Etruscan's genealogical linguistic relationship with Nakh-Daghestanian:
a preliminary evaluation

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Abstract

The Etruscan numerals are widely regarded as demonstrating that a relationship probably does not exist between Etruscan and Indo-European or Afroasiatic. It is argued here that a genealogical [1] linguistic relationship exists, however, between Etruscan and the Nakh-Daghestanian languages [2], and that this relationship can be seen in over half of the basic numerals and in other core vocabulary in Etruscan, supported by regular phonological correspondences. However, it is the system of numerical morphology which is shared by Etruscan and Nakh-Daghestanian which points to a genealogical relationship between them. In addition, the almost complete overlaps in grammatical paradigms generally, and the existence of inherited irregularities such as shared ablaut patterns and non-standard plural themes for the same key cognate items of vocabulary are all diagnostic of descent from a common ancestor.

Recognizing the relationship between Etruscan and the Nakh-Daghestanian languages may be of benefit in future studies of Etruscan as it confirms or clarifies the meanings of a number of items of vocabulary which have been obtained by the combinatorial method (such as the value of *huth* = "four"), or from bilinguals or ancient glosses, although it is far from being any sort of a general "key" to Etruscan because of the time depths involved. As regards the Etruscan numerals, recognition of this relationship provides, amongst other things, an explanation of the equivalence of the names *Vilina = Sextus* in the bilingual ET Cl 1.966 (TLE 925), and illuminates the ancient gloss TLE 857 *vorsum = centenum pedes*. On the basis of re-evaluating this existing material, it is proposed here that the original indigenous Etruscan word for "six", before its replacement by the borrowed word *Sa*, was **vili*, and that the Etruscan for "100" was **vers* or similar. As further such long-standing difficulties are resolved, this may in turn provide further validation of the relationship proposed here.

Introduction

The majority view amongst scholars is that the Etruscan language is not closely related to any of the better-known language phyla such as Indo-European or Afroasiatic and that this is obvious to see if one compares the Etruscan numerals with their equivalents in these language families [3]. There have been many attempts to demonstrate the contrary, but none has yet succeeded in doing this convincingly because of lack of credible evidence, whether relating to comparisons of the Etruscan numerals or of its general core vocabulary, with those of practically any other language [4]. The comparative-historical method in linguistics can only operate when it is applied to languages that are actually related to one another. It is therefore not surprising that the repeated attempts to create proof of a relationship between Etruscan and Indo-European, for example, have yielded unsatisfactory results. Methodologically, too, many such proposals rely on superficial resemblances as their evidence and fail to recognize the neogrammarian principle which dictates that phonological change, at least in most cases, takes place by exceptionless laws. As is known, cognate words often do not resemble one another (Armenian *erku* "two", for example, is regularly derived from PIE **du:wo*), and words that resemble one another are not necessarily cognate (cf. English *much*, Spanish *mucho*). Some proposals of relatedness even breach the very combinatorial principles upon which modern Etruscological scholarship has to be based [5].

While it is correct to insist that the Etruscans as a people, and their civilisation, are historically attested as having occurred in Italy, this should not prevent academically rigorous discussion of Etruscan origins. Beekes (2003) has provided more than 30 reasons for considering the Etruscan civilisation to be at least partially the product of Anatolian settlers whose original homeland was Old Meionia, east of Troy, and bordering on the present Sea of Marmara, to the north of ancient Lydia. These arguments are supported by a recent biological genetic study by Vernesi et al. (2004), using the mitochondrial DNA of authentic ancient Etruscan human remains for the first time, and showing affinities with the eastern Mediterranean, i.e. present day Turkey, at least through the maternal line, and at least for the presumably high-status individuals the samples were from. The historical possibilities implicit in the findings of Vernesi et al. are further discussed in Belle et al. (2006). However, biological genetic information cannot in itself provide proof of linguistic relationship and inheritance, because it cannot tell us which languages people spoke. It can only support models developed by other disciplines, such as historical linguistics.

Van der Meer (2004), as well as adding several more historical and archaeological arguments to those of Beekes, explores the linguistic relationship of Etruscan, Raetic and Lemnian. In particular, he establishes the chronology of their break-up, and concludes that this is consistent with an east to west migration, from the region near where Lemnian was located, i.e. in the vicinity of western Anatolia, to Italy. Having arrived there the common Raeto-Etruscan language diverged into two during the period immediately prior to which these two languages were attested in writing, the speakers of the two languages becoming physically separated by the Celtic invasion of the Po valley. What will be explored here is evidence which will allow conclusions to be drawn on the affinities of their Anatolian proto-language, Proto-Tyrrhenian, namely that it constitutes part of a common phylum with Nakh-Daghestanian, of which perhaps Hurro-Urartian is also a part.

The relationship between Etruscan and the modern Nakh-Daghestanian languages is, while relatively distant, not a "remote" or "long-range" one, and might be compared in degree to the relationship between Latin and the modern Celtic languages. Just as Latin and Celtic had a common ancestor at a time depth of the order of 4000-5000 years before present (or rather, were at least adjacent, closely-related dialects of their earlier common ancestor), Etruscan and Nakh-Daghestanian became separated at about the same sort of time depth, or slightly more than 2000 years before Etruscan is first attested. The closeness of this latter relationship would be consistent with Proto-Tyrrhenian having separated from the rest of East Caucasian during the east to west wave of settlement across Anatolia which occurred as a consequence of a period of economic prosperity between the 4th and 3rd millennia BCE. Subsequently Anatolia was occupied by Hittites and Luvians, speakers of Indo-European languages, further separating the speakers of Pre-Etruscan from those of other East Caucasian languages, gradually eroding these languages and eventually, in Anatolia, replacing them or leaving them to be replaced by later arrivals Phrygian and Greek, while in the west some Pre-Etruscan speakers left for Italy and possibly also elsewhere, most likely during the period of famine and political turmoil in Anatolia around 1200 BCE, and contributing on their arrival in Italy to the development of the Proto-Villanovan culture, which represented a sharp break from the Apennine culture which preceded it.

This is not the first time that a relationship between Etruscan and Nakh-Daghestanian has been seriously proposed. Orël and Starostin (1990) proposed a relationship between Etruscan and Nakh-Daghestanian [6]. Orël and Starostin's proposal was designed to complement the work by Diakonoff and Starostin (1986) relating Hurro-Urartian and Nakh-Daghestanian, both of these being based on a reconstruction of Proto-Nakh-Daghestanian [PND] eventually published as Nikolayev and Starostin (1994). Their reconstruction of East Caucasian has not been received with wholehearted acceptance [7], although parts of their publication nevertheless represent a valuable resource. Some of the sound correspondences adduced by Orël and Starostin for the relationship with Etruscan are incorrect, as will be shown here, as are some of their isoglosses involving the Etruscan numerals. While a number of isoglosses were found which might support a relationship between Etruscan and Hurro-Urartian during the present study, these have been listed in passing and are not central to demonstrating the relationship between Etruscan and Nakh-Daghestanian, for which the evidence is more abundant. Nevertheless, in section IV here a paradigmatic correspondence between Etruscan and Hurro-Urartian is shown which indicates that the suspected relationship between Etruscan and Hurro-Urartian is probable. Facchetti (2002) also lists a small number of isoglosses between Etruscan and Hurrian, which he regards as "curious". Hurro-Urartian is poorly attested and not much better understood than Etruscan. Nakh-Daghestanian, by contrast, is a moderately well-studied family with many and diverse living members. Pliev (1992, 2000) proposes his own set of isoglosses shared by Etruscan and Nakh, mostly toponyms and theonyms, which he argues indicate a hypothetical Nakh substrate for Etruscan. He does not discuss the epigraphic and linguistic evidence in any great detail. As will be shown below, the evidence in the present study, which largely does not coincide with the items in Pliev's works, is more indicative of a common ancestor than of substrate influence. This issue will be discussed further in section VI.

In order that the arguments for cognation are not excessively complicated and can easily be followed, this study concentrates on the relationship between Nakh, a relatively compact and undifferentiated grouping, and Etruscan itself, despite the fact that it is clear that Etruscan is not related to Nakh alone, but to Nakh-Daghestanian as a whole. The relationship between Etruscan and Nakh is not a direct one, but involves descent from a hypothetical common ancestor which was never attested in writing. The validity of a significant proportion of reconstructed lexical items proposed for Proto-Nakh-Daghestanian by some scholars, and the vocabulary sets they are based on, have been questioned by other scholars, and the amount of borrowing that has gone on between the daughter subgroups of Nakh-Daghestanian because of their lack of geographical separation after divergence makes the reconstruction of PND particularly demanding [8]. Reconstructed PND forms are therefore not generally used in the present study, and where they are mentioned, this is purely for critical evaluation, but the numerals and other key data in the main Daghestanian languages are always reviewed for comparison where appropriate. The relationship between Nakh and

Daghestanian, however, is beyond reasonable doubt, and the arguments for this will not be repeated here, as the aim of this paper is not the reconstruction of PND. In contrast to Nakh-Daghestanian as a whole, lexical items in the Nakh languages are in most cases so similar to one another that there is often little need even to reconstruct a Proto-Nakh form, so in the section on sound correspondences the data is based largely on Chechen, the best documented Nakh language. Because of the closely-related nature of the three Tyrrhenian languages Etruscan, Raetic and Lemnian, and the paucity of attested forms other than for Etruscan itself, reconstructed Proto-Tyrrhenian forms are only shown where there is data to justify them and then only if it is particularly relevant to do so. It is felt that the comparison of real data is always preferable to a plethora of starred reconstructions whose justification or validity (or not) is obvious only to the author. Being able to compare the original forms is particularly important in the case of Etruscan, where often meanings are still open to debate and the quantity and context of attestations are extremely important.

Sound correspondences, while indispensable, are not in themselves enough to demonstrate a genealogical relationship. This is not necessarily an issue of the quantity of the isoglosses, as large numbers of apparent isoglosses could be produced for certain pairs of languages together with apparently regular sound correspondences, but where the "isoglosses" are known to be the result of borrowing. For example, Arabic final */b/* regularly corresponds to Turkish final */p/* (in words Turkish has borrowed from Arabic) but they are not discoverably related languages. However, in parts III and IV, sets of inherited paradigms and irregularities are shown for Etruscan and the East Caucasian languages, which when taken together with the other evidence constitute individual-identifying data diagnostic of relatedness between Etruscan and Nakh-Daghestanian.

The sound correspondences shown here are by no means a comprehensive reconstruction. In demonstrations of relatedness between modern and well-documented languages, one would expect hundreds of examples of cognate forms for each sound correspondence. For Etruscan, however, the total number of root words whose meaning is generally agreed upon by specialists is not much more than 200. Here, therefore, one should not expect to see more than a handful of examples to support the average sound correspondence, and some of the exact conditioning rules are not yet entirely clear. In addition, the present study concentrates on those sound correspondences which are evident in the cognate numerals, involving only such other lexical parallels as are needed to demonstrate the validity of those sound correspondences and the inherited paradigms and irregularities, and therefore does not include all of the sound correspondences for the Etruscan lexicon as a whole. The purpose of this paper is to demonstrate that relatedness is the only possible explanation for the individual-identifying data which will be shown here, this being the necessary preparatory step before the main comparative work of reconstruction can be done.

For easier comparison with Etruscan transliterated forms, the comparanda are represented here in a form based on SAMPA [9] rather than IPA. Etruscan's notional phonology closely follows its orthography, which was not originally designed for it. As its real phonology may have been more complex than the orthography might imply, the transcription of certain phonemes may be sometimes be wider than was genuinely the case. We do not, alas, have the benefit of Etruscan native-speaker informants to guide us, although occasional variations in the spelling of certain words provide clues. This should not affect the validity of the comparison process, but it may sometimes account for the mapping of what are apparently single phonemes in Etruscan to more than one phoneme in Nakh. Lack of information relating to irregularities in stress might also be responsible for certain vowel developments not being able to be unexplained. Similar problems affect the Hurrian and Urartian data. It is also possible in the case of some items of Etruscan's relatively small phonemic inventory that simplification has genuinely taken place, which would not be surprising given the intense language contact that Etruscan had been subject to, in particular its imposition by elite dominance on a previously Sabellic- or Umbrian-speaking indigenous population, or rather its "voluntary" adoption by the indigenous population because of the settlers' economic, political and cultural hegemony. The phonemic representation of the Etruscan data here has made some concessions to the need to avoid excessive differences from the common transliteration schemes to retain recognisability of the data. Where entire Etruscan texts are cited, rather than individual words, these have usually also been converted to the phonemic transcription used here, although often there is little difference from the common transliteration schemes.

The phonological system used here for Etruscan is as follows. Etruscan had the sonorants */l/*, */m/*, */n/*, and */r/*, corresponding to the letters transcribed as >*l*<, >*m*<, >*n*<, and >*r*< from the orthography. Rix (1984: 206-207, 2004: 948) proposes in addition the palatals */l'/*, */n'/* and */r'/* which he hypothesises also occur infrequently. Whether these three latter phonemes existed or not is not central to discussion of the phonology, but see section IV below where the cause of the ablaut in Etruscan **klan/klanti** is discussed. The cluster >*tl*< sometimes appears in Etruscan. This may have been a lateral affricate rather than a cluster, but continues to be transcribed here as */tl/*. The vowel system of Etruscan consisted, as a minimum, of */a/, /e/, /i/* and */u/*. Nasal versions of these vowels are likely also to have been

present, as is shown by the existence of alternate spellings of certain words with and without an *>n<* following the vowel in the words concerned. The diphthong */au/*, written *>av<* in early Etruscan was also present, along with *>ai<* (*[aj]*). The diphthong *>ei<*, possibly pronounced *[ej]*, was also present in early Etruscan. There may have been more than one phoneme represented by *>e<*, perhaps a distinction between */e/* and */E/*, as is suggested by the existence of an additional letter representing one of the two sounds in the Cortona tablet, but this possibility is ignored in the scheme here. There is also a case for a schwa type sound, as argued in Pfiffig (1969: 55-61), but again this is not reflected here. It is also quite possible that Etruscan had phonemic vowel length and also phonemic consonant length, as argued in Pfiffig (1969: 36, 49-50). As this is only occasionally evident in the written language, it is also not reflected here. Watmough (1997: 124 ff.) rejects Pfiffig's arguments on consonant length but bases her position largely on evidence relating to the non-existence of */l:/*.

The two sibilants transcribed here as */s/* and */S/* correspond in southern Etruscan inscriptions to the letters based on Greek *{sigma}* and Corinthian *{san}* (the latter also coinciding with Phoenician *{s.ade}*) respectively, while in the northern inscriptions the inverse applies. In the present work sibilants are transcribed phonemically rather than based on their written form. The distinction between these two sibilants may not have been precisely the distinction */s/* versus */S/*, but they are presented as such here for convenience. Very occasionally four other letters indicating unvoiced sibilants are used in the Etruscan writing system, but are ignored here. Etruscan *>z<* may have been pronounced as an affricate or as a fricative, but is represented by */z/* here.

The Etruscan letters *>p<*, *>t<* and *>c< / >k< / >q<* are clearly the stops */p/*, */t/* and */k/*, and *>f<* (*>vh<* or *>hv<* in archaic Etruscan) is */f/*. Etruscan *>v<* was probably pronounced *[w]* or *[B]* but continues to be represented here by */v/* for familiarity. The other Etruscan obstruents are slightly more problematic and the scheme used here for representing Etruscan words in phonemic transcription is a compromise between the traditional view and the one put forward by Rix (1984, 2004). The traditional view of Etruscan *{phi}*, *{theta}* and *{chi}* is that they represent aspirated stops, and the first two of these are represented here by */ph/* and */th/* in accordance with the traditional view. The phoneme */ph/* is not common in Etruscan. Given that it is used in Etruscan to represent */b/* in loanwords from Greek and Latin, it is possible that *{phi}* represents */b/* and not */ph/* in Etruscan, but this possibility is ignored here. Rix suggests that voicing of stops in word-medial positions did perhaps happen in Etruscan, but that this was not phonemic. Rix proposes that *{phi}* and *{theta}* instead represent palatalised consonants */p'/* and */t'/*, and that the occasional alternate use of *{theta}* and *{chi}* in some words is evidence of a fricative */T/*. While Rix correctly suggests that *{theta}* represents at least two phonemes, these are not necessarily the ones that Rix proposes. *{Theta}* continues to be transcribed as */th/* here, and individual words suspected of containing some value other than */th/* are indicated in the section on sound correspondences. Rix also proposes that *{chi}* represents not an aspirated velar stop */kh/* but a fricative */x/*, because of the occasional interchangeability of *>h<* and *{chi}*, and his view on this is followed here. Rix also believes that initial *>h<* was also pronounced *[x]*, but it continues to be transcribed as */h/* here.

The SAMPA transcription of the Chechen data generally follows the pronunciation presented in the phonemic Latin orthography section of Nichols and Vagapov (2004), rather than the traditional Cyrillic spelling of Chechen which less accurately represents the spoken language. The SAMPA transcription used here varies from the Latin orthography used in Nichols and Vagapov. Grammatical data for Nakh is taken principally from Desheriev (2006), Nichols (1994a, 1994b) and Holisky and Gagua (1994). Data for the other Nakh-Daghestanian languages is from a number of sources, but principally Bokarëv (1981), Nikolayev and Starostin (1994), Jartseva et al. (2001), Klimov and Khalilov (2003) and Nichols (2003). The Hurrian and Urartian data is taken mostly from Wegner (2000) and Melikišvili (1971) respectively, but Diakonoff (1971) and Diakonoff and Starostin (1986) are also used.

I. Basic numerals

There are two further complications which relate to the comparison of numbers in some of the languages involved, and it is necessary to understand how both of these concepts operate in order to compare the forms. The first of these is the sheep-counting suffix. A sheep-counting suffix is used for at least some numbers in most Nakh and Daghestanian languages, and there is also evidence of a possible sheep-counting suffix in at least two of the numbers in Hurrian. This suffix is added when the number is used for counting, e.g. sheep (hence the name), but is dropped when the number is used with a noun. Thus, in Chechen, the number "3" is *qo?* when used for counting, but *qo* when used together with a noun. There is no sheep-counting affix in Batsbi and some of the Daghestanian languages, or, as far as we know, in Etruscan.

The second concept is that of the class marker. The Nakh languages and most of the Daghestanian languages have a category of noun class. In these languages, certain verbs, adjectives, and numerals agree with their heads in class by using a prefixed, postfixed or infixed class marker. Class marking is not present in three of the Daghestanian languages (Lezgi, Agul and Udi), nor in some dialects of a fourth (Tabasaran), nor in the Hurro-Urartian languages, nor in Etruscan. The citation form for the number "four" in Chechen is *di?*, but when the number is used with a noun the class prefix at the beginning of the word changes: *vi? vaSa* "four brothers", *ji? jiSa* "four sisters", *di? be:r* "four children" and *bi? kog* "four legs". Words where a class marker is normally inserted have this place indicated by the morpheme break symbol = when listed below. Although the category of class is regarded as ancient in those languages which have it and there is evidence of fossilised class markers in lexical items in the Lezgian languages which do not actively use class marking [10], it will become clear from one of the correspondences here that, in a number of instances, the use of a class marker started as a compensation for a laryngeal which became deleted during the history of that language. The number "four" and the related numerals "14" and "80" (4 x 20) are the only numerals which have class markers in Nakh, because only those numerals previously began with a now deleted laryngeal.

It will be noted that */?/* was not dropped in the above examples. This is because here, in the Nakh forms for the numeral "four", but not in other numerals, the glottal stop */?/* is not a sheep-counting affix, but an organic part of the word, as can also be seen from the Batsbi form *=?`iw?*. Something similar occurs in Lezgi, where the final *-d* is obligatory for all numbers up to 4, but not thereafter, possibly being retained in 1 to 3 by analogy.

Sound correspondences to support these Etruscan and Nakh isoglosses are shown in part II.

a) Etruscan *thu* "one", Chechen/Batsbi *ts?`a*, Ingush *ts?`a* or *tsa3*

The correspondences of Etruscan initial */th/* : Nakh initial */ts/*, and Etruscan final */u/* : Nakh final */a/*, are both regular as shown in II a and II b below. The role of the pharyngeals */?`/* and */3/* is problematic. For some words in Nakh, versions with and without a pharyngeal are interchangeable, e.g. *qa:p:a* or *qa?`pa* "sunflower", while in other cases minimal pairs are formed, e.g. *da:* "father"; *d3a* "there" (both sets of examples from Chechen). Internally to Nakh, pharyngeals can be distinct segments diachronically, but their Daghestanian cognates show no evidence of this in this instance. It has been suggested by Nikolayev and Starostin (1994) that the pharyngeal in the Nakh form is a consequence of the sheep-counting glottal stop.

All of the Daghestanian languages also have forms apparently cognate with the Etruscan and the Nakh, e.g. Avar *tso*, Lak *tsa*, Lezgi *sa-d*. Their sound correspondences with Nakh are regular, other than accounting for the loss or non-creation of the pharyngeal. The final *-d* in this Lezgi form is a sheep-counting affix in origin.

The Hurrian for "one" is *Suk:o* or *Sug-*. If this is compared with the Hurrian for "three", *kig(e)*, a similar ending is also present. While there are no instances of this ending in the other attested Hurrian numbers, both Hurrian *Su-* and *ki-* appear to be regularly related to their Nakh counterparts once this ending is removed. The *-k:o* and *-g* in Hurrian are reminiscent of the sheep-counting affixes used in some of the Daghestanian languages, such as Avar *-go* and Andi *-gu*. In Urartian, the form *Su-* is attested in the dative and locative cases (*Susini* and *Susina* respectively). Regular sound correspondences exist between Etruscan */th/* : Nakh */ts/* : Hurro-Urartian **/S/*, and Etruscan final */u/* : Nakh final */a/* : Hurro-Urartian final */u/*, also shown in II a and II b below.

b) Etruscan *ki* or *ke* "three", Chechen/Ingush/Batsbi *qo*

The consonant correspondence Etruscan */k/* : Nakh */q/* is regular and shown in II c below. There is a tendency in historically attested Etruscan for */i/ > /e/*, which does not usually operate word-finally. There is also an instance of **kialx** and **kealx** in the same document (the Liber Linteus, 2nd century BCE, but probably a copy of earlier texts). The Etruscan **ke-z-p** "eight" (< ***ke-z-p(i)**) is an internal derivation "three-times-on (five)", which is consistent with a pre-Etruscan ***ke**, and therefore a development of ***e > i > e** can reasonably be assumed. Rix (1998: 36-38) also discusses the possibility of a common Raeto-Etruscan form ***eluku**, based on Raetic **eluku**, for the attested early Etruscan **iluku**. Etruscan */e/* has a regular correspondence with Nakh */o/*, shown in II d below.

Bokarëv (1981: 24-25) suggests that there are regular correspondences between the Daghestanian forms for "three" and the Nakh ones, for example Avar */Lab/* and Archi (a Lezgian language) */Lib/*, linking what he reconstructs as Proto-Nakh-Daghestanian ***/L/** with Nakh */q/*, and PND final ***/b/** with Nakh /(zero)/. The Nakh and Daghestanian words for "three" are the only examples Bokarëv uses to support a relationship between PND ***/L/** and Nakh */q/*, but there are more examples to support PND ***/L:/** : Nakh */x/*. It is perhaps therefore not totally secure to regard the Nakh and Daghestanian forms for "three" as cognate with one another. Nichols (2003) lists the Nakh reflex of PND ***/L/** as */x/*, not */q/*.

The Hurrian form **ki-** is identical with Etruscan. As mentioned above, the final **-g** or **-ge** here may be a sheep-counting affix. Hurrian */e/* and */i/* are often confused orthographically, so this may account for the vocalism. The Urartian for "three" is not attested.

<u>c) Etruscan **huth** "four", Chechen/Ingush **=i?**, Batsbi **=?`iw?**</u>

While the meaning of this Etruscan word is not unanimously agreed, it is already supported by three separate pieces of evidence: i) the renaming of the Attic placename Hyttenia as Tetrapolis; ii) ET Ta 7.81 (TLE 885) **xarun huths** ("fourthly, Charun") on the last of four painted figures in a tomb, and iii) universal relative corpus frequency statistics of numerals as suggested by Mańchak (1983). Recognition of Etruscan's true affinities adds a fourth argument supporting the meaning "four" (not "six"). As explained above, the = in the Nakh forms represents a class marker inserted in compensation for an earlier deleted laryngeal and sound correspondences linking Etruscan words with an initial */h/* and Nakh words with an initial class marker [CM] are shown in part II e below. The Nakh vocalism is problematic, but the */w/* in the Batsbi is an indication that it is possible here to reconstruct a back rounded vowel for Proto-Nakh. A */u/* also occurs in many of the Daghestanian languages. The correspondence of Etruscan **u** : Chechen **i** can also be seen in the context of the compensatory insertion of a CM in Nakh in the comparison of Etruscan **huS(u)** : Chechen **j-iSa** (Batsbi **jaSa**).

The loss of a laryngeal evident in the sound correspondence Etruscan */h/* : Nakh CM can also be seen in the Daghestanian forms, although understanding why the Nakh forms have come about is the key to explaining the Daghestanian forms. The forms for "4" in most of the Andian languages, other than Andi itself, are similar to one another, e.g. **=o?oda** (Karata), **=u?uda** (Bagwalal, Godoberi), and **=o?uda** (Chamalal). Here the */?/* is cognate with the zero in Nakh and */h/* in Etruscan. The initial CM (usually **b-** in the citation form in the Andian languages) has been inserted in compensation for a lenited initial laryngeal, just like the CM in Nakh. The */o/* or */u/* inserted between the CM and */?/* is either to facilitate the **C?** cluster, or was originally used to retain the initial */?/* which might otherwise have been deleted completely, and then a CM was used. Alternatively, the first vowel is ancient, and was lost in Etruscan, Nakh, Lezgi etc. The initial laryngeal can still be seen in the Akhwakh **=oq.oda** and Botlikh **=uRuda**. In Avar (**unq.-go**) and Andi (**=oq.o-gu** or **=oGo-gu**) the possibly ancient sheep-counting affix (**-go** or **-gu** respectively) was used instead of **-da**, and in Avar no compensatory CM is used. The Tsezian languages are similar to the Avar form. In Lezgi the word for "4" is **q.ud** which may more closely resemble the ancient form. The other Lezgian languages have an initial cluster consisting of what is perhaps a fossilised CM */j/* together with a vowel preceding the laryngeal, e.g. Agul **jaq.ud**. This initial syllable may also be motivated by the need to distinguish the form for "4" from the otherwise similar form for "2" in the Lezgian languages, e.g. Lezgi **q.wed**, Agul **q.ud** etc. Lak-Dargwa, the remaining subgrouping of Daghestanian languages, has the forms **muq.-wa** (Lak) and **aw-al** (Dargwa) respectively (the **-wa** and **-al** are sheep-counting or similar morphemes).

The Proto-Nakh-Daghestanian form ***jemq.i** reconstructed by Nikolayev and Starostin (1994) for "4" has little justification. It is by no means certain that the initial **jV-** prefix typical of a number of Lezgian languages is more than a local innovation. The */m/* proposed by Nikolayev and Starostin occurs only in the Lak form. An */m/* in Lak normally corresponds to an */m/* in Lezgian, but there is no */m/* in any of the Lezgian forms. It is therefore difficult to see how an */m/* can be reconstructed as part of the PND form. We know from Nakh that its final glottal stop is an original part of the root, corresponding to a dental in a number of Daghestanian languages. This has to be reflected in

the reconstructed form for PND which it is not in ***jemq.i***. Even if Nikolayev and Starostin's reconstructed form were correct, it should not be related to Etruscan ***max*** as is attempted in O&S 21. Hardly any serious Etruscologists associate ***max*** with the meaning "4" [11], and those who do base their reasoning purely on the fact that the Indo-European Anatolian languages had ***mawa*** or ***meiwa*** for "4".

There is also support for the loss or severe lenition of a final dental in Nakh (Bokarëv 1981: 19-20). Perhaps in some contexts this was only severe lenition. The Nakh sheep counting affix */?/ would then be cognate with the sheep-counting affixes used in a number of Daghestanian languages, ***-d*** (some Lezgian languages) and ***-da*** (some Andian languages), although the final former dental in Nakh "four" is not a sheep-counting affix and is an organic part of the root as already shown. It has been suggested that these particular sheep-counting affixes are originally class markers and in some languages actually function as such or are replaced by a different now fossilised class marker. This cannot apply to the ***-go*** and ***-gu*** suffixes in Avar and Andi, as these probably represent the ancient form, which in turn is perhaps related to the enclitic "and" in origin. It is uncertain whether the Tsezian ***-nV*** sheep-counting affix is originally a CM, a nasalised development of an earlier dental, or a reflex of the Avar and Andi form.

The Hurrian for "4", ***tumni*** is unrelated and the Urartian is unattested.

<u>d) Etruscan ***max*** "five", Chechen ***mor***, Ingush ***morh***, Batsbi ***morL*** "armful"</u>

There is little consistency in the Nakh-Daghestanian forms for "5": Nakh ***pxi***, some Andian languages ***iStuda***, Lezgi ***vad***, and Lak ***xu-wa***. It is difficult to see how a single form for "5" can be reconstructed for PND, such as the ****xwE*** or ****fE*** in Nikolayev and Starostin (1994), let alone be related to Etruscan ***huth*** ("4"!) as is proposed in O&S 18. NDC 28 reconstructs the form of the PND for "5" with an initial masculine CM followed by a long lateral fricative. Etruscan ***max*** may instead be related to a Nakh-Daghestanian root for "handful". The relation between "5" and "hand" is common one in the languages of the world. The semantic extension "hand" > "arm" is also common.

In Daghestanian, this root for "handful" appears in a number of subgroups: in Tsezian there is Tsez ***meru***, Hinukh ***meu*** and Hunzib ***moRu***; in Lezgian, there are forms such as Lezgi ***mekw***, Agul ***mex***, Rutul ***mEx***, Budukh ***mek*** etc., while in Udi there is ***maR*** and in a dialect of Agul ***merL*** is to be found; in Dargwa there is ***me?`***.

In Nakh the word ***mor*** (Chechen), ***morh*** (Ingush) and ***morL*** (Batsbi) can be found with the meaning shifted slightly to "armful". The existence of related Nakh roots such as Chechen ***mara*** and Batsbi ***majrLa*** "in one's arms" may cast doubt on */o/ as the original Proto-Nakh vocalism.

The final consonant is difficult to reconstruct for PND. The Chechen and Ingush phoneme */rh/ is rare, occurring only in a handful of words, and yet is used for this word only in one of these two languages. Pronunciation of Nakh */rh/ is variously voiceless [r], [rh] as a cluster, or [rx], depending on dialect. In Tsezian the correspondence between Tsez */r/, Hinukh /(zero)/ and Hunzib /R/ is unusual; and in the Lezgian languages there is a strange alternation between */r/, /R/, /k/ and /x/. This is probably the result of borrowing between different sister languages at an earlier stage.

Wegner (2000: 70) lists ***nari(-ja)*** as the Hurrian for "5". Occasionally in Nakh an */n/ will correspond to an */m/ in Daghestanian, and occasionally vice versa, for no apparent reason (Bokarëv 1981: 17, 18). It may be that this phenomenon also applies to the Hurrian data, thus potentially linking ***nari(-ja)*** with its Nakh, Daghestanian and Etruscan equivalents. The relationship of ***m/n*** in Nakh-Daghestanian is also discussed in Nichols (2003: 226-228), where she suggests that a fossilised CM plays a role.

Reconstruction on the Etruscan side needs to take into account the ***mav*** attested in Lemnian, plus the fact that "50" in Etruscan is ***muvalx*** and not ****maxalx***. Steinbauer (1999: 364) proposes that the final */w/ in what he reconstructs as Pre-Etruscan ****maw*** became /x/ in Etruscan and ****mawalx*** became ***muvalx***. On the East Caucasian evidence we cannot rule out the possibility that some sort of final consonant was still present in the Pre-Etruscan, but, just like its counterpart in Nakh-Daghestanian, was prone to lenition. The vocalism is also compatible. As shown below in section II b, medial Nakh */a/ sometimes corresponds to medial /au/ in Etruscan.

<u>e) Early or Pre- Etruscan ****vili*** "six", Chechen/Ingush ***jalx***, Batsbi ***jatx***, ***jetx***</u>

While, as is known, the standard Etruscan for "six" was ***Sa***, the early or Pre- Etruscan ****vili*** "six" is proposed here on the basis of the bilingual ET Cl 1.966 (TLE 925) ***Senti . vilina/l : SENTIA . SEX[TI] . F[ILIA]***, "Shenti (daughter)

of Vilina / Sentia daughter of Sextus" on an urn from the northern Etruscan city of Klevsin (Latin **Clusium**, modern Italian **Chiusi**). The semantic equivalence of Etruscan **vilina** = Latin **Sextus** was not previously understood, the Etruscan name usually being dismissed as merely an unrelated Etruscan name. Benelli (1994: 58) argues that the the the given name is missing in the one part of the inscription here due to Roman influence. Rix (1963: 49) states, however, that female given names were generally retained in the northern cities right up until Etruscan had been replaced by Latin. It is clear from the East Caucasian parallels that the Etruscan **vilina** really did mean "sixth", just like the Latin **Sextus**. For the ordinal or adjective form **vilina** the corresponding cardinal form would be ***vili**. As the Latin was a direct translation of the Etruscan forename plus patronymic, the equivalence of Etruscan ***vili** and Latin **sex** was evidently still recognised even at the date of this inscription, categorised as "recent" in ET, despite the fact that the use of **Sa** must go back perhaps to before the Pre-Etruscans' arrival in Italy, as it is attested in the compound **sealxveis** in Lemnian on the Kaminia stele.

The Proto-Nakh form for "6" is normally reconstructed as ***jatx** or ***jetx**, based on the Batsbi form. In other contexts, the Batsbi form of a Nakh root is, of the three Nakh languages, often phonologically the archaic one, retaining dentals that have been lost in Chechen and Ingush, e.g. Batsbi **bader** "child", as compared to the Chechen **be:r** and Ingush **bier** (also "child") where the /d/ has been lost [12]. It may be that the Batsbi /tx/ cluster represents a Proto-Nakh lateral affricate ***/tL/** which became first ***/L/** and the /lx/ in the Veinakh languages. Alternatively, the Batsbi may be a hypercorrection of a PN lateral fricative by analogy with the dental retentions. Either way, some sort of ancient lateral is indicated. This is borne out by the Daghestanian evidence.

In many of the Andian languages other than Andi itself, the form is **itLi(-da)** or similar. In Avar and Andi there are **antL(-go)** and **ontLi(-gu)** respectively, which have a different sheep-counting affix, together with a nasal also seen in Botlikh and Godoberi. In the Tsezian languages there is **iL(-nV)** or similar. In the Lezgian and Lak-Dargwa reflexes the relationship is less obvious, the /L/ being regularly replaced by /rx/, or /x/, or /r/ plus some velar, sometimes separated by a vowel.

As shown below, Nakh /a/ corresponds to /a/, /au/ or /u/ in Etruscan, depending on the context, although the exact conditioning rules for which of these is used are not always clear. If Proto-Nakh ***a:** as in **pa:l** corresponds to the /u/ in **pul-** in Etruscan (see No. 38 in section II b below), then we can also justify a Proto-Nakh ***jaL** corresponding to a Pre-Etruscan ***juL(-i)**, if the **L** in the Etruscan is some sort of lateral, not necessarily a fricative. This earlier Pre-Etruscan ***juL(-i)** then became ***vili** in late Pre-Etruscan by a trivial metathesis. The final **-i** can be justified by reference to the Andian forms, and also some of the Lezgian forms. This final **-i** must have been dropped at some point in Nakh, and would also have been in Etruscan, had the word remained in ordinary use as a numeral, but is preserved in its older form because it was only being used as a name.

f) Etruscan ***verS** or ***vers** "hundred", Chechen **b?`e**, Ingush **b?`{**

The Etruscan for "100" has been proposed here by re-evaluating the ancient gloss TLE 857: **agri modum … plerumque centenum pedum in utraque parte, quod Graeci plethron appellant, Tusci et Umbri vorsum**. Varro also states [13]: **In Campania … versum dicunt C pedes quoque versum quadratum**. Of the two alternatives, it is probable that something closer to **versum** was the real form, the Latin <o> being used to transcribe the sound of the Etruscan >e<, because another ancient gloss, TLE 858, refers to the Etruscan for "October" being **Xosfer**, which must actually have been something like ***Kezper** or ***Kezpre** (< **kezp** "8"). This measure of surface area could be analysed as **vers-um** or "abstraction associated with 100" because of the quantity of 100 square feet associated with it (compare English "hundred", also an area of measurement). The affix **-um** can be seen in a number of Etruscan words such as **za-th-r-um** "20" (< **zal** "2"), **meth-l-um** "thing of the people, i.e. republic" (< **meth, mex** "people, nation", later becoming the Latin loan translation **res publica**), **vin-um** "wine" [14], **pul-um** "star" (see No. 38) etc.

The auslaut has been deleted in the Chechen and Ingush, which is a regular development for inherited final ***/rs/**. The relationship of the Etruscan ***vers** to Nakh-Daghestanian is best seen by looking at the Daghestanian cognates where the final segments have not been deleted. Many of the Avar-Andi and Tsezian languages have **beS-** or similar, while in some of the Lezgian languages the resemblance to the Etruscan is closer, e.g. Lezgi **wiS**, Tabasaran **warZ**, Agul **wErS**, Rutul **weS** etc. Some Daghestanian languages have a final nasal, which appears to be organic in various Tsezian languages, e.g. Tsez **bison** etc., so there is a possibility that the Etruscan for "100" is ***versum** after all, and the **-um** is not necessarily the abstraction affix being used for the semantic extension to agricultural measurement. It is also possible that the anlaut in the Etruscan was not /v/ but /ph/ (cf. Etruscan /ph/ : Nakh /b/ in **phersu** "mask of an animal" : **borz** "wolf", No. 49 in section II d below). The fact that the Etruscan numerical symbols for 100, 500 and 1000 all resemble the letter **{phi}** would tend to support this theory. The remaining Nakh language, Batsbi, uses an

unrelated form **pxauzt.q.a** based on the vigesimal system, literally "5 times 20". The Hurrian and Urartian words for "100" are not attested.

g) The remaining Etruscan basic numbers have not been included in this study because their etymology is uncertain or merely probable, or because they are thought to have been borrowed:

Etruscan **esl/zal** "two" is not obviously related to the East Caucasian forms. The Nakh and Hurrian forms, **Si** (from an earlier ***Sin**), and **Sin**, respectively, have probably been borrowed from Akkadian, an ancient Afroasiatic language with which they were in intense contact at one point. It is possible that the Etruscan form is derived from an ancient East Caucasian deictic (cf. Batsbi **oza** "that", which would have a regular correspondence with Etruscan ***ezal**), just as the Daghestanian forms for "two" are derived from an East Caucasian root meaning "other", but in the absence of additional information about the lost forms for "two" in Nakh and Hurro-Urartian, this is pure speculation. The Etruscan **zathrum** "20" (< ***za(l)-th-(u)r-um**, "two-<locative>-<plural>-<abstraction>") is derived from **zal**. **Zal** can also be found in Raetic. Curiously, Duhoux (1982) gives the Eteocretan for "twenty" or "twenty men" as **isalawr** or **isalur(ia)**. Eteocretan, an ancient Aegean language, is very fragmentary and of unknown affiliation.

The attested Etruscan **Sa** "six" and Etruscan **semph** "seven", like their Hurrian counterparts **SeSe** "six" and **Sit:a** or **Sinda** "seven" respectively, have been borrowed, either from Indo-European or Semitic. According to D&S 16, the original Hurro-Urartian form for "seven" which was a reflex of the common East Caucasian form prior to the borrowing of **Sit:a/Sinda** was **wa:i:r** or **pa:i:r**, and this could be seen in the Hurrian name for the constellation of the Pleiades or Seven Sisters.

Kezp "8" is native to Etruscan and derived from **ki/*ke** "three" and is dealt with above.

The form for "nine" in Hurrian as proposed by Diakonoff (1971) and Kammenhuber (**apud** Laroche 1980) is **niZi** or **niS**. The **n** of the Etruscan **nurph** would appear to correspond regularly with the Hurrian (cf., for example, Etruscan **nun** "bring" with Hurrian **nun** "come") as would the **r** (cf. the Etruscan plural **r** with the Hurro-Urartian plural ***S**), but the vocalism is not quite right. The final **-ph** in the Etruscan **nurph** "nine" could perhaps have been added by analogy with the preceding **semph** and **kezp**. Wegner (2000: 70) proposes a different word **tamri** as the Hurrian for "nine". The Urartian for "nine" is not attested. The numeral has not been included above principally because there is no regular correspondence to account for the loss of the initial **n** in the Nakh and Daghestanian forms, for example Nakh **is:**, Lak **urtS.**, Dargwa **urtS.e(-ma)**. Final **/n/** in Nakh does show a development > **/(zero)/**, and this development is not unknown in Nakh in other phonological contexts. In Nakh we also have the pair **nax** "plough (noun)" versus **a:xan** "to plough (verb)". There are also examples where **/n/** is present in Nakh but not in Daghestanian, and vice versa. Nichols (2003: 246) lists Lak **nuts** "bull, ox" as being cognate with Nakh **stu**, Avar **ots**, Tsez **is** etc., and (2003: 228) Nakh **niaq** "road" with Lezgi, Archi and Udi words which take the form **-Vq** preceded by what may be fossilised CMs, but neither of these developments can be described as regular. It is also possible that the intrusive **n-** in the Etruscan can be accounted for by influence from neighbouring Italic languages which sometimes show the insertion of initial **n-**. An explanation that **nurph** is a borrowing of Indo-European origin is possible, but crucially this would fail to account for the existence of the **-r-**.

Etruscan **Sar** "ten" was probably a relatively late borrowing from Punic (**?asr**). The numerical morphology including that used for forming the decades in Etruscan is native and will be dealt with in part III.

II. Sound correspondences

The glosses for Etruscan comparanda can in almost all cases be found with the same meanings as given here in the vocabulary lists proposed in standard mainstream handbooks such as Pfiffig (1969), Pallottino (1984), Cristofani (1991), D'Aversa (1994), and/or Steinbauer (1999). Individual items proposed within the texts of other mainstream authors Facchetti (2000, 2002) and Rix (2004) have also been included in some cases.

a) Etruscan */th/* : Chechen */ts/*, */ts:/*, */ts./*, */t./*, (and */d/* ?)

Etruscan	Chechen
1. eith, *eth* "thus"	*ots:(-al)* "so much" (the *-al* is a common adverbial morpheme)
2. thez "sacrifice"	*tsostu* "chop, slash, take a bite out of"
3. thn "together"	*ts?`an* "together" (see discussion of pharyngeals above)
4. thu "one"	*ts?`a* "one"
5. thuva "place" (> *thui* "here")	*ts.a* "house"

In No. 2 note that although the infinitive form of the Nakh verb is considered to be the more ancient root (see Handel 2003: 125), the forms that we find in the Etruscan inscriptions are usually present tense, or the weak past tense ending in *-ke* which does not differ from the present tense in stem vowel. The present tense vowel corresponds well between Etruscan and Nakh. The weak past tense is an innovation in the Raeto-Etruscan branch, the strong paradigm surviving only in Lemnian. In cases where an Etruscan verbal noun is cognate with a Chechen verb, the infinitive of the Chechen verb is cited, as this is more appropriate, and corresponds better.

The spelling of the Etruscan reflex in No. 5 may be an attempt to represent the pronunciation of a glottalised affricate which may still have existed then. Etruscan */th/* also corresponds to Chechen */t./*. The relationship between Nakh */ts/* and */t./* is uncertain, but as can be seen by No. 6, the development of a distinction between the two is probably on the Nakh side. There is also the issue of the Etruscan reflex of the voiced dental in Nakh, because, as is known, the symbol for */d/* inherited by the Etruscan writing system was very rarely used other than in abecedaria. This is discussed further below in item No. 41. Item No. 48 below, which also relates to Nakh */d/*, may show a correspondence between Etruscan */th/* or */t/* and Nakh */d/* (the spelling of this item is inconsistent in Etruscan).

Etruscan	Chechen
6. tham "build"	*ts?`a:m(-za)* "handle" (*-za* is "without", here "unattached"), and *t.am* "wing", "hand" (extension to "wing" may be a result of West Caucasian influence).
7. neth "entrails"	*not.* "pus" (also *notq.a* - see discussion of *-k/tq.a* below)
8. thap(-na) "(flat) dish, bowl" (*-na* = adj.)	*t.a:p* "flat, wide" (of a hat)
9. thra "breast"	*t.ara* "nipple"

For the semantic shift in No. 6, see also No. 27 where a similar shift has occurred.

There is also a case for the relationship Etruscan */th/* : Chechen */x/* or */x:/* in the following:

Etruscan	Chechen
10. thi "water"	*xi* "water"
11. -thi locative case ending	*-xi* locative case ending
12. meth, *mex* "people, nation"	*moxk* "people, land"

The */th/* in these Etruscan reflexes may illustrate an alternate palatalised or fricative sound discussed above. The */xk/* in the Chechen reflex in No. 12 is a development from a former long velar reconstructed for Proto-Nakh. NDC 54 proposes a reconstruction of the PND for "water" with a lateral fricative.

In a known development during the history of Nakh, non-initial dentals are lost or lenited in Chechen, Ingush, and sometimes Batsbi. This can be seen in a couple of examples.

Etruscan	Chechen
13. huth "four"	*=i?* "four"
14. kautha, *katha* "marigold"	*qa:(-pa)*, *qa?`(-pa)* "sunflower"

Cautha is the Etruscan sun god. According to Pfiffig (1998: 241) the flower in the ancient gloss TLE 823 is the golden-yellow *Anthemis tinctoria L.*, still referred to in Tuscany as *cota*. Both the Etruscan and the Chechen words derive from *Cautes* and *Cautopates* respectively, the Mithraic solar helper gods, hence the additional *-pa* in the Nakh reflex, both instances of *-t* being regularly deleted at some point in the history of Nakh.

There is also a case for a correspondence between Etruscan */th/* and Hurro-Urartian */S/*:

Etruscan	Hurro-Urartian
3a. thn "together"	*Suine* "all, completely" (U.)
4a. thu "one"	*Su(-k/gV)* "one" (H., U.) (*-k/gV* is a sheep-counting affix)
6a. tham "build"	*Sumu(-ni)* "hand" (H.) (*-ni* is the definite article)
10a. thi "water"	*Sije* "water" (H.)

The Hurro-Urartian */S/* thus appears to correspond with both main possible phonemic realisations of Etruscan */th/*, if there is indeed a distinction.

b) Etruscan */a/, /au/* or */u/* : Chechen */a/

Final Etruscan */u/* often corresponds to */a/* in Chechen:

Etruscan	Chechen
4. thu "one"	*ts?`a* "one"
15. alx (<*alxu*) decade suffix in numerals	*alGa* ordinal suffix
*16. *falatu* "heaven"	*h?`alata* "up above"
17. huS, *huSu* "child, boy"	*vaSa* "brother" (*v-* = masc. CM; cf. *j-iSa* "sister" with fem. CM)
18. -inu past masdar of verb	*-na* past perfective tense
19. krankru "panther, cat"	*k.ark.ar* "jaws" (cf. Urartian *qarqara(-ni)* "panther")
20. zaru "ritual"	*sardan* "to swear" (present tense *serda*)

Final */a/* in modern Chechen is often pronounced */@/*. In other positions Etruscan */a/* usually corresponds to */a/* and */a:/* in Chechen, and in final position also to */aGa/*. Final *-n* in Chechen is lenited to nasalise the preceding vowel, and in Ingush is deleted completely.

Etruscan	Chechen
6. tham "build"	*ts?`a:m(-za)* "handle", and *t.am* "wing", "hand"
8. thap(-na) "(flat) dish, bowl"	*t.a:p* "flat, wide" (of a hat)
9. thra "breast"	*t.ara* "nipple"
15. alx (<*alxu*) decade suffix in numerals	*alGa* ordinal suffix
*16. *falatu* "heaven"	*h?`alata* "up above"
19. krankru "panther, cat"	*k.ark.ar* "jaws"
20. zaru "ritual"	*sardan* "to swear"
21. ara "field"	*a:re* "field"
22. -as- present participle, verbal noun	*-aS* progressive participle
23. ase "breath, wind"	*a:z* "voice"
24. far(-th-na) "pregnant"	*pxar(=ala)* "to conceive" (cf. *pxo:ra* "pregnant")
25. kalu "Calu (divinity of hell)"	*k.alke* "bottom" (Ingush; Chechen cognates derived from this root all use the umlauted form *k.el-*)
26. kalu(-s-na) "best" (*-s* gen.; *-na* adj.)	*kaja:lan* "to manage, to succeed"
27. kar- "to make"	*kara* "in the hands, in hand" (cf. *kar-ietsa~* "to take over", *kar-=ala* "to hand over")
28. klan, *klante/i* "son, adoptive son"	*k.ant* "boy"
29. male- "reflect, shine" (*male-na* "mirror")	*ma:l-x* "sun" (*-x* agent suffix)
30. maru "magistrate, official, priest"	*ma:r* "husband"
31. nak "since, as, because"	*naga?`* "if", *nag:a?`* "sometimes"
32. nap measure of surface area	*nap:aGa* "ration, allowance, plank of wood"
33. parx "economy, economic administration"	*ba:x(-am)* "household, possessions"
34. sal "offer, carry out, set up"	*sa:Ga* "offering"

35. za(-na) "gift"   **zaGa** "gift"

The final **-l** in No. 34 is a regular development in Etruscan. The */p/* in clusters such as the */px/* in the Nakh reflex of No. 24 is explained by Nichols (2003: 230-232) as a possible fossilised CM. Note a similar analogy in No. 27 ("make" : "hand") as is used in No. 6 (**tham : t.am/ts?`a:m-**).

In some cases Etruscan medial */au/*, */u/* or */va/* appears to correspond with Chechen */a/*.

Etruscan	Chechen
5. thuva "place" (> **thui** "here")	**ts.a** "house"
17. huS, **huSu** "child, boy"	**vaSa** "brother"
36. lauk-, **laux-**, **luk-**, **lux-** "rule, king"	**laq** "upwards, upstairs"
37. laut-, **lut-** "family"	**Ladi** (Avar) "woman"
38. pul(-um) "star"	**pa:l** "fortune telling, divination, magic"
39. sval "live"	**sa** "soul, spirit, person, life, breath; light, sight"

The conditioning factor in No. 37 **laut-/lut-** may be some sort of ablaut process; cf. Avar **Ladi** "woman", **Ludbi** "women"; also Urartian **lutu** "women" (as a collective). In No. 39 we should note also the Etruscan **Si** "light, bright". Oblique and plural forms of Chechen **sa** change the stem vowel to */i/*. It may be that two historic roots have become conflated in Chechen. The final **-l** in Etruscan may be a later regular development, or there may be a historical connection to the PHU root ***sawl** "health, prosperity" which D&S 83 link to the Lak **ts.ul:u** "healthy" and the final **-l** got lost in Nakh. The ablaut in Etruscan **sval** is discussed further below.

In lexemes where */u/* is inherited, this is retained in Etruscan.

Etruscan	Chechen
40. tul "stone"	**t.ul(-g)** "stone" (**-g** is a diminutive)

The */t./* is not irregular here insofar as both >*t*< and >*th*< are used indiscriminately in some words where they correspond to Nakh */t./*.

Etruscan */u/* may also correspond to */i/* under certain circumstances in Nakh, or, at least, Chechen (and the other Nakh reflexes are regular).

Etruscan	Chechen
13. huth "four"	**=i?** "four"
17. huS, **huSu** "child, boy"	**j-iSa** "sister" as opposed to **vaSa** "brother" from same root

As may Etruscan */au/*:

Etruscan	Chechen
41. *thaun "horse"	**din** "horse" (cf. Ingush **dan**, Batsbi **don**)

This item of vocabulary is reconstructed here from the ancient gloss **damnos** (TLE 827), taking into account what would be a regular correspondence between a possible Etruscan */au/* here and */a/* in Ingush at least. The */i/* in the Chechen word may be a development which is purely internal to Nakh. The >*m*< in the gloss may be a mistranscription of an expected */u/* in the Etruscan (and the >*-os*<, a more or less compulsory desinence in Greek, is unlikely to be part of the real Etruscan word). However, another issue here is what reflex should be expected in Etruscan for Nakh */d/*. As is known, the Greek >*d*< borrowed into the Etruscan writing system is only rarely to be found other than in abecedaria, so it is reasonable to conclude that Etruscan did not have a phonemic voiced dental (although it is possible that voicing of stop phonemes with unvoiced prototypes occurred in word-internal contexts). It is difficult therefore to decide how to reconstruct >*d*< appearing in Greek glosses of Etruscan vocabulary in the absence of a significant number of correspondences with Nakh lexemes containing */d/* (although see No. 48). This question remains to be resolved. A similar problem exists for the name of one of the central mythological figures in Etruscan religion, the wise old man / child hybrid, who has come down to us under the name **Tages**, despite the fact that no >*g*< is used in Etruscan. It may correspond as a concept to the phrase **pava tarxies** "the Tarquinian boy" (?) which does exist in attested Etruscan. Clearly **Tages** does not correspond to **tarxies**, but it is immediately reminiscent of the Chechen word **(s)tag** "man, person" (Ingush **sag**, Batsbi **st.ak.**).

c) Etruscan */k/* : Chechen */q/*

Etruscan	Chechen
14. kautha, *katha* "marigold"	*qa:(-pa)*, *qa?`(-pa)* "sunflower"
36. lauk-, *laux-*, *luk-*, *lux-* "rule, king"	*laq* "upwards, upstairs"
42. -k "and"	*tq.a* "and"
43. ki (< **ke*) "three"	*qo* "three"
44. kes, *kesu* "lie"	*qo:zu* "hang, drape, be suspended"
45. kexa, *kexe* "law, right"	*qoiqu* "proclaim"
46. lek(-in) "high" (*-in* = old genitive)	*loq(-alla)* "height" (*-alla* forms abstractions)

Isoglosses Nos. 36 **lauk-** etc. and 46 **lek(-in)** are related to one another by regular vowel changes.

What may be an inherited cluster in the Chechen reflex for No. 42 **-k** has been simplified in the Etruscan. A similar thing has happened in No. 7, but with the deletion of the other segment, and in that case the simplified cluster can also be found in Chechen, but it is possible that fortition has occurred in Nakh instead.

Etruscan */k/* also corresponds to Nakh */k/*. The historical development of the phonemes */q/* and */k/* in Nakh is confused and sometimes dependent on consonant length in the proto-language.

Etruscan	Chechen
26. kalu(-s-na) "best" (*-s* gen.; *-na* adj.)	*kaja:lan* "to manage, to succeed"
27. kar- "to make"	*kar* "hand"
47. hek "lay, put, place"	*=oxka* "put"

The Etruscan cluster */kl/* is either an attempt to represent, or is derived from, initial glottalic */k./*:

Etruscan	Chechen
28. klan, *klante/i* "son, adoptive son"	*k.ant* "boy"
48. kluthi, *kluti* "drinking vessel"	*k.ud(-al)* "water jug"

Sometimes, because of dissimilation, this does not happen:

Etruscan	Chechen
19. krankru "panther, cat"	*k.ark.ar* "jaws"
25. kalu "Kalu (divinity of hell)"	*k.alke* "bottom" (Ingush)

The existence of homographs in Etruscan such as Nos. 25 and 26 may be another indication that */k/* in Etruscan may have more than one phonemic realisation.

It is possible that a final devoicing has taken place in Etruscan of an inherited */g/* or */g:/*:

Etruscan	Chechen
31. nak "since, as, because"	*naga?`* "if", *nag:a?`* "sometimes"

The correspondence between Hurrian and Urartian */k/* and */q/* and Nakh */k/*, */k./* and */q/* is confused:

Hurro-Urartian	Chechen
19a. qarqara(*-ni*) (U.) "panther"	*k.ark.ar* "jaws"
43a. ki(*-g*) (H.) "three"	*qo* "three"
ak:i "other" (H.), *akuki* dem. pron. (U.)	*qin* "other"
nek (H.) "to swim", *nik-* (U.) "to water"	*ne:kan*, *ne:qan* "to swim"

The last two of these four sets of HU/Chechen isoglosses do not appear to have any attested Etruscan reflexes.

d) Etruscan */e/* : Chechen */o/*

Etruscan	Chechen
1. eith, *eth* "thus"	*ots:(-al)* "so much"
2. thez "sacrifice"	*tsostu* "chop, slash, take a bite out of"
7. neth "entrails"	*not.* "pus"
12. meth, *mex* "people, nation"	*moxk* "people, land"
43. ki (< ***ke***) "three"	*qo* "three"
44. kes, *kesu* "lie"	*qo:zu* "hang, drape, be suspended"
45. kexa, *kexe* "law, right"	*qoiqu* "proclaim"
46. lek(-in) "high" (*-in* = old genitive)	*loq(-alla)* "height" (*-alla* forms abstractions)
47. hek "lay, put, place"	*=oxka* "put"
48. elu "celebrate, pray"	*o:lu* "speak, sing"
49. neS "deceased"	*noS* "overripe"
50. phersu "mask (of an animal)"	*borz* "wolf"

As is known, Nakh */o/* is often a regular development from earlier */e/*, and this can be seen for example in item Nos. 12 and 50 where the original vowel is retained in the plural of the Chechen nouns (*moxk* : *mexkaS*, *borz* : *berzaloj*).

e) Etruscan */h/* : Chechen CM

Etruscan	Chechen
13. huth "four"	*=i?* "four"
17. huS, *huSu* "child, boy"	*vaSa* "brother" (*v-* = masc. CM; cf. *j-iSa* "sister" with fem. CM)
47. hek "lay, put, place"	*=oxka* "put"

Despite regular correspondences, sets of isoglosses cannot in themselves prove a genealogical relationship, although they are obligatory supporting evidence for the shared paradigms and irregularities which follow. On the other hand, the existence of pairs of similar words sharing similar pairs of cognates, as in nos. 4 and 5, nos. 10 and 11, nos. 22 and 23, nos. 25 and 26, and nos. 36 and 46, is a good indication that we are dealing with something other than chance resemblances, and thus sufficient justification to explore shared paradigms and irregularities.

III. Inherited paradigms

a) Numerical morphology

The most striking evidence of the cognation of a complete paradigm between Etruscan and Nakh-Daghestanian relates to numerical morphology. Let us take "3" and its derivatives in Etruscan and Nakh respectively.

Etruscan	Chechen
43. **ki** (< ***ke***) "three"	***qo*** "three"
51. **kialx** (< ***kealxu***) "thirty"	***qoalGa*** "third"
52. **kiz/kizi** "three times"	***quz/qu:za*** "three times"

The Ingush and Batsbi forms are similar to the Chechen. There even appears to be a parallel relating to the two forms for the iterative adverb, a distinction which in Chechen corresponds to the absence or presence of focus gemination respectively.

Reflexes of the Etruscan decade affix **-alx** are used throughout the East Caucasian languages to form either decades or ordinals, or, in one case, multiples. Both Nakh and Daghestanian tend to suggest a proto-form something like ***-alxa***, whereas internal reconstruction in Etruscan itself and Lemnian evidence both suggest an early Etruscan form of ***-alxu***. This vocalic difference is in line with other sound correspondences between Etruscan and Nakh-Daghestanian. A reflex of this is also to be found in Hurrian, although there the vocalism is problematic because of metathesis, as is also the case between the metathesised Agul form and the more conservative Lezgi form.

The Nakh reflexes of this common form are: Chechen **-alGa**, Ingush **-alaGa**; and Batsbi **-alGe~**. All of these are used as ordinals. In Daghestanian, we have: Avar **-ali** <decade> (vigesimals are also used in Avar, but with a different affix); Andi **-ol-** <decade>; Godoberi **-ali** <decade>; Chamalal **-L-** <ordinal>; Tinda -**l'iL-** <ordinal>; Botlikh **-ali-** <decade>; Akhwakh **-olo-** <decade> (only present in **La-m-olo-dabe** "30", **-dabe** being composed of two fossilised class markers present in most numbers in Akhwakh); Bezhta **-aL.e-** <ordinal>; Hinukh **-eLa** <ordinal>; Lak **-al=a** <decade>; Agul **-gelaj** <multiple>; Lezgi **-laGaj** <ordinal>; Tsakhur **-al:e** <decade>.

In some Daghestanian languages the lateral approximant plus velar fricative sequence we see in Etruscan, Nakh and Hurrian is represented by a single phoneme: sometimes a simple lateral approximant as in Avar and some Andian languages, sometimes a lateral fricative or affricate as in Chamalal. This suggests that the */lx/* cluster (or */xVl/* as it is in Hurrian) could also be thought of as a single component, as does the metathesis in Agul as compared to its close relative Lezgi (**-gelaj** versus **-laGaj**).

The Lak decade ending contains an inserted noun class marker, indicated here by an equals sign = to show a morpheme break, and this class marker agrees with the class of the headword in the phrase. This means that the forms used in modern Lak are **-ala** (Class I), **-al:a** (Classes II and IV) and **-alva** (Class III). The insertion of class markers, as in the East Caucasian reflexes of Etruscan **huth**, often constitutes a compensatory change in response to decreased distinctiveness after the lenition to zero of some segment, often a former laryngeal. Thus, the earlier Lak form could plausibly be reconstructed as ***-alXa***, where *X* denotes an unknown and later lenited laryngeal. There is evidence supporting this in general sound correspondences between Lak and other Daghestanian languages, with some of them preserving a velar or uvular in this position and others not, and thus the reconstruction of the Proto-Daghestanian form as ***-alxa*** or similar is reasonable.

Because of the similarity in some other East Caucasian languages of ***-alxa*** to the past participle of a verb meaning "to say", this has led to a folk etymology whereby some Daghestanian languages have adopted an analogue of ***-alxa***, but using a different, unrelated, verb meaning "to say" as their ordinal affix.

The Hurro-Urartian reflex is to be found in the Hurrian **-(a)hila** <ordinal>. There is evidence of metathesis of */h/* and */l/* elsewhere in Hurrian and Urartian. Although Diakonoff (1971) and Melikišvili (1971) have both suggested that **-hila** is derived from a compound of the affixes **-hi** <agent> and **-li** <plural>, Mirjo Salvini in an appendix to Melikišvili (1971) points out that place names ending in **-hila** are always declined as singular. Wegner (2000) gives **-(a)mha** as the ordinal ending in Hurrian.

Reflexes of the Etruscan numerical iterative or multiplicatory affix **-z/-zi** are used throughout the East Caucasian languages to form iteratives, multiples or decades, or, in one case, teens. In some Daghestanian languages reflexes of

both the Etruscan *-z/-zi* and *-alx* are used together for the decade form. A reflex of Etruscan *-z/-zi* also exists in Hurro-Urartian.

These reflexes in the Nakh languages are Chechen/Ingush *-z/-za* <iterative or multiple>, and Batsbi *-ts.* <iterative or multiple>. The Nakh pair *qu:z/qu:za* (Chechen) *qoz/qoz:a* (Ingush) "three times" is distinguished by the absence or presence of focus gemination (so-called whether or not there is doubling of the consonant). A similar feature might be behind the alternation in the Etruscan forms, there being no evidence of a distinction between the use of *kiz* and *kizi* "three times" on diachronic or geographical grounds. In Nakh, *-z-* is also used in the formation of vigesimals (decimal numbers are not used in Nakh).

The Daghestanian forms are: Avar *-ts.-* <decade> (+ *-ali*), *-ts.i-* <iterative/multiple> (+ *-ul*); Andi *-ts.-* <decade> (+ *-ol*); Botlikh *-ts.-* <decade> (+ *-ali-*), *-ts.i* <iterative/multiple>; Godoberi *-ts.-* <decade> (+*-ali*); Karata *-ts.e* <iterative/multiple>, *-ts.a-*<decade>; Bagwalal *-ts.a* <decade>, *-ats.is* <iterative/multiple>; Tinda *-ts.aja* <decade>; Chamalal *-ts.a-* <decade>, *-ts.u* <iterative/multiple>; Khvarshi *-ts.a* <decade>; Lak *-ts.-* <decade> (+ *-al=a*); Lezgi *-tsu/ts.i* <teens>; Tsakhur *-ts.-* <decade> (+ *-al:e*). Hurro-Urartian is represented by the Hurrian *-zi* <decade>.

The pattern in this numerical paradigm is in itself unusual enough to count (just) as being of an individual-identifying nature as defined by Nichols (1996), and thus is a strong indicator of a genealogical relationship, but on its own is perhaps not enough evidence to constitute definitive proof of this relationship [15].

b) Case morphology

There are a number of other parallels relating to numerical morphology, such as *-na*, the Etruscan ordinal from the standard adjectival affix, in turn derived from the old genitive *-n*, and also the *-s* numerical adverb, the same as the *-s* genitive in historically attested Etruscan. These are applications of the general noun case system, which also constitutes a shared paradigm. While one might expect evidence of Etruscan sharing grammatical features with a particular language family to be decisive, caution must be exercised. There can be no doubt about the meanings of the numerical morphology above (other than about what the function is of the focus-gemination-style feature in Etruscan), but the same certainty is not appropriate for some other grammatical features. A number of authors, particularly Georgiev (1954, 1972), Adrados (1989), Woudhuizen (1991), and Zavaroni (1996), have proposed their own peculiar interpretations of Etruscan grammar, upon which they in turn base their evidence for a proposed genealogical relationship, or, more often, imagine a relationship with IE and then seem to invent grammatical features which support this relationship [16]. Discussion of Etruscan grammatical features in this study is based on the analysis of unbiased mainstream commentators such as Pfiffig (1969) and Rix (1984, 2004) who have not proposed specific genealogical relationships for Etruscan (other than Raetic and Lemnian, in the case of Rix).

Starostin (2001: 78) listed a number of key grammatical features which he reconstructed for PND. Some details of Starostin's reconstructions of these features can be questioned, but if the set of forms he gives are not entirely beyond reproach as regards reconstructing a complete paradigm, they are all individually at least more or less typical of those to be found in the Nakh-Daghestanian languages. In a number of these we can see a similarity between Etruscan and his version of PND (or Proto-East-Caucasian, as he preferred to call it):

i)   */(zero)/   nominative and ergative cases

It is unremarkable that the nominative should be unmarked, so this fact has no diagnostic value. In contemporary ND languages the ergative is usually marked, sometimes by a reflex of **s*, which Starostin reconstructs as having been an ablative or instrumental originally. This will be discussed below.

ii)   **-n*   genitive case

There are two forms of the genitive used during Etruscan's attested history, *-s* and *-l*, discussed below. As shown in Pfiffig (1969: 80-81), there are traces of an earlier genitive ending in *-Vn*, e.g. *thesnin vakl* "morning ritual" or "service to Thesan", also in *laut(u)n* and *pui(i)an*, genitive forms of *laut(u)* "family" and *puia* "wife". The ancient Etruscan genitive is related to the standard adjective ending *-na* in attested Etruscan and in the use of *-na*, *-ne* and *-ni* in gentilicia in Etruscan and *-nu* and *-na* in Raetic.

The PN genitive can be reconstructed as *n*, or *an* if the root does not end in a vowel. Desheriev (2006: 520) and Alekseev (2003: 107) reconstruct the PN genitive as *in*. In modern Chechen and Batsbi the *(V)n* is lenited to a nasal vowel, and in Ingush it is deleted completely. In the Lezgian languages *n* is universally used as a genitive ending, even in the more divergent members of this group.

In Avar and Lak there is *-l*, in Dargwa *-la*, and in Proto-Andian *-L:* for the genitive. In some Tsezian languages there is a more complete agreement with attested Etruscan in the use of two possible allomorphic case endings in the genitive, one ending in *-s* and the second in *-la*, whose use in Tsezian relates to the definiteness/indefiniteness of the attribute.

iii)   *-L*   dative case, and
iv)   *-se*   ablative/instrumental case

Alternative forms with a sibilant or a lateral are yet again to be found in the Antsukh dialect of Avar, where forms in *-s:-* or *-L:-* are used in the dative. In another echo of Etruscan, here *-s:-* appears to be used for masculine forms, and *-L:-* for feminine, according to the example in Alekseev (2003: 112): *vats:as:e/vats:as:ije* "to the brother", *jats:aL:e/jats:aL:ije* "to the sister". These two forms are therefore perhaps best considered together.

In Etruscan, the two different forms *-s-* and *-l-* were used variously depending on the natural gender (particularly in proper names), *-s* for masculine and *-l* for feminine, and/or according to the phonological form of the noun concerned. It These two forms are very likely to correspond to a previous functional difference between them (gender features are a late development in Etruscan, probably due to Italic influence). In Rix's analysis (e.g. in 2004: 952-3) there is the "genitive I" in *-s* and the "genitive II" in *-ls*, but also an "ablative I" in *-is* and "pertinentive I" in *-(V)si* and "pertinentive II" in *-(a)le*. There are occasional pairs in Etruscan where both *-s* and *-l* are used with the same noun in the genitive and Rix (2004: 951) suggests that a merging of the genitive and the ablative may ultimately be responsible. In his view the allomorphy cannot have a phonological cause and also does not argue against a basis of general agglutinative morphology in Etruscan. Others see *-si/-ale* as a dative (Bonfante and Bonfante 2003:82-85, Cristofani 1991: 63). Clearly *-s* and *-l* are intertwined not only in purely genitive contexts. Pfiffig (1969: 75-92) sees the *-i* in *-si* and other endings as an indication of definiteness, and Steinbauer (1999: 70) sees *-si* as a locative.

Pallottino (1984: 472) sees *-si* as having multiple functions, perhaps "genitive" or "dative", but also ergative or agentive in archaic inscriptions like *mi mulu kaviiesi* (ET AT 3.1, from the 7th century BCE), "I am an offering by Kaviie", or "Kaviie offered me". There are a number of other 7th and 6th century BCE inscriptions which similarly appear to have an ergatively aligned syntax, e.g. the 6th century BCE inscription ET Cr 3.20 / TLE 868 *mi aranth ramuthasi vestirikinala muluvanike* (Rix "corrects" the *mi* to read *mini* here), and ET Cr 3.13 / TLE 866 *mi mulu likineSi velxainaSi*, and so on. Such constructions are also to be found in Raetic, e.g. RI BZ-4 *paniun vaSanuale upiku perunies sxaispala* and RI NO-3 *pheluriesi phelvinuale uphiku*. Lemnian also has *-s-* and *-l-* forms in adjacent nouns.

The *-s* "nominative of respect" is sometimes used for deities in Etruscan in later inscriptions when they are clearly the subject of the sentence. Both of these phenomena may be related to the usage for the *-s* ergative ending in Nakh which tends to be used for personal names and kinship terms for example in *da:*, *da:s* "father", *ba:ba*, *ba:bas* "grandmother" etc. Other types of nouns in Nakh have other endings for the ergative. Another echo of the Nakh-Daghestanian languages to be found in Etruscan is the occasional syntactic use of the genitive to express the complement of a copula e.g. ET Vs 2.40 (TLE 213) *turis mi une ame* "I am a gift to you" (*pace* Rix 2004: 956).

An unusual feature of Etruscan is morphological redetermination, the use of multiple case endings where the first ending redetermines the part of speech, e.g. *Uni-al-s*, literally "of of Juno", i.e. "of (the temple) of Juno", *Uni-al-thi* "to/in (the temple) of Juno" etc. In Etruscan too there is derivative and verbal morphology which is based on or similar to case morphology, e.g. *than-asa* "act-or". This is all reminiscent of some Nakh-Daghestanian languages where rich systems of spatial cases are built up from multiple affixes, e.g. as in Lezgi:

hül   "sea"   (absolutive case)
hül-i   "sea"   (ergative case)
hül-i-k   "under the sea"   (subessive case)
hül-i-k-aj   "from under the sea"   (subelative case)
hül-i-k-di   "(to) under the sea"   (subdirective case) etc. (after Haspelmath 1993: 4)

The last affix here is also used in Lezgi as a substantiviser, e.g. ***ts.iji*** "new", ***ts.iji-di*** "new one".

The use of embedded affixes in certain phraseological contexts may be the origin of noun extension themes, which Nakh-Daghestanian is very rich in and which perhaps also exist in Etruscan (see the discussion on ***s(e)v-er-*** below).

A feature resembling Etruscan's morphological redetermination involving /l/ and /s/ can also be found in the IE Anatolian language Lydian where adjectives are derived from nouns by the suffix ***-li-***, e.g. ***maneS*** "Manes (anthroponym)", ***manelis*** "pertaining to Manes" (see Gusmani 1964: 36). This is the common gender form; the neuter ends in ***-d***, not ***-s***. This may be one of a number of potential Sprachbund features which are shared by Lydian and Etruscan, but it does not involve ***s/l*** allomorphy (the ***-s*** is nominative in Lydian), and clearly does not have the same origin as the ***s/l*** allomorphy shared by Etruscan and Nakh-Daghestanian.

The endings ***-S*** and ***-Se*** can also be found in Hurrian and Urartian respectively for the ergative case.

v)   ****-di***   locative case

Here again there appears to be agreement between Etruscan and Nakh-Daghestanian. Etruscan has ***-th(i)*** or ***-ti***. The /i/ in ***-th(i)*** is predominantly archaic, with apocope in later Etruscan giving ***-th***. Facchetti (2002: 38) suggests that ***-ti*** may be related to the postposition ***-te*** "in" rather than to ***-thi***. Nakh may have an exact parallel to this, with the locative case in ***-xi*** (see item No. 11) and a postposition ***t.e*** "on". Similar endings can be found throughout the Nakh-Daghestanian languages, for example ***-di*** in the Lezgian languages. Hurrian has ***-ta/-da*** for its directive and Urartian has ***-di***. However, it has to be said that, as with the use of a nasal for the genitive above, the use of a dental as the indicator for locative and related cases is so common among the languages of the world that this fact has little diagnostic value on its own.

vi)   ****-r***   plural number

The Etruscan animate plural is ***-r***. There are a number of endings associated with the plural in ND, but ****-r*** and its reflexes is one of the commonest and most regular endings. Nakh and HU have ***-S*** instead, but an intervocalic shift from a sibilant to /r/ is extremely common, although there is no regular correspondence between Nakh /S/ and Daghestanian /r/ in other contexts. The ***-ar*** plural theme to be found in Nakh ***veZ-ar-i:/jiZ-ar-i:*** (see IVc below) may be derived from the standard plural ***-aS***. Yet again, an ***-r*** plural is hardly unusual, however.

vii)   ****ma***   prohibition

The use of a prohibitive particle similar to ****ma*** is widespread throughout the Nakh-Daghestanian languages and also occurs in Hurro-Urartian, but the prohibitive in Etruscan is ***ei*** or ***ein***, cognate with the negative ***-u(w)-/-wa-*** in Hurrian and ***ui/ue*** in Urartian. However, the subtractive suffix ***-em*** in Etruscan may be related to ****ma***.

viii)   ****w, *j***   3rd person subject/object markers

The CMs used in most ND languages include in many cases a masculine CM in ****w*** or similar and a feminine CM in ****j***. Here Starostin is trying to associate this feature with the polypersonal verb-marking feature of the West Caucasian languages (which has no analogue in ND) by referring to them as subject/object markers rather than as class markers. But whatever their original nature, nothing like class marking (let alone polypersonalism) appears to exist in Etruscan, and this important omission might militate against the idea that there is a shared grammatical paradigm between Etruscan and PND. This problem will be discussed further in part VI.

ix)   ****-r, *-n***   participle and gerund suffixes

The Chechen present participle attributive form adds ***-n-*** to the present tense ending (***-u/-a***), and the substantivised form adds ***-rg*** (possibly ***-r-g*** from the verbal noun ***-r*** followed by a substantivising diminutive?). The Ingush endings are the same except that the ***-n-*** has become deleted in a regular phonological development. Batsbi participles use ***-ni*** in the present and future, and ***-no*** in the past. Batsbi has no equivalent of the Veinakh substantivised participles in common use, but it does have a verbal noun in ***-r***. Desheriev suggests (2006: 522) that Batsbi previously also had these ***-rg*** forms and that this can be seen in some fossilised expressions. The past participle endings in Chechen are ***-na*** and ***-na-r-g*** for the attributive and substantivised respectively. Apart from the endings for the present tense in

Nakh **-u** (mostly for transitives), and **-a** (mostly intransitives), both reconstructed for PN as ***-i** by Nichols and ***-o** by Desheriev, most of the rest of Nakh verbal morphology (represented in the examples here by Chechen), and not just that for participles, also involves **-n-** and **-r-**:

Recent past tense:	**-in**
Witnessed past tense:	**-ira**
Inferential past tense:	**-(i)na**
Remote past tense:	**-(i)niera**
Imperfect tense:	**-ura**, **-ara**
Future tense:	**-ur**, **-ar**
Masdar:	**-ar**
Infinitive:	**-an**

Similar morphology is to be found in many Daghestanian languages. Often participles and gerunds also play a role in the formation of the finite tense forms as for example in Avar:

=atS.:-ine	"arrival"	(masdar)
=atS.:-in	"to arrive"	(infinitive)
=atS.:-una	"arrive"	(present)
=atS.:-ana	"arrived"	(past)
=atS.:-ina	"will arrive"	(future)
=atS.:-un	"having arrived"	(past gerund)
=atS.:-une=	"arriving"	(present gerund)
=atS.:-ara=	"arrived"	(past participle) (after Alekseev and Ataev, 1997: 62-63)

The = symbol denotes an added CM. In some verbs in Avar the **-n-** becomes **-l-** or **-z-** in some phonological contexts. For both Hurrian and Urartian also, **-r** and **-n** are among the most significant of the stem modifiers in verbal morphology.

The verb endings in Etruscan which are almost universally acknowledged are **-ke** for the active past tense and **-xe** for the passive past tense. However, this morphology is extremely recent and applies only to Etruscan. Only **-ke** (usually in the form of **-ku**) and not **-xe** is to be found in Raetic, and in Lemnian neither are to be found. Instead, Lemnian appears to have a strong past tense **-ai** (strong in the sense that it might have contributed to a verbal vowel change, arguably present in attested Etruscan as argued below). If the Pre-Etruscan verb used to be like the Nakh verb, then it had many vowel change patterns. Because the **-ke/-xe** morphology is a late innovation in Etruscan, it may be a simplification due to language contact. The ending **-ke** may have been a postposition meaning "before", as found in Urartian. However, such a development could have been made easier by a possible feature in Pre-Etruscan of the use of converbs, like the anterior converb **-(i)tSa** in Nakh.

Etruscan verbal morphology is less well understood than noun morphology, and conclusions less unanimously agreed. The main verbal morphology generally agreed upon by all mainstream commentators is that of the past active **-ke** and past passive **-xe**. Many instances of Etruscan verbal morphology using **-n-** and **-r-** do exist, but the problem is exactly how to interpret these affixes. Pfiffig (1969: 135-136) lists a number of examples in **-n-** with his own interpretation: an essive verb **-nu-** as in **zilax-nu-** "to be praetor", **zilax-nu-ke** "was praetor"; a thematic **-n-** indicating a mediopassive as in **thez-** "to sacrifice", **thez-i-n** "is sacrificed", **thez-i-ne** "for sacrificing", **thez-i-n-ke** "was sacrificed"; a factitive, or what Rix calls the "denominative" in his description of the Etruscan verb (2004: 957), **ker-i-xu** "to cause to be made", **keri-xu-n-ke** "he caused to be made". Pfiffig also suggests a durative present participle in **-an** and sometimes **-en**, e.g. **mulu-an/mulu-en** "dedicating", and a bound **-n-** apparent in the derivation **ac-** "to make", **ac-n-** "to beget" (1969: 138, 136). There also exists an ending **-un** which Pfiffig interprets as a first person weak preterite, but there is no evidence that marking for person is used in the Etruscan verb at all, so there must be a question mark over this interpretation. Other Etruscan cognates for Starostin's reconstructed PND verbal morphology might include the past masdar **-inu**, and what is clearly another factitive **akil-une** "gets done".

Among verbal morphology in **-r-,** the Etruscan necessitative **-eri** (< archaic Etruscan **-iri**) is also generally accepted by most scholars. Pfiffig also argues for an **-ar-** of indeterminate function which can be seen in the archaic past form **ak-ar-ai** "did, made", and a durative **-(a)ir** to be found in words like **luk-a-ir-ke** "ruled". One might also add **-ar**, a possible verbal noun suffix to be found in **nun-ar** "offering".

It can be seen that in most cases, the PND forms proposed by Starostin show fairly regular correspondences between Etruscan and Nakh-Daghestanian, and in some cases also with Hurro-Urartian. Because of the shortness of the comparanda, and the fact that they are one-dimensional comparisons because of the agglutinative structure of both Etruscan and the Nakh-Daghestanian languages, and the difficulty of securing a definitive and universally agreed interpretation of Etruscan grammar, these grammatical correspondences do not in themselves constitute a definitive proof of genealogical relationship, unlike the congruence of numerical morphology. Yet they do demonstrate that most of Etruscan's basic grammar is compatible with that of Nakh-Daghestanian, and they are at least as similar as might be found if comparing any two different branches of any other phylum, and the shared allomorphy of *s/l* in the Etruscan and Nakh-Daghestanian declensional paradigms is also distinctly interesting. But to find further evidence of an individual-identifying nature we have to look to shared irregularities between Etruscan and Nakh.

IV. Inherited irregularities

a) The -n- theme in oblique cases of *thu*

Oblique forms of Etruscan *thu*, unlike the other numerals in Etruscan, use an inserted *-n-* in some derived forms and with oblique cases, e.g. *thu-n-s* "one (gen.)", *thu-n-em* "less one" (as in *thunem zathrum* "nineteen", literally "twenty less one"). Use of an inserted *-n-* with forms of "one" is also common in the Nakh-Daghestanian languages, although in some languages "one" is not the only numeral to exhibit this phenomenon. In Chechen *ts?`ana* is the oblique form for all cases of *ts?`a* "one". The Etruscan and many Nakh-Daghestanian words for "together" are also derived from "one" by adding an *-n*:

Etruscan	Chechen
3. *thn* "together"	*ts?`an* "together"
4. *thu* "one"	*ts?`a* "one"

However, an association between the meanings of "one" and "together" is not unknown in other languages of the world (cf. Hindi/Urdu *ek sath* "together", literally "one with"), and the use of *-n-* in derivational or grammatical morphology is not on its own strongly diagnostic.

b) /a/ > /e/ ablaut in specific cognate nouns

The Etruscan noun *klan* "son" demonstrates an unusual vowel change in the genitive/dative *klens/klensi* and in the plural *klenar-*. This anomaly is paralleled by a strikingly similar phenomenon in the Veinakh languages Chechen and Ingush. The noun *k.ant* "son, boy" behaves in exactly the same way: genitive singular *k.entan* and in the plural, *k.ent-* plus case ending. The endless ablauted form *klen* is also to be found in the set phrase *klen kexa* where it is followed by a postposition which means "on behalf of" or "because of".

In Batsbi, the reflex of the Chechen/Ingush *k.ant* is *k.nat*, but the declension of Batsbi *k.nat* does not show ablaut, e.g. genitive *k.naten*, and the lack of this may be a recent innovation due to partial simplification of Batsbi's formal grammar because of intense language contact. Similar language contact may be responsible for the restriction in the examples of ablaut in nouns in historically attested Etruscan to a very few common words such as *klan*. Alternatively, we may be dealing with a PN *k.anat* and the loss of different segments in the different Nakh daughters.

A derived word *klanti/klante* exists in Etruscan with the related meaning "adoptive son", as originally argued in Rix (1958). The derivation of this word illustrates how pre-Etruscan probably had a final *-t* on *klan*, rather than looking like *klania*, the reconstruction proposed by Rix. An affix *-ni* can be seen amongst others in e.g. *lautni* (< *lautV-ni*) "freed slave" (< *"person of a family"), and in *prumath* "grandson" (or similar) / *prumathni* "adoptive grandson" (?). Thus pre-Etruscan *klant-ni* ("person in the role of a son") developed into *klanti* while the root form *klant* underwent simplification of the final cluster to become *klan*. The final *-t* is also dropped in Ingush in the alloform *k.ank* which is derived from a diminutive *k.ant-ig*. The Etruscan affix *-ni* may be related to the Hurro-Urartian definite article/genitive ending *-ni*. *Klante/klante* does not exhibit ablaut in the genitive in Etruscan, which is an indication that the derived formation meaning "adoptive son" is not a particularly ancient form.

There are also what appear to be reflexes of *k.ant* in some Western Daghestanian languages: *kwint.a* in Chamalal and Tinda, meaning "male", and *kunt.a* in the other Andian languages meaning "male" or "husband", where the glottalisation has been shifted to the second syllable, probably because it is more difficult to glottalise two consonants in the same word.

Rix (1989: 187-192) argues that palatalisation lies behind the vowel change in *klan* and in two other words he mentions in Etruscan which may show ablaut: *sval > sveleri* and *tham > themiasa*. In the absence of any other evidence that hypothetical palatalised consonants exist, the argument seems rather circular. Certainly *tham*, like *klan*, has an East Caucasian etymology which may explain its behaviour better. Although *t.a:m* has the standard plural *-aS*, it has *e* in the genitive singular (*t.eman*) and in all cases in the plural: (*t.emaS-*). Other examples of /a/ > /e/ ablaut can be seen in Etruscan *kar* and *zaru*. Again, these have cognates in Nakh: *kara* "in the hands", but probably from a no longer used noun *kar* "hand", is related to *ke:rajuq* "palm of the hand" (*juq* = "middle"), which allows us to conclude that when *kar* was in use, it showed ablaut; and the Nakh cognate of Etruscan *zaru*, Chechen verb infinitive *sardan*, has a present tense of *serda*. The present participle of Etruscan *sval* is given by some

authorities as **svalasi** when one would expect ***svelasi*** by analogy with **tham** > **themiasa**, but this is not attested anywhere, unlike **sveleri**, or rather **sveleri-c** (3 attestations, all in the Liber Linteus). D'Aversa (1994: 47, 48) lists **sveleri** in two separate entries, meaning both "to be alive" (p. 47) and as "hearths" (p. 48). Whatever the explanation for various words beginning **sval-** and **svel-**, it is clear that ablaut occurs in Etruscan in contexts similar to those in Nakh, and often in cognates of those words which demonstrate the phenomenon in Nakh. Another instance of ablaut in the Etruscan verb **ar-/er-** "to make, to erect" has long been recognised, although not mentioned by Rix, and is not able to be explained by Rix's theory of palatalisation. This too has a possible Nakh cognate in Chechen **a:rdan** "to make, to produce" (witnessed past tense **Erdira**). This has probably become confused with **dan** or **=an** "to do" in modern Nakh.

c) The non-standard *-ii* plural

Chechen/Ingush ablaut of */a/* > */e/* both in the genitive and in the plural is more widespread than its congener in Etruscan. Nevertheless it is restricted to a small closed set of monosyllabic nouns with */-a-/* in the stem and having the non-standard nominative plural ending **-i:** (as opposed to the usual **-aS**). Another set of nouns in the Veinakh languages has ablaut **a >** e only in the plural. Unusually, an **-ii-** can be seen inserted into **klan** before the standard animate plural ending in the archaic Etruscan **kliniiar-**. It seems that the **-ii-** in **kliniiar-** may be ancient and not discoverably phonologically conditioned (i.e. ablaut, not umlaut), and the additional **-ar** an innovation which occurred as a levelling analogy in pre-Etruscan. A very similar development probably happened in Nakh, where in Chechen the standard plural ending **-aS** is used as a theme for some of the case endings in the plural of **k.ant**, while retaining the ablaut in the root part.

The unusual Nakh plural **-i:** can also be seen in Chechen **vaSa**, plural **veZari:** and its feminine equivalent **jiSa**, plural **jiZari:** (cf. the Etruscan alternative attested plural of its cognate **huSu**, **huSiur**, with the non-standard **-i-,** as opposed to the more normal late Etruscan **huSur**). According to Bonfante and Bonfante (2002: 126), the form **huSiur** is likely to be older as the inscriptions containing it (ET Pe 5.1/TLE 566 and ET Pe 0.4) are from Perugia, in a peripheral and therefore more conservative area. The inserted **-i-** in the plural is only to be found in Etruscan in **kliniiar** and **huSiur** : no other nouns are found with this feature in Etruscan. In this case, because these two nouns constitute a closed class in Etruscan, and their cognates belong to a closed class in Nakh, the likelihood of this evidence of occurring by chance can be calculated and the congruence of the irregularities listed here again constitutes evidence of an individual-identifying nature [17].

V. Other core vocabulary

There are several key core vocabulary items for Etruscan which have not been included in the lexical data above. Their absence does not invalidate the proof of relatedness, as genealogical inheritance is not determined by lexical correspondences. In extreme cases the lexical material can be largely or wholly replaced from one or a number of sources and yet the structure of the language still can be inherited from some other source. In less extreme cases, such as English, large proportions of the lexicon are borrowed from Latin and French, but without this affecting English's status as a Germanic language. Although there are a large number of cultural and other borrowings in Etruscan from Greek (e.g. *fruntak "(thunder and lightning) augurer" from Greek bronte: "thunder"), the Italic languages (e.g kletram "trolley (for offerings)" from Umbrian kletra), the Indo-European Anatolian languages (e.g. spanti "dish" from Hittite ispantuzzi), Hattic (e.g. zilath "praetor" from Hattic zilat "throne"), and Punic (e.g. Sar "ten" from Punic ?asr), a large proportion of the known and understood vocabulary of Etruscan is of native etymology, and a reasonable percentage of this does appear in the correspondences above, bearing in mind the relative distance of the relationship.

However, it has been suggested that certain items of vocabulary are more resistant to borrowing than others, and thus are more indicative of genealogical affinity. This assumption is mistaken, particularly as regards personal pronouns, as shown in Nichols (1996: 54-56). Nevertheless, it is worth looking at the major omissions among the clear correspondences between Etruscan and Nakh-Daghestanian as shown so far.

a) The personal pronoun *mi/mini* "I/me".

The pronouns *mi* and *mini* are often proposed as evidence of a relationship between Etruscan and Indo-European. However, the Etruscan forms *mipi* and *minpi* or *minipi*, which are part of the same paradigm are rarely mentioned or explained in such proposals, because no such paradigm exists in Indo-European. An explanation for them is available by looking at a similar postposition to the Etruscan *-pi*, meaning "under" in Urartian, and which comes in two forms, *-pei/-pe* (indefinite) and *-nepei/-nepe* (definite). Although the meaning has become more general in Etruscan, the form of the correspondence is suspiciously paradigmatic.

The *-ne-* in Urartian is the Hurrian and Urartian *-ni* used as a definite article and as a genitive. The Urartian *-pei* may be reflex of the Hurrian *pahi* meaning "head". In situations of language contact, the use of nouns as sources for adpositions is common, and it is also easy to see how a root meaning "head" could acquire the meaning "under" rather than "on top". A further parallel is to be found in the Etruscan postposition *pen*, which retained the meaning "under", which can be compared with the Urartian *-peine/-pene*, used as a sublative-ablative ending in the indeterminate declension (determinate *-nepeine/-nepene*).

The ending *-ni* in *mini* which is claimed by some to be associated with the accusative *-m* in PIE, is better understood in Etruscan as a definite accusative, or as a definite which happens to be used mostly with syntactic accusatives, rather than simply an accusative in the IE model, as explained by Pfiffig (1958), who also points to Urartian as a parallel.

The Etruscan *mipi/minpi/minipi* is mostly to be found in inscriptions containing *… ei mi(n(i))pi kapi …*, or similar, meaning "… don't touch me …", as in e.g. ET Cm 2.46/TLE 13: *kupes fulusla thevruknas mi ei minpi kapi mi nunar*, "I am of the vessel of Fulu Thevrucna; do not touch me; I am an offering". Here *kapi* requires the *-pi* form of the pronoun. This is reminiscent of Lezgi, where the verb *kEGun* "to touch" similarly requires the subessive case for its object. Note also the correspondence here between Etruscan *ei* "don't" (<*ai* ?) and Urartian *ui* "don't" (Etruscan *a* or *au* = PHU *u* medially). Again we see in Etruscan the genitive being used with complements of copulative sentences as in ND.

The ending *-pi* can also be found in Etruscan in the word *spurepi*, in the tomb inscriptions ET Vs 1.299 and ET Vs 8.1 *eknate vipies thui + spurepi* "Eknate Vipies here; up to / towards / under / for the city". The two inscriptions are from the same tomb and belong together as shown in Tamburini (1986). The reading *spurepi* is taken from Rix and Meiser (1990). Tamburini reads this word as *spurepu*. As an independent word, *pi* is also found in the inscription ET Ve 3.34/TLE 45: *mi th[……….]niies: aritimi pi turan pi nuna[r]* "I am Th……'s: offering for Artemis (and) for Turan (Venus)".

Although Etruscan *mi* "I" and the oblique form *mini* are often used as a major piece of supposed evidence alleging a relationship with Indo-European, they could equally have been used try to suggest a relationship with Uralic, or

Kartvelian, or Altaic instead, because there are forms which resemble them in all three of these other language families too. Predictably, *mi/mini* has also recently been used to allege a relationship between Etruscan and the Niger-Congo languages, which also have similar first person forms (Campbell-Dunn, no date). The Indo-European nominative form has been reconstructed as **eghom*, and the Indo-Anatolian languages have something like the Hittite *ammuk*, so any "Peri-Indo-European" theory would have account for Etruscan not resembling these. Pronouns can be borrowed too, of course, despite what is often claimed by the proponents of macro-comparison, and it would be foolish to deny that the effects of contact with IE could be a possible factor in the adoption of *mi* in Etruscan. Of the East Caucasian languages only Urartian has a first person pronoun like the Etruscan *mi*, in its oblique enclitic *-me*. While some may see this particular form as evidence of Urartian borrowing from, or even having a relationship with IE (as proposed by Dzhaukjan 1963: 108), the behaviour of personal and demonstrative pronouns in the Daghestanian language Udi might support the idea that both Urartian *-me* and Etruscan *mi* are native to East Caucasian.

As explained by Schulze(-Fürhoff) (1994), we can see in the history of Udi that it has a set of demonstrative pronouns which originally mirrored the perspective of the personal pronouns, including *me* "this (near me)", which has reflexes in most other Nakh-Daghestanian languages. This is further discussed in Schulze (2003). Modern usage of *me* in Udi has become confused with the third person pronouns or attributes or demonstratives *t.e* and *Se*. This system may have been more complex in the past, and the decision about which pronoun to use is and was idiosyncratic. It is easy to see how such a system, which according to Alekseev (2001) and Schulze represents the historical arrangement within Nakh-Daghestanian, could lead to a reflex of *me* being used as a personal pronoun, or perhaps even provide an explanation for the "speaking vessel" phenomenon where "this" and "I" appear to be confused. A further interesting feature in the conservative Wartashen dialect of Udi is that the absolutive case of *me* and the other demonstratives use a deictic particle *-n-* (like the *-ni* in Hurro-Urartian) as their theme, as in *me-n-o*, which parallels the *-ni-* in *mini* and *minipi*. Shevoroshkin and Manaster Ramer (1991), discussing proposals by V.V. Ivanov relating Etruscan to both the Nakh-Daghestanian and the North West Caucasian languages, mention that in one of his papers Ivanov glosses Etruscan *mi* as "this". This is wishful thinking. Virtual bilinguals in Venetic and Faliscan with almost identical contexts to many Etruscan inscriptions involving *mi* clearly show that Etruscan *mi* means "I/me".

However, the other known Etruscan personal pronouns, *un* "you", *an* "he, she", and *in* "it", do not support a relationship with Indo-European, but with Hurro-Urartian and Nakh-Daghestanian.

b) Family relationship and related words: *sex, puia, ruva, neft, ati, apa, *axalethur*

There is no immediately obvious Nakh cognate for Etruscan *sex* "daughter". However, often an initial consonant in an inherited PND word is substituted in the daughter languages by a CM whatever the nature of the initial consonant was (see Nichols 2003: 210), and not just if it was */h/* as suggested by item 13, Etruscan *huS(u)* "child, boy" : Nakh *v-aSa/j-iSa* "brother, sister", and also by items 17 and 47 in the phonological correspondences above. In the same way Etruscan *sex* may also be related to Chechen *v-o3, j-o3* "boy", "girl". The PN for this word can be reconstructed as **=oh* and this might be regularly cognate with a putative Etruscan **Cex*. However, such a lexical correspondence must be considered speculative, because if the initial consonant for this root was not originally */h/*, we cannot know what it was. The correspondences between laterals in ND and Etruscan are not quite clear, and this probably applies to HU too. This might bring Hurrian *Sala* and Urartian *s@la:* into the equation as possible cognates. Alternatively, there may be a connection with Chechen *stie* (Ingush *sie*) "female".

Etruscan *puia* "wife" has long been linked with the Greek *opuio* "to marry (of a man)". There are no obvious IE cognates for the Greek word, but *opuio* may in turn be from a corruption of Greek *potnia* "mistress", which does have an IE pedigree, and thus if the two are linked, then *puia* is a borrowing from the Greek. On the other hand, the Etruscan word may have nothing to do with one or other or both of the Greek words. Interestingly, one of the leading Urartian goddesses was *Tush-puea*, wife of the sun-god *Shivini*, and there are a number of proper names beginning with *tush-* in Urartian culture, e.g. the king *Tush-ratta*, and the capital city *Tush-pa*, and the word *tush* is still used in an ethnic sense in the Caucasus today, so segmenting the word as *Tush-puea* is legitimate. It is possible that the Etruscan *puia* may be related to the Urartian *puea*, although the latter word is not attested outside of an onomastic context. It is possible that there is also a link to a ND root for wife, e.g. the Lezgi *pab* (oblique stem *papa*), which might relate regularly to something like **puwu* in Nakh or HU. However, this root is not to be found in the other ND languages.

24

Etruscan *ruva* "brother" does not appear to have any obvious cognates in the ND languages because of the widespread use of reflexes of Etruscan *huS(u)* with a masculine CM for this meaning. However, the previous root may survive in the Lezgi word *ruxwa-jar* "sons". This is a suppletive plural for the singular *xwa*.

The inscription *mi ruas* on the Roccia delle Spade at Piancogno, near Brescia in northern Italy, has been suggested as evidence of a relationship between the language of the Camunic inscriptions (which include those at Piancogno) and the Etruscan language because of the similarity of *rua-* to the Etruscan word *ruva*. Another inscription at nearby Bedolina has *pueia* (see Zavaroni 2001). It is not clear whether the word or words in the Roccia delle Spade inscription should be divided as shown, or whether a nearby >h< is not part of the word. The Camunic inscriptions (those that appear to be in a writing system at all) are all extremely short, and it is by no means certain that these inscriptions are all even in the same language or from the same period. We have no idea what any of the inscriptions mean, and therefore any suggestion that Camunic is related to Etruscan is highly premature.

Etruscan *neft* and Lemnian *naphoth* have long been linked by Etruscologists to the PIE root **nepo:t* and its reflexes in its daughter languages meaning "nephew" or "grandson". It is not certain which of these two meanings the Etruscan word has, but it certainly refers to some sort of family relationship. With the Lemnian word we can be less sure of the meaning. Linking these Etruscan and Lemnian words with the PIE word is an almost compulsory part of any proposal suggesting a remote relationship between Etruscan and IE. This is perhaps inspired by macro-comparatist Merritt Ruhlen's justification for expecting cognates to look similar in supposedly related languages belonging to hypothetical deep macro-families (1994: 270), where he points to modern Romanian *nepot* having managed to survive around 6000 years from PIE almost unchanged. However, here they are clearly borrowings (if the Lemnian word has anything to do with *neft* at all). Etruscan *ati* "mother" and *apa* "father" have also been suggested as possibly related to IE words, as in Perrotin (1999: 50-53), and arguably one could do the same with Nakh-Daghestanian. However, "mother" and "father" are particularly unsuitable for use as evidence of a genealogical relationship because their universal tendency for sound symbolism.

There is, however, a plausible Nakh-Daghestanian etymology for the Etruscan word **axalethur* or **akalethur* "children". This word is reconstructed from the ancient Greek gloss TLE 802 *agale:tora = paida*, which should be considered a plural rather than the singular that it is glossed as, and it should be segmented as **ax/kale-th-ur* with **ax/kale* meaning "youth", and **ax/kale-th-ur* "those who are in their youth". This needs to be considered together with the Latin gloss TLE 801 *Aclus Tuscorum lingua Iunius mensis dicitur*, which corresponds to the attested Etruscan word *akale* "June". A metaphorical (or accidental) relationship of youth and summer is not unique to Etruscan and (hence?) its neighbour Latin. It is also present in Nakh-Daghestanian, where we have the Ingush *axka* "summer" and similar words in Chechen and Batsbi, and words for "child" or "youth" in a number of Daghestanian languages such as Lezgi *ajal*, Budukh *ajel*, Khinalug *h?`EjEl* etc.

c) Demonstrative pronouns: *eka, eta* "this, that"

It has been suggested that the Etruscan deictics like *eka*, *eta* (also *ka*, *ta* in later Etruscan, *ika/ita* in archaic Etruscan) are related to similar deictics with velars and dentals which have been reconstructed for PIE. Unlike almost all individual languages descended from PIE, a number of ND languages have deictics with velars and deictics with dentals in the same language, and could have been listed as part of the correspondences above without much difficulty. Proponents of a relationship with IE also point to the definite accusative forms *ek(a)n*, *et(a)n*, *kn*, *tn* but the existence of forms such as *etanal* and *knl* in other cases shows *-n-* being used as a theme extension and that forms that appear to be simple accusatives are not so simple at all.

In any event, forms involving *-k-* and *-t-* are so common as deictics in the languages of the world that to list these as part of a claim of genealogical relationship would have little or no diagnostic value.

d) Other core vocabulary: *lupu* "die", *avil* "year", *ais* "god"

While some of these are not particularly key items of vocabulary in any universal sense, all of these are very much key as far as Etruscan is concerned, being among their most attested words, and among those whose meaning is most unassailable. The absence of *lupu* may be that it is an innovation due to taboo just like *manim arke*, a known avoidance expression for "died", literally "made *manim*" (became a spirit?).

Avil may be related to the Hurrian *Sawala* and Urartian *Sa:l@*. Here we see the loss of a mobile sibilant that may also be the case in Etruscan *Tages* : Chechen *(s)tag*. The Nakh and Daghestanian words for "year", such as Chechen *So*, may be cognate with the HU but have perhaps deleted a different segment.

It is possible that a mobile */s/* has been deleted in the Etruscan word for "fire". This word is to be found in the only Etruscan phrase (as opposed to single word) which is glossed by an ancient author, TLE 812: *Arseverse averte ignem significat. Tuscorum enim lingua arse averte, verse ignem constat appelari*. This would imply **arse* "avoid" and **verse* "fire". There is no guarantee that the phrase has been segmented correctly by the ancient author. In ET Cr 4.4 *aknasverS* is to be found, meaning "offering fire". This might suggest that TLE 812 should be segmented as something like **ar severeS*. On the other hand, Pfiffig argues for *-se* as one of the imperative endings for the Etruscan verb. *Sveleri* "hearths", mentioned above, may be the plural of the word for "fire" but with a thematic extension of *-r-* in the singular being changed to *-l-* in the plural because of dissimilation. It may be that this extension *-er-*, or similar, which is a feature of the ND words for "fire", for example Chechen *ts.e* ("fire" (absolutive case)"), *ts.eruo* (ergative), *ts.erS* (plural), is also present in Etruscan. The Hurrian *tari* "fire" may be related to the ND words, or alternatively, it may be an ancient borrowing from IE (Ivanov 1999: 158 ff.).

Etruscan *ais* "god" and *aisna* "divine" have often been associated with the Umbrian *esono-* "divine", but if it is borrowed, then the direction of the borrowing is uncertain. Ivanov (1999: 151-153) suggests a relationship of the Etruscan *aisar* "gods" with Hurrian *enZari* ("gods" (collective)), also attested as *einSari*, and ultimately a link with surviving forms in modern West Caucasian languages.

None of these lexical gaps or borrowings are sufficient to cast doubt on the nature of the genealogical relationship between Etruscan and Nakh-Daghestanian which has been suggested by the individual-identifying nature of some of the paradigms and irregularities presented in earlier sections.

VI. A genealogical relationship, borrowing or substrate?

Finally, the possibility that the features that Etruscan has in common with the Nakh-Daghestanian languages are due to borrowing, or substrate or similar influence, or indeed the possibility of Etruscan not being a language transmitted "in the normal way" (and thus not having a genealogical parent at all) both need to be examined. The requirements of the comparative method are clear. Thomason and Kaufman (1988: 8) express these as follows: "[G]iven the possibility of diffused linguistic features of all sorts (and, by implication, to all degrees), no single subsystem is criterial for establishing genetic relationship. In fact, genetic relationship in the traditional sense of one parent per language can only be posited when systematic correspondences can be found in **all** linguistic subsystems – vocabulary, phonology, morphology, and (we would add) syntax as well."

There are two fundamental areas where Etruscan differs from Nakh-Daghestanian languages:

i) Phonology

Even if the writing system of Etruscan does not reveal its true variety, the phonology of Etruscan still appears to be simpler than that of the Nakh languages and especially of the Daghestanian languages. The Nakh languages have around 40 consonant phonemes and around 20 vowels including diphthongs. The Daghestanian languages are even richer in consonants – Avar has 46, Lezgi 54, and Archi 70, but they have a simpler vowel inventory than Nakh. Thus, either Etruscan's historical development has led to simplification of its phonemic inventory, or some process has led Nakh, and especially Daghestanian, to acquire additional consonant phonemes, perhaps as a result of contact with the West Caucasian languages, or perhaps a combination of both processes has occurred. If Hurro-Urartian is related to both Etruscan and Nakh-Daghestanian, it is noteworthy that both Hurrian and Urartian, like Etruscan, have a relatively modest phonemic inventory, although this may again be masked to some extent by the writing systems, which may not have properly recorded the distinctions of manner of articulation, such as the use of a glottalic airstream mechanism and/or tenseness/laxness contrasts, or secondary articulations, such as pharyngealisation, labialisation or palatalisation, which feature in the Nakh-Daghestanian systems.

It is clearly reasonable to suppose that at least some phonological changes of a simplifying nature have taken place in Etruscan's prehistory, and that these changes, at least partially, have an external causation, i.e. language contact, but this need not necessarily question Etruscan's status as a language largely transmitted in the normal way, despite the significant role of language shift of sections of the Etruscan population from an Italic language to Etruscan. It is possible that this language shift may not have been very abrupt or comprehensive, particularly among the rural poor, and the extent of the survival of Italic among (illiterate) sections of the population for some time after the establishment of ethnic Etruscan hegemony in the area may have remained undocumented rather than non-existent. A more gradual language shift from Italic to Etruscan would make normal genealogical transmission within Etruscan less in doubt. Whatever the extent and nature of this significant language shift, Etruscan did not **adopt** an Italic phonology, but instead retained its own phonological peculiarities, albeit in simplified form, and this would point to normal transmission largely continuing uninterrupted. By contrast, the later terminal language shift from Etruscan to Latin was complete, and relatively rapid.

ii) Absence of class marking

The most important key feature of Nakh-Daghestanian grammar which is not shared by Etruscan is class marking, and specialists in ND have traditionally regarded items of vocabulary which show class marking to be among the more ancient members of the ND lexicon. However, we have seen above that at least some instances of class marking show signs of having occurred as innovations. This fact does not necessarily call into question the analysis of class marking in Nakh-Daghestanian in general as being a relatively ancient phenomenon. However, it does underline the fact that class marking, like all grammatical features, can be introduced into languages that did not previously have it. It is completely lacking in Etruscan and its closest relatives and in Hurro-Urartian, and, unlike those Lezgian languages which do not now have class marking, neither Etruscan nor Hurrian/Urartian show signs of ever having had it. It is reasonable, on the basis of the balance of evidence so far, to suppose that Etruscan is more closely related to Nakh-Daghestanian than either of them are to Hurro-Urartian, and that hence the ancestor of Hurro-Urartian was the first to split from the common ancestor of Etruscan, Hurro-Urartian and Nakh-Daghestanian (which we could refer to as Proto-Alarodian for want of a better suggestion), followed by Proto-Tyrrhenian at some point thereafter. Proto-Tyrrhenian and Proto-Hurro-Urartian thus never formed a separate clade of their own. Proto-Alarodian also did not have class marking, and Proto-Nakh-Daghestanian, or all of its daughters, acquired it as an

innovation at some later date, perhaps due to the influence of West Caucasian object markers or Akkadian personal pronouns.

Other typological differences, such as the existence of a weak past tense, discussed above, and the existence of a relative pronoun in Etruscan (Etruscan has a relative pronoun *ipa*, while Nakh-Daghestanian languages implement relative clauses in other ways) are innovations, unlike the absence of class marking which may be an archaism.

Those features which are not shared by Etruscan's proposed relatives are not sufficient to cast doubt on the shared features which are diagnostic of a genealogical linguistic relationship between Etruscan and Nakh-Daghestanian. In ascending order of importance, these are:

i) Cognate key items of vocabulary supported by regular sound correspondences.

ii) Agreement of the majority of key grammatical morphological items, above all the identity of the morphology relating to decade and iterative numerals, and shared allomorphy of sibilants and laterals in the case system, some of which constitute individual-identifying evidence.

iii) Evidence of a number of shared irregularities: shared ablaut patterns, and shared theme extensions in the same specific cognate words, which in some cases also constitutes individual-identifying information.

It is this third type of evidence which is crucial. As Curnow (2001: 422) points out, every language-contact situation comes with a particular social context, and thus with different constraints on borrowing. The borrowing of such features as (iii) is inconceivable except in the context of quite pervasive influence from a prestige language and widespread literacy. Thus, while it is understandable that in modern German the plural of **Tempus** is **Tempora** (for those who use the word), and in modern English, at least for a (sadly, declining) proportion of educated speakers, **phenomenon** is singular and **phenomena** plural, hardly anyone except specialists in Inuit knows that the plural of **anorak** "should really be" **anorat**. Thus Etruscan **huSiur** and **kliniiar** can only be explained by having been inherited "in the normal way" from a common ancestor. Etruscan's affinities with Nakh-Daghestanian are therefore not the result of language contact, or of substrates, adstrates, superstrates or creolisation, but of a genealogical relationship. Furthermore the degree of the relationship is fully consistent with the widely supported historical model (such as proposed in Beekes 2003) which proposes an Anatolian origin for the Etruscans, and its associated chronology, and although there is relatively limited evidence of an individual-identifying nature, we can now regard the genealogical relationship between Etruscan (and its closest relatives Lemnian and Raetic), and the Nakh-Daghestanian language family as having been proved.

Nichols (1996: 48 ff.) sets out the stages of the work of the comparative method which follow the achievement of "(1) Assume genetic relatedness on the strength of diagnostic evidence". These are: "(2) work out sound correspondences and cognate sets, thereby establishing an internal classification for the family; (3) uncover and reconstruct more diagnostic evidence; (4) bring more languages into the family as daughters". Obviously, in the case of Etruscan, there are many tasks which remain to be done in addition to these, including revising and extending our understanding of the grammar and lexicon of the language, and our interpretations of Etruscan texts. We can expect more advances, piece by piece, as we have seen in Etruscology for much of the past 60 years, as new research builds on the findings of previous generations of scholars. This is not so much a breakthrough as a signpost.

Notes

[1]. Following Haspelmath (2004: 222), the term "genealogical" has been used here to refer to linguistic inheritance, as opposed to "genetic", the hitherto more usual term in English, in order to avoid confusion with biological genetics.

[2]. The Nakh-Daghestanian languages are a phylum of about 30 languages spoken by more than 2.5 million people mostly in the North Caucasus and adjacent areas. The best-known members of this family are Chechen, Avar, Lezgi and Ingush. Many of the others are spoken in only a few villages, and some of these may be expected to become extinct this century. The major sub-groupings of Nakh-Daghestanian are Nakh and Daghestanian. Nakh, formerly referred to as North Central Caucasian, consists of Chechen, Ingush and Batsbi, the last of these spoken by only about 500 people, a proportion of the inhabitants of a single village in eastern Georgia. Chechen and Ingush are quite closely related to one another and are together known as the Veinakh languages. Daghestanian is a more diversified grouping comprising the remainder of the languages in the phylum. One extinct Daghestanian language, Aghwan, possibly an ancestor of modern Udi, is known from inscriptions dating from the 5th to the 8th centuries of the CE. The term North East Caucasian, or East Caucasian, was formerly used to refer to the Daghestanian branch, but now is more often used to refer to the phylum as a whole. The existence of a genealogical relationship between these two sub groupings is no longer seriously doubted by specialists. A relationship between Nakh-Daghestanian and the ancient Hurro-Urartian languages of Anatolia has been proposed by Diakonoff (1971), and more fully in Diakonoff and Starostin (1986). This has not met with general acceptance as a proof, although there is widespread sympathy for the hypothesis, and the possibility is discussed in a number of earlier works, e.g. Desheriev (2006 [1963]). Specialists are divided on whether there is a discoverable remoter relationship between Nakh-Daghestanian and the (North-)West Caucasian languages such as Abkhazian and Kabardian, and some have proposed that these two phyla are in turn ultimately related to Sino-Tibetan and Na-Dené. Neither of these possibilities has been explored here, and the latter suggestion is highly speculative. However, Hattic, which may be related to West Caucasian (according to, for example, Chirikba 1996: 406 ff.), was arguably in contact with the ancestor of Etruscan. The Kartvelian languages such as Georgian are not discoverably related to the Nakh-Daghestanian languages, but have been in close contact with them for over 5000 years. The idea of a remote relationship between all three indigenous Caucasian language phyla was at one time a widespread act of faith among Soviet linguists, and has hence been echoed in some amateur proposals of relatedness with Etruscan, but is no longer seriously supported outside Georgia. There have also been claims of a link between Etruscan and Kartvelian by some commentators, including some professional linguists such as Furnée (1993), who also includes Burushaski in his grouping. Furnée proposes a number of isoglosses, which are probably mostly coincidences, but it is possible that his list contains some examples of very ancient Kartvelian loans which could have been adopted into the ancestor of Etruscan (or vice versa) due to prehistoric contacts in eastern Anatolia, e.g. Etruscan *tiu*, *tiur* "moon", "month" (cf. Modern Georgian *tov* "month").

[3]. Bonfante and Bonfante (2002: 226), and Mallory (1989: 89), for example, list the Etruscan numerals side by side with their equivalents from several ancient IE languages to demonstrate precisely this point. It is now generally accepted that Etruscan is not an isolate and is, as a minimum, closely related to the marginally attested Lemnian and Raetic languages. See, for example, Steinbauer (1999: 363 ff.), and Rix (1998) respectively for proof of the relationship of these languages to Etruscan. These three languages are together referred to in the literature as constituting a genealogical group descended from a hypothetical earlier Proto-Tyrrhenian or Proto-Tyrsenic language. It is possible, or even likely, that there are further members of this group which have not been identified, or are not attested. The stage ancestral to Etruscan's historical attestation, but common to the three known Tyrrhenian/Tyrsenic languages, is referred to in the present study as Pre-Etruscan in the absence of a comprehensive reconstruction of Proto-Tyrrhenian/Tyrsenic.

[4]. This has not prevented vague and unsystematic proposals of relationships which include claims involving Etruscan numerals. See Zavaroni (1996: 53 ff.) and Pittau (1997: 93 ff.) asserting a relationship with Indo-European, Semerano (2003: 37 ff.) with Afroasiatic, throwing in Sumerian for good measure, Gluhak (2002: 183 ff.) with the hypothetical Nostratic macrofamily, and so on. Many proposals claiming a relationship with Indo-European simply ignore the question of the numerals altogether, such as those of Georgiev (1954, 1972), Adrados (1989), Woudhuizen (1991), Perrotin (1999; his 2000 paper presents a much more balanced view), Greenberg (2000/2002), Bomhard (2002) and many others. Most of these base their claims on a small recurring group of lexical items and short morphological segments which accidentally resemble their counterparts in Indo-European, or which are clearly borrowed. There is no space to examine them in detail here, but they do not attempt to show regular sound correspondences, and often contain misrepresentations of Etruscan grammar and historical developments. Some older theories that Etruscan is associated with Indo-European in some sort of "Indo-Tyrrhenian" or "Peri-Indo-

European" macro-family (e.g. Kretschmer 1941 et seq., and Devoto 1944 et seq.) seem to be based on practically no linguistic evidence at all.

[5]. A relatively minor example of this can be found in Zavaroni (1996: 54-55), for example, who argues that ET Ta 1.108 (TLE 891) supports the existence of an Etruscan numeral *enva "9" supposedly related to the Greek *ennea*. This reading cannot be supported on epigraphical grounds, and there are good combinatorial reasons for rejecting this. Zavaroni claims that the inscription should be interpreted as meaning "Palazui Thana, having borne nine sons in the course of time, died". The word *avilsth*, glossed by Zavaroni as "in the course of time", is unattested elsewhere, and if it did exist, would be more likely to mean "at the age of". A nine-year-old girl giving birth to multiple children and then dying would be highly tragic, but also highly unlikely. Transcribing the version proposed in ET, the inscription reads *palazui thana / avils . thenza . huSur / aknanas . manim : arke* in the orthography used here. The reading *avils . thenza* is clearly implied by the interpuncts and interpreting this as an abbreviation for *avils thunem zathrum* "aged 19" is considerably more plausible. Zavaroni's transgressions against the combinatorial method are mild, however, compared with various offerings on the internet, where Etruscan, and sometimes in the same breath every kind of "mysterious" document from the Phaistos Disk to the Voynich Manuscript, is variously described and "deciphered" as a form of Turkish anagrams, Latin written backwards, modern Ukrainian/Lithuanian/Albanian, or even "archaic Hungarian" (the Hungarians only arrived in Europe at the end of the 9th century CE). Then there are those whose trade is not fantasy but conscious deception, and whose "scientific" method consists in faking illustrations of well-known inscriptions to read differently and thus fit their favoured hypotheses, as in Foscarini (1996: 292).

[6]. There are a number of unscientific or vague proposals involving a relation between Nakh-Daghestanian and Etruscan, often together with unrelated languages, going back at least to Ellis (1886). Among serious linguists, V. V. Ivanov (1988 and a number of other papers before and after this) has also proposed a small number of Etruscan/North Caucasian (i.e. North West Caucasian and Nakh-Daghestanian) isoglosses, which overlap with those in Orël and Starostin (1990).

[7]. See, for example, the critiques by Shakhbieva (1998) and Nichols (2003).

[8]. Koryakov (2002) expresses doubts about whether Nakh and Daghestanian are valid clades and prefers to group Nakh together with the West Daghestanian Avar-Andi-Tsezian languages, the rest of Daghestanian constituting a separate grouping within Nakh-Daghestanian. This arrangement is not followed in the present study. In the view of Nichols (2003), Nakh separated from Daghestanian only shortly before the break-up of Daghestanian itself. Koryakov also treats Galanchozh, an unwritten dialect transitional between Chechen and Ingush, as a separate language, but this classification is not generally made and is not followed here. Within Daghestanian, Starostin and others have proposed that Dargwa should be classified with Lezgian rather than with Lak, and that Khinalug should not be included within Lezgian. The traditional classification is followed here, but should not be taken as rejection of any alternative arrangement within Daghestanian.

[9]. SAMPA [Speech Assessment Methods Phonetic Alphabet] is a mapping of the symbols of the IPA onto the 7-bit ASCII character set for ease of use in email and other computer contexts. For further information on SAMPA see http://www.phon.ucl.ac.uk/home/sampa/home.htm. There is not as yet a publicly agreed standard for transcribing the Nakh-Daghestanian languages into SAMPA, and the symbols used here for representing glottalic consonants differs from the extension proposed in Wells (1995) to the basic SAMPA system, the unvoiced dental glottalic stop being shown in the present study as /t./ and not /t_>/, for example.

[10]. See Alekseev (2003: 204), for example.

[11]. Exceptions are Hamp (1958) and Steinbauer (1999).

[12]. While this archaism is often true of Batsbi phonologically, it does not mean that we should necessarily expect Batsbi grammatical forms to be more ancient, or its phonology to be more ancient in all cases. Batsbi is moribund, with children no longer learning the language, and it is in the process of being replaced by Georgian, with the attendant simplification of Batsbi's formal grammar. There are also instances of historical ablaut which survive in Chechen and Ingush, but have been lost in Batsbi.

[13]. Cited in D'Aversa (2003: 56).

[14]. ***Vinum*** is usually assumed to have been borrowed from Latin into Etruscan. However, the Etruscans and the Greeks introduced systematic viticulture to Italy. Why should a language of Anatolian origin, of all places, need to borrow its word for wine from a language whose speakers were not yet great wine producers? The Etruscan word ***fanu*** is also assumed to be borrowed, from Latin ***fanum***, yet here the ***-m*** has not been preserved in the Etruscan, and in the more numerous Etruscan borrowings of Greek neuter nouns, the final Greek ***-n*** is also not preserved.

[15]. This paradigm agreement far exceeds that demanded to fit into Nichols' category of "interesting". Taking her values of 1 in 20 for a consonant correspondence, 1 in 5 for a vowel correspondence, and 1 in 2 for any vowel versus no vowel. We can calculate a probability of 1 in 5 x 20 x 20 x 5 = 1 in 10000 for ***-alx(u)***, and 1 in 20 x 2 x 2 = 1 in 400 for ***-z/-zV***, giving a total probability for these two chief items of numerical morphology of 1 in 4000000. We cannot multiply the probability of ***-z/-zV*** by a further 20 because the two iterative forms are related, not independent. This probability has to be divided by 2 for counting a correspondence between the unvoiced velar fricative and the voiced one in Nakh, and by 2 again for counting a decade as matching with an ordinal (even though it is cognate with decade endings in Daghestanian). This leaves us with a maximum value of 1 in 1000000, but only if the distinction between the two Etruscan iteratives is genuinely [+/- emphasis]. If not, then the chances are less, which makes the correspondence borderline individual-identifying.

[16]. Zavaroni in fact does not even go through the motions of proposing a relationship between Etruscan and Indo-European, but simply assumes it and behaves as if it is self-evident. He has even admitted that he would not know how to propose such a relationship anyway (personal communication).

[17]. Out of many thousands of native nouns in Nakh, about 140 have an ***-i*** plural, perhaps roughly a 1/50 chance. The chances of two Etruscan nouns at random both having cognates in the ***-i*** plural class is therefore roughly 1/2500. However, if these two nouns are known to be the **only** nouns in Etruscan that have an ***-i-*** plural, we are talking about a closed class of perhaps 1/100 of the known and generally agreed Etruscan lexicon, giving a chance of about 1 in 250000 languages having this feature by chance. If we adopt a margin of two orders of magnitude, the absolute maximum number of languages we could ever expect to have this feature by chance is about 2. So again, this inherited feature is borderline individual-identifying.

Abbreviations

<x>	= grapheme *x*
>x<	= transliterated grapheme *x*
/x/	= phoneme *x*
[*x*]	= narrower phonetic transcription of *x*
{chi}	= letter name in a non-Roman alphabet

CM	= class marker
PHU	= Proto-Hurro-Urartian
PIE	= Proto-Indo-European
PN	= Proto-Nakh
PND	= Proto-Nakh-Daghestanian

D&S	= Diakonoff and Starostin (1986)
ET	= Rix and Meiser (1991)
NDC	= Nichols (2003)
O&S	= Orel and Starostin (1990)
RI	= Schumacher (1992)
TLE	= Pallottino (1968)

Appendix

SAMPA symbols

Where the symbols *C* and *V* are used in this paper, these should be read as "some unknown consonant" and "some unknown vowel" respectively, and not as their usual values in SAMPA.

@	mid central unrounded vowel
{	near-open front unrounded vowel
?	glottal stop
?`	unvoiced pharyngeal
3	voiced pharyngeal
B	voiced bilabial fricative
E	open-mid front unrounded vowel
G	voiced velar fricative
k.	glottalic unvoiced velar plosive
k'	palatalised unvoiced velar plosive
l'	palatalised lateral approximant
L	lateral fricative or affricate
n'	palatalised nasal
ph	aspirated unvoiced labial plosive
q.	glottalic unvoiced uvular plosive or affricate
r'	palatalised coronal approximant
R	voiced uvular fricative
S	unvoiced postalveolar fricative
t.	glottalic unvoiced dental or alveolar plosive
t'	palatalised unvoiced dental or alveolar plosive
th	aspirated unvoiced dental or alveolar plosive
ts	unvoiced palatal affricate
ts.	glottalic unvoiced palatal affricate
Z	voiced postalveolar fricative

Lower case letters and other symbols not listed here have the same values in SAMPA as in IPA.

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