij jazyk i ego otnošenie k indoevropejskim jazykam* [*Haiasan in its Relation to Indo-European*], Erevan 1964; id., 'Genetic Coincidences in the Vocabulary of Armenian and Hittito-Luwian," *Patma-banasirakan handes* 24 [39] (1967) (in Armenian); id., "Novye urartsko-indoevropejskie paralleli [New Parallels between Urartian and IE]," *Izvestija Akademii nauk Arm. SSR*, 3 (1965); id., "Hittito-Luwian Elements in the Armenian Vocabulary," *Vestnik Erevanskogo Universiteta* 2 (1967) (in Armenian).

[5] N. Mekertchyan, "Verbal Reduplication in Hittite and Armenian," *Hin Aravelk^c- Drevnij Vostok* 2, Erevan, 1976 (Russian, English summary: The author envisages borrowings from Hittite, but they are more likely to be from Luwian or Hittito-Luwian); id., "Substratum Names of Plants in Armenian," ibid., 4, 1983 (Russian, English summary), to be used with caution.

[6] I. M. Diakonoff, *Hurrisch und Urartäisch*, Münich 1971.

[7] Where the author of the etymology is not mentioned, it means that the etymology has long been accepted in the special literature; some of the anonymous etymologies have been proposed by the author of the present paper.

[8] Pl. *a-la-aḫ-ḫé-en-ne-na HSS* 15 211:28.

[9] *CAD, AHw* s.v. Note that von Soden's translation, 'miller', is wrong. In the following all Akkadian glosses are taken from these two dictionaries, unless another source is specifically quoted.

[10] Hurro-Urartian had no genders, and the form *all-ae* is derived from the root **all-*, Urart. *al-* 'to be lord of, to rule' (cf. e.g., Urart. *al-usə* 'ruler'). The root is Common PEC.

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possessive adjective suffix, + *-(i)nne* suffix of names of professions and similar. Note that Hurro-Urartian *-ae-* has a tendency to develop to *-ē-*, *-e* in Hurrian, but to *-ā(-)* in Urartian. Hence the borrowing may be from Urartian or a dialect proximate to literary Urartian. Note also that the Armenian reflex *-ɫ* does not necessarily point to a reduplicated **-ll-* in the original (as I formerly thought); the spelling *l* or *ll* depends upon whether the Hurro-Urartian phoneme is from the Proto-Eastern-Caucasian (PEC) lateral sibilant, or from the PEC *l* or *l₁*. It is well known that, different from Hurrian, Urartian had no long or reduplicated consonants, at least in spelling.

2. *aɫx* 'household, household property' < Hurro-Urart. **all-ae-ḫḫa*, cf. No. 1.

3. *astem* 'I marry' < Hurrian *aste* 'wife' (Kapantsyan).

4. *caray* 'slave' > **çar(r)ā*, the Hurrian variant being *sarre* < **çarr-ae* 'live booty, captives', Akkad. *šallatu* (spelled in an Akkadian lexical text as *sar-ri/e*).[11] Note that Hurrian *s* = Urart. *s*[12] was an affricate, /ç/ or /č̣/; all 'emphatics' yield simple consonants in Armenian, while the non-emphatics yield aspirated consonants.[13] Of course, the Akkadian spelling could also allow of a reading *šar-ri/e*, but Hurrian *šarri* is another word meaning 'king' (borrowed from Akkadian).

II. CULTURAL TERMS

5. *aguṙ* 'burned brick' < Akkad. *agurru* < Sum. al-ù r-(r) a do., probably through Hurrian mediation. In Aramaic only the form *agōrā* (borrowed from Akkadian) is attested; an earlier Aramaic dialect might have preserved a form **agurr-ā* or, without the article, **agūr* but, as Professor Anahit Perikhanian tells me, these forms would yield in Armenian **aguray* (from Syriac) or **agur* (from earlier Aramaic), not *aguṙ*. The same must be true in the case of an immediate borrowing from Akkadian.

6. *anag* 'tin' < Hurr. **anagi* < Akkad. *a(n)naku* do. (< Sum. a n-(n) a.[14] A Hurrian mediation is here

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[11] E. Laroche, *Glossaire de la langue hourrite* (sub *šarri*), Paris, 1980, p. 217. The Hurrian glosses, if not noted otherwise, are taken from this publication.

[12] Cf. Hurr. *pis-* 'to rejoice'=Urart. *piṣ-do.*, et al. (<PEC **ç, *č̣*).

[13] See I. M. Diakonoff, S. A. Starostin, *Hurro-Urartian as an Eastern Caucasian Language*, MSS (in press).

[14] The Sumerian AN.NA has the readings a n-n a and n a g-(g) a, n i g-(g) i, both of which have been borrowed, cf. Akkad. *a(n)na/ku* 'lead, tin', Hebrew *ʾănåk* 'plumb', Aram. *ʾan(nə)k-ā* 'tin', Sanskr. *nāga-* 'tin' (M. Mayrhofer, *Kurzgefasstes etymologisches Wörterbuch des Altindischen*, Heidelberg,

nearly a certainty, because only in Hurrian but not in Urartian and Aramaic is *-k-* in medial position reflected as -g-.[15]

7. *knik*[c] 'seal' < Hurr. **kanikki* < Akkad. *kanīku* or, according to Reiner's law, alternatively *kanikku* 'a sealed object' (document, sack, bulla, etc.). The difference of reflexes between the initial and the medial *k* points to a Hurrian mediation. The common etymology < Akkad. *kunukku* 'seal-cylinder' must be rejected.

8. *p*[c]*ox* 'barter, exchange' < Akkad. *pūḫu* do. The transition of *ū* > *ō* could find place already in Akkadian, since Greek transcriptions of late Babylonian words attest it, although we do not know when this phenomenon actually appeared in Akkadian. But also in Hurro-Urartian /o/ was much more frequent than /u/. The word is actually attested in Hurrian: *pôḫi*(?), *pôḫ-ugar-* (*-ugar-* being a suffix of reciprocity) 'barter, exchange'. It probably must have existed also in Urartian.

9. *t*[c]*iw* 'number' < Hurr. *tiw-* 'to say, speak', *tiwə* 'word, deed' (Kapantsyan).

III. ZOOLOGICAL AND BOTANICAL TERMS

10. *ananux* 'mint' < Hurr. **an-an-uḫḫə* or **an-an-uyə*. Actually attested are Akkad. *ananīḫu* possibly 'mint' < Hurr. **an-an-iḫḫə*, and Hurr. *an-an-išḫə*,

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1959 sq., II, 150); it is not impossible that both Sum. n a g-(g) a and Sanskr. *nāga-* might be borrowings from the same common source (the language of the Harappa-culture?), and that only a n-(n) a is genuine Sumerian. Akkad. *a(n)naku* means 'tin or lead' (cf. H. Freydank, "Fernhandel und Warenpreise nach einer mittelassyrischen Urkund des 12. Jahrhunderts v.u.Z.," in *Studies in Honor of I. M. Diakonoff*, Warminster 1982, pp. 64, 72), and a n-(n) a is even 'iron' (cf. A. A. Vaiman, "Eisen in Sumer," *AfO* 19 (1982), S. 33–38). But Arm. *anag* cannot be etymologized from either Sansk. *nāga-* or Sum. n a g-(g) a but only from Akkadian through Hurrian.

[15] It would be tempting to include in the list Arm. *aṙlez* (*aralez, yaralez*) 'spirit accompanying the dead', etymologizing it from Akkadian (also Hurrian?) *aral(l)ē* 'Underworld'. However, the Hurro-Urartian word-formational suffix -*zi*, fairly common both in Hurrian and in Urartian, unfortunately occurs only in obscure glosses, and its sense is unknown; also, it seems to attach only to consonants. A form **arale-zzi* (with the adjective suffix -*Vzzi*) would make sense, viz., 'characteristic of, pertaining to the Underworld', but again unfortunately the -*zz-* in this suffix (= Urart. -*usə*) seems to stand for an unvoiced sibilant affricate and hence could hardly yield -*z* in Armenian.

both with suffixes which alternate with -(*u*)*ḫḫə* and -*uyə* and have approximately the same possessive meaning. The Aramaic forms with loss of the initial *a*- are later and derived (Mekertchyan).

11. *nuṙn* (Gen. *nṙan*) 'pomegranate' < **nurnV*, probably a variant of **nurmV*, which is the prototype of Sum. [giš]n u-u r- m a 'pomegranate', certainly borrowed (as can be inferred also from its spelling), obviously from the mountaineer neighbours. Hence Akkad. *nurmû* (in Nuzi also *lurmû, lurīnu*). In Hurrian the only attested form in the adjective *nurandi-yə* 'of pomegranate' which is supposed to derive from an Assyrian **nuramtu* (the Babylonian feminine form is *nurimtu*). However, the ending -(*an*)-*di* can easily be explained as Hurrian word-formational suffix(es). It is clear that the Mesopotamian terms are borrowed, while the terms in the mountaineer languages have a good chance to be original. Other Semitic languages yield metathetic forms (Hebrew *rimmôn*, Arab. *rummān-*) (Mekertchyan).[16]

12. *salor* (East. *šlor*) 'plum(-tree)'. The Hurrian and Urartian words for 'plum' are not attested, but we have the Akkad. *šalluru* 'plum(-tree)', or 'medlar', obviously a borrowing from a Hurr. /*šall-orə*/, and Akkad. Nuzi *šennuru* (cf. Sum. *šennur*) do.; these forms also go back to a Hurrian variant of the same word, /*šenn-orə*/ (an alternation -*n-*//*-l-* is well known in Hurrian). The Armenian word has certainly the same origin; whether from Hurr. /**šall-orə*/ or from an Urartian cognate, viz. **šaluri* /sal-orə/, cannot be ascertained.

13. *serkewil* 'quince'. Cf. Arab. *safarğal* < Aram. **səpargəlā* < Akkad. *sapu/argillu*. Here is a clear case of metathesis, but it is not clear which form, the Akkadian or the Armenian, is nearer to the original, that might have been Hurrian or have belonged to another extinct Caucasian language (Mekertchyan).

14. *tuṙt, teṙt* (late also *tuṙd*) 'althea'. Mekertchyan compares the Akkadian *tuldu* (from a lexical text;

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[16] Mekertchyan thinks also that (among others) Arm. *maxr* 'a coniferous tree' and *p*[c]*arp*[c]*ar* 'purslane' should be regarded as of Akkadian or Hurrian origin. However, the medieval and dialectal Arm. *maxr* is from Pers. *marx*, and also Akkad. *meḫru* 'pine or spruce' may be of Iranian origin. The main term for 'purslane' in Armenian is *kočkorak*, later *danduṙ*, while all the dialectal forms like *p*[c]*erp*[c]*eran*, *p*[c]*erp*[c]*rem* etc. 'purslane' have their origin in Pers. *parpahan*. *P*[c]*arp*[c]*ar* 'purslane' in Galen is due to a mistranslation. I am indebted for this information to Professor Anahit Perikhanian. See however Akkad. *parparḫû* 'purslane', obviously from a Hurr. **parpar-ḫə*, which may also be the origin of the Aram. *parpāḫīnā* (from the Hurr. plural in -*na*?)—and of Pers. *parpahan*?

glossed *ladīru ina Subari* 'Hurrian for *ladīru*').[17] Akkad. *tuldu* might reproduce a Hurrian **tulti*; however, from the Akkadian context it only follows that this was a 'medicinal plant' (Kapantsyan).

15. *ułt* 'Bactrian camel' < Urart. *ulṭu* do. The Urartian word is somehow connected with Akkad. *ut/ṭru* (not **udru*!) do., and perhaps with OIran *uśθra-*. There is an IE etymology proposed for the latter, which is not overwhelmingly convincing but may be correct.[18]

16. *xałoł* 'vine'. Possibly < Hurr. /**ḫall-o-lə/*, *ḫa-lu-le* in the Nuzi spelling: the term is mentioned in an administrative account along with *uḫīnu* 'unripe dates' and may quite possibly mean 'grapes' (plural *-lə*). (Mekertchyan)

17. *xnjor* 'apple(-tree)' < Hurr. (probably also Urartian, but not attested as such) *ḫinzuri/ḫinj-orə/*. The Aramaic *ḫazzūrā* is certainly < Akkad. *ḫinzūru* (*ḫi-* > *ḫa-* is typical). The Sumerian *ḫašḫur* 'apple-tree' is also from Eastern Caucasian but not Hurrian (possibly from Qutian which may have belonged to Western Lezghian languages).

These glosses, a dozen and a half, may be regarded as either certain or probable. Several more have been proposed, but they all have some important drawback—either the interpretation of the semantic is inexact, or the Armenian gloss is late, or it can be shown to have another more plausible etymology, etc.

Additionally we may mention a few probable etymologies which, however, do not fall under the three main semantic headings above, namely:

18. *caṙ* 'tree'. This is a crux. According to Adjarian, it is to be etymologized from IE **gʲṙso-*, cf. Greek γάρσανα 'brushwood', γέρρον <* γέρσον 'wattle-fence', Old Norse *kjarr* 'brushwood'. An alternative etymology, advocated by myself and others, compares Arm. *caṙ* 'tree' to Urart. *ṣārə* 'orchard', Hurr. *sar-me* (/*çâr-*(?)/, attested in an Akkadian lexical text) 'wood', both < PEC **çwālₗhV* 'wood, fire-wood; big stick'. Of course, the derivation of the name for such a common object as a tree from 'orchard', 'wood' or 'big stick' does not sound very convincing; but neither does the derivation of 'tree' from 'brushwood' or 'wattle-fence'. *Sub judice lis est.*

19. *cov* 'sea' < Urart. *ṣûə* (if interpreted as /*çô(w)ə/*, which is quite possible) '(inland) sea'.

20. *xarxarem* 'I destroy' < Urart. *ḫarḫar-* 'to be destroyed' ('to destroy' is Urart. *ḫarḫar-š-*). The difficulty lies in the fact that the Armenian transitive form seems to be connected with the Urartian intransitive. However, it can easily be imagined that there could have existed a dialectal situation in which the difference between Urart. *ḫarḫar-*, 'to be destroyed,' and Urart. dial. **ḫarḫar-*, 'to destroy', would be expressed not by the suffix *-š-* but by the more common method of changing the intransitive personal morphs for the transitive.

Even if we discard the last three items as occasional or doubtful borrowings, the list of such borrowings from Hurro-Urartian into Armenian as can be regarded as certain or probable remains highly interesting. It has a bearing on the question, whether Proto-Armenian was an aboriginal language, being at least as old in its homeland as Hurro-Urartian, or even older,[19] or it was introduced in the Highland over a Hurro-Urartian substratum in the 12th century B.C., as I think, and as many predecessors (the latest being H. A. Manandyan) have thought before me, suggesting even later dates.[20]

The IE kernel of Old Armenian contains all the necessary words denoting man, parts of the body, natural actions and states and also the most important terms for the domestic animals, except the camel. Of course, in the 2nd millennium B.C. the Proto-Armenians could not have been nomadic cattle-breeders. They had, no doubt, also a subsidiary agriculture, which is attested, e.g., by the IE words for 'barley' (*gari*) and the 'plough' (*arawr*) in Old Armenian. But they had to borrow from the Hurro-Urartians the most necessary terms of a settled agricultural early class civilization (such as 'slave', 'slave-girl', 'burned brick', 'tin', 'seal'), as well as words for local animals and plants ('camel', 'apple', 'plum' or 'medlar', 'quince'/?/). The only possible conclusion is, that the immigration of the Proto-Armenian speaking tribes postdated the settlement of the Hurro-Urartians in the Highland.

F. Kortlandt[21] has suggested a relative chronology for the various phonetic changes which occurred at the

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[17] *Ladīru* or *aladīru* is certainly also a borrowed word, which can be seen from the elision of *a-* typical of borrowed but not of original Semitic words (because in the latter the spelling *a-* stands for /*ʾa-*/; cf. *alaḫḫinnu*//*laḫīnu* et al.).

[18] The Urartian glosses, if not noted otherwise, are from I. M. Diakonoff, *Urartskie pis'ma i dokumenty* [*Urartian Letters and Documents*], Moscow-Leningrad 1963; cf. also the glossary in G. A. Melikišvili, *Urartskie klinoobraznye nadpisi* [*Urartian Cuneiform Inscriptions*], Moscow, 1960, continued in *VDI* 1971, 3–4.

[19] As suggested by Vyacheslav Vs. Ivanov, Th. V. Gamkrelidze, G. Klychkov, O. Shirokov and a number of other scholars.

[20] See I. M. Diakonoff, *The Prehistory of the Armenian Nation*, Delmar, N.Y. 1985.

[21] F. Kortlandt, "On the relative chronology of Armenian sound changes," *First International Conference of Armenian Linguistics: Proceedings*, Delmar, N.Y. 1980, pp. 97–106;

different stages of the development of Proto-Armenian. In reconstructing these stages, it is necessary to take into consideration that at the later stages there must have existed an Armenian-Urartian bilingualism, which must have influenced the process of the changes.

The changes from PIE to Proto-Armenian and those inside Proto-Armenian which antedated the contact with Hurro-Urartian can be inferred from the above list of borrowings of lexical material from Hurro-Urartian into Old Armenian, and also from toponyms inherited by the Armenians from the Urartians, such as *Abiliana* /Abilianə/, Arm. *Abełean, Alzi-* /Aldzi-/, Arm. *Ałj-ni-k^c, Biaine-lə* /Vịâne-lə/, Arm. *Van, Gaura-hə*, Arm. *Gawrè-k^c, Giarnia-*, Arm. *Garni, Ḫaliṭu-*, Arm. *Xałi-k^c, Quṭumu-* /QotˀomV/, Arm. *Kotom, Ṣuluqu-* /Ҫulukˀu-/, Arm. *Cłuk, Ṣupâ-* /Ҫopâ-/, Arm. *Cop^c-k^c, Šešêti*, Arm. *Šawšat^c*(?), *Ṭuaraṣə* /TˀuaraҫV/, Arm. *Tuaraca-tap^c, Ṭušpâ* /Tˀospˀâ/, Arm. *Tosp, Zabaḫae* /Javaḫâ/, Arm. *Javax-k^c.*[22] These toponyms, as well as the borrowings from Hurro-Urartian into Armenian of appellatives quoted above, show beyond any doubt that the contact of the speakers of Proto-Armenian with the Hurro-Urartians took place after the moment when in Proto-Armenian (and also in Phrygian and Thracian) the shift of IE voiced, voiced aspirated and unvoiced to unvoiced (glottalized?), voiced, and unvoiced aspirated had taken place and ceased to be productive. The same can probably be said of the change from *w > g (we have only a case of retainment of the Urartian /v-/, which may not be the same thing); and also of the change of *s- to zero (also shared with Phrygian).[23]

Note also two cases of a presumable reproduction of the Armenian plural in -k^c as -ki in Urartian: *Muš-ki-* 'Proto-Armenians', later also 'Phrygians, Phrygia', cf. Akkad. *Muški*, Hebrew *Mäšäk* (more correctly *Mōšäk*, Μόσοχ in the Septuagint),[24] the same sense; *Ṭumiš-ki* /Tˀomis-ki/ = Greek *Tomisa* (plural!).

According to Kortlandt, the shift of the stops and the assibbilation of *k' to *s' (of which there are already no traces in the above material), the development of *s to *h (although as yet not to zero) and the

palatalization of the velar stops before front vowels ceased to be productive at stages 1 to 8, which means that the contacts with Hurro-Urartian postdated stage 8. Kortlandt dates also the development of IE *ō, *ē and *-on, *-en to (-)u, (-)i rather early, too, which is corroborated by the fact that a similar development occurs also in Old Phrygian (8th–4th centuries B.C.). The development of *w to *γ^w to g, and the development of *h^w (from *sw) to *x and of final -s in nom. plural also to *-x he dates to the rather late stage 11, which, according to him, postdates the 'lenition' of *p, *t, *k, *k^w to *φ, *θ, *χ, *χ^w (at stage 10, these phonemes later becoming p^c, t^c, k^c at stage 19), but to *f before r. This hypothesis explains a number of later phonetic phenomena; however some doubt remains. Thus, for one thing, a development from *φ, *θ, *χ to p^c, t^c, k^c can hardly be regarded as 'a natural type of development'. But it could have taken place in the period of Proto-Armenian—Urartian bilingualism, since Urartian had no fricative phonemes of the type of φ, θ (Hurro-Urartian *f* developed into v-, -w in Urartian). And if our interpretation of the terms *Muški, Ṭumiški* is correct, that would mean that the change from *-s to *-x to *-k^c must have occurred considerably earlier, also antedating the Proto-Armenian–Hurro-Urartian contacts: Urartian *ḫ* (= Arm. x) did not develop into k^c in Armenian, cf. *Ḫaliṭu > Xałti-k^c, Zabaḫae > Javax-k^c.* Is it possible that the 'lenition' of *p, *t, *k occurred only in certain phonotactic conditions, and not as a general rule?[25]

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through the kindness of A. Perikhanian I was also able to consult Kortlandt's MS on Proto-Armenian case endings.

[22] Note that the Urartian graphemic *b* stands for /b/ and /v/, *p* for /p̣/ and /p/, *š* for /s/ and (more seldom) for /š/, *s* for /c/ and /č/, *ṣ* for /ҫ/ and /č̣/, *z* for /dz/ and /ǰ/, and for /z/ (?), *u* for /o/ and more seldom for /u/ and /w/, etc.

[23] Thus *Garni*, not *Karni or *Čarni, agur*, not *akuṙ, salor*, not *alor (cf. IE *sal* 'salt' > Arm. *ał*, etc.)

[24] The stem is *mus-, cf. Μυσία, Urart. *Mušâ* /Musâ(?)/, Luw. Hier. *Musa-* and *Muska-*.

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[25] Thus, it is difficult to explain the development of the IE plural ending in *-s to -k^c without postulating an intermediate *-x, or to explain the genitive *hawr* of *hayr* 'father' (< IE *patēr) without postulating such intermediate forms as *hat^{c}ir, gen. *haθros > *hafroh >*hawrV. But the 'lenition' may not have occurred, e.g., in initial positions except in the case of Arm. x- < IE *kH, which development Kortlandt relegates to stage 20 (after the apocope). The case of x may have been strengthened because of the fact that *ḫ* (= x) was a very frequent phoneme in Urartian and Hurrian. The Urartian phonetic structure must have had a considerable influence on the development of the Armenian phonetic structure at the later stages of Proto-Armenian. Note the emergence of a number of phonemes unknown to PIE—not only of such as were due to spontaneous palatalization, as *č̣ˀ, ǰ, c, j*, but also such as were quite foreign to Indo-European, e.g., (glottalized) *č̣* or *x*: if there had existed a stage of 'lenition', it was anyway shortlived, neither φ or θ surviving: they were not supported by the Urartian phonetics; but x (= Urart. *ḫ*) did survive. Kortlandt suggests the development of Arm. *ač̣* from *aug(e) and places this development at stage 2. However, it is hard to imagine that a separate phoneme would develop at so early a period not supported by other occurrences except that one

This problem is connected with the question of the origin of the Armenian self-denomination *hayo-*, nom. plural *hay-kᶜ*: if the present author's contention (earlier brought forward by P. Jensen and P. Tashyan) that *hayo-* should be derived from Proto-Armenian *Hatᶜio(s)* < Urart. *Ḫāti-* 'name of countries west of the Euphrates and specifically of Melitene, and of their inhabitants', is correct, then the contact between Proto-Armenians and Urartians must have happened before stage 10 or after stage 19, or else the idea of 'lenition' itself should be abandoned. This means that *p, *t, *k developed directly into *pᶜ, tᶜ, kᶜ*, except for positions before -*r* and perhaps some other specific conditions. Naturally, however, I may be wrong.

The *terminus ante quem* for the beginning of a Proto-Armenian—Urartian bilingualism is Kortlandt's stage 16, to which he dates the apocope, or loss of the final vowel in Armenian. The apocope was obviously due to a change from a free tonal accent of the Greek or Vedic type which certainly still existed in Phrygian and probably in Proto-Armenian, to a fixed strong expiratory stress on the penultimate syllable. This was the type of stress typical of Urartian. The apocope led to a complete restructuring of the Armenian inflection; this, then, is also the result of Hurro-Urartian influence.

Another important influence of Hurro-Urartian on Armenian is, no doubt, the loss of genders which were completely unknown to the former. According to Kortlandt, the gender distinction was lost in Proto-Armenian (save for a few relics in the pronoun) before the apocope. Hence the date of the beginning of the bilingualism must date also from a stage earlier than stage 16.

As mentioned above, the present author has suggested that the speakers of Proto-Armenian arrived in the Upper Euphrates and Arsanias (Muratsu) valleys in the 12th century B.C. under the name of /*Mus-kᶜi/. If that were the case, borrowings from Proto-Armenian into Urartian (texts from the 8th to the 6th century B.C.!) would be possible. I have sorted out three glosses, none of which are attested in Hurrian (all Hurrian texts and glosses known to us antedate the 12th century B.C.!). Two of them have plausible PEC etymologies, but etymologies from Proto-Armenian seem at least equally plausible. The following list should be regarded as provisional and experimental and is intended to invite discussion.

1. Urart. *Arṣibə* /arçivə/ name of a horse, presumably 'Eagle'. The proposed PEC etymology is from

ᶜwārc̣c̣iwᶜV, attested as the etymon for the name of the mountain eagle in several Eastern Caucasian languages; the development to Urart. /arçivə/ is regular. The alternative IE etymology is < *r̥gʷ'i-pi-o-*, OInd *r̥jipya-*, Avest. *ərəzifya-* 'eagle'; less convincing is the connection with Greek ἀργύπιος 'kite'.

The Armenian equivalent is *arcui*, var. *arciw*, hence also, according to A. G. Šanidze, the Georgian *arc̣ivi*.

It seems improbable that the mountaineers should import the name of the mountain eagle, and the Caucasian reflexes of *ᶜwārc̣c̣iwᶜV* are reliable enough; it is probable that Urartian, an Eastern Caucasian language, should have a PEC name for the eagle, and that the Armenian (and Georgian) word should be derived from Urartian. Moreover, the Indo-Iranian *r̥jipya-/ərəzifya-* could have been borrowed from the mountaineers during the sojourn of the Indo-Iranian speakers near the Caucasus: the etymology in IE might have been a *Volksetymologie*. Moreover, the Indo-Europeans actually had their own name for the (steppe-)eagle, *Har-*. Nevertheless, a borrowing from Proto-Armenian into Urartian is not beynd the bounds of possibility, and Arm. *arcui* is easily derived from an IE *r̥gʷ'i-pi-o-*. This, however, would mean that the change of the IE intervocal *-p-* to -*w*-, which Kortlandt places at his stage 10 (*p > *φ) and 13 (*-φ- > -*w*-) antedated the contact with Hurro-Urartian speakers.

2. Urartian *burg-ana-* (read /burg-, borg-, p̌urg-, p̌org-, purg-, porg-ana-/), 'column(?)'. We had proposed a PEC etymology, but it was based on the assumption that the word meant 'tower'. This etymology should now be abandoned. It had also been assumed that Arm. *burgn* 'tower, pyramid' is a borrowing from Urart. *burg-ana-* allegedly 'tower'. However, (1) the word is not attested in Hurrian and therefore cannot be proved to be originally Hurro-Urartian; (2) the Armenian reflex of *burg-ana-* would have been, as pointed out to me by Perikhanian, not *burgn* but *brgan*; (3) as shown by Ch. de Lamberterie,[26] *burgn* 'tower' holds a place in the system of Armenian reflexes of the root IE *bhr̥g'h-/*bhr̥gh-*, similarly to *durgn* 'potter's wheel' from IE *dhr̥g'h-/*dhr̥gh-*: *darj-* 'I (re)turned', *darnam* 'I (re)turn', *durgn*, gen. *drgan* 'potter's wheel'; *barj-* 'I lifted', *barnam* 'I lift', -*berj* 'height', *burgn* 'tower, pyramid'; (4) Urart. *burg-ana-* apparently does not mean 'tower'.

Now it is hard to imagine that the Hurro-Urartians should have to borrow the word for 'tower' from Proto-Armenian, since dwelling- and battle-towers had been known in the Hurro-Urartian region for

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phonotactic situation. At the same time a phoneme *ç* or *č*, seems to have existed in Urartian, cf. Diakonoff and Starostin, op. cit.

[26] Ch. de Lamberterie, "Échange de gutturales en arménien," *Annual of Armenian linguistics* I (1980), 27–28.

millennia. However, a word for some specific vertical object, like a stela or a column might have been borrowed.[27]

The problem is still more complicated by the fact of the existence of an Urart. *burg-ala-* which apparently means 'ally'.

3. Urart. *ulguša* (to read /ulg-, ulq-, uly-, olg-, olq- or oly-o-sə/) expressed by the Sumero-Akkadian logogram for *balāṭu* 'life' but more probably denoting 'health, well-being, the being alive' (paralleling /piç-o-sə/ 'rejoicing'). This word (or, better, its stem

ulg-, since /-o-sə/ are abstract word-forming suffixes) has been proposed as an etymon for Arm. *olǰ* 'whole, alive'. As pointed out to me by Perikhanian, this etymology is wrong, because Arm. *olǰ* is < IE *ol-ịo-* 'whole' (cf. Arm. *sterǰ* 'barren' < IE *ster-ịo-*, Greek στεῖρα 'barren', Lat. *ster-ilis*, etc.).[28]

However, since *ulg-* has so far not been attested in Hurrian (nor in Urartian, except for the word *ulguša* itself), it is permissible to etymologize Urart. *ulguša* (reading it /oly-o-sə/) from a Proto-Armenian *olyo-*.[29]

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[27] Syrian *burg-ā* and Arab. *burǰ-* have no connection with Arm. *burgn*: they are derived from Late Latin *burgus*, a borrowing from Germanic—which incidentally shows that a word for 'tower, fortress' can also be borrowed by the language of a nation long familiar with all kinds of fortifications.

[28] On this group of words see Kortlandt, op. cit., p. 104.

[29] I am very grateful to Professor Anahit Perikhanian for help in identifying the strata of borrowings (especially the two strata of Aramaic borrowings), for checking the Armenian glosses, for bringing to my notice a number of Armenological studies, and for consultation on matters of Indo-European linguistics.