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Fifteen Years of Mother Tongue

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OFFICERS OF ASLIP

President: Michael Witzel
Department of Sanskrit and Indian Studies
Harvard University
1 Bow Street
Cambridge, MA 02138
U.S.A.
witzel@fas.harvard.edu
Tel. 617-495-3295
Homepage: http://www.people.fas.harvard.edu/~witzel/mwpage.htm

Vice-President: John D. Bengtson
5108 Credit River Drive
Savage, MN 55378
U.S.A.
idbenst@softhome.net
Tel. 952-440-5538
Homepage: http://idbenst.net/

Secretary-Treasurer: Michael T. Lewis
20 Duane Avenue
West Newton, MA 02465
U.S.A.
lewismtc@rcn.com
Tel. 617-964-0978

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Our organization, ASLIP, was founded in 1986 to encourage international, interdisciplinary information sharing, discussion, and debate among biogeneticists, paleoanthropologists, archeologists, and historical linguists on questions relating to the emerging synthesis on language origins and ancestral human spoken languages. The first issue of ASLIP’s journal *Mother Tongue* was published in 1995, co-edited by Harold C. Fleming (then ASLIP President) and Allan R. Bombard (then ASLIP Vice-President). This is an excerpt from the first Introduction, which still recapitulates our basic themes and goals:

*Homo sapiens sapiens* and/or immediate predecessors “invented” human spoken language, intensified human social capacity, expanded human knowledge immeasurably, and (as a most impressive competitor for resources) spread around the Old World, eliminating or absorbing pre-modern humans in the process. One corollary of this is that all known human spoken languages are genetically related to each other as descendants of that first invention – Ur-Human or Proto-Language. One test of that is to show a taxonomy of human languages – convincingly to linguists – which makes possible a universal family tree and ultimately the reconstructions of major cultural events associated with the evolution of modern people. Another corollary is that the complex evolution of physical humans – population movements and shared mutations – can be figured out and related to a universal family tree which can be dated and located to its roots. Finally, the tests of these theories can be made through archeological discoveries – eventually. . . . The goal of our enterprise is to seek the truth as it pertains to the emerging synthesis about modern human origins. *Mother Tongue* is not committed to any single proposition . . .

A favorite practice of *Mother Tongue* has been to feature discussions and symposia, with invitations to several scholars to discuss linguistic proposals or methodological questions. Hal Fleming has called this the “MT Treatment” (borrowed from *Current Anthropology*). So far the topics have included Basque & Dene-Caucasian (issues I & II), Nihali, Nihali & Kusunda, Sumerian (issues III & V), “Hardware” / Origin of Language Symposium, Ainu, Austric, Basque & Caucasian, South Asian substrate languages, Paleolinguistics: The State of the Art and Science, Australian languages, Asian Remnant Languages & Year of the Australoid, Nostratic Phonology, and Berber *H.*
## Fifteen Years of *Mother Tongue*

This is a rather sketchy summary of the issues of *Mother Tongue* to date. To save space book reviews, editorials, and minor notes have been omitted.

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From Africa and back: some areal patterns of mythological motifs

Yuri E. Berezkin
European University at Saint Petersburg
and
Museum of Anthropology and Ethnography (Kunstkamera)
Russian Academy of Sciences
Saint Petersburg

In the early nineties I began to create an electronic catalogue of world mythology and folklore. It now contains more than 45,000 abstracts of texts arranged according to ethnic groups or areal clusters of groups and to motifs (more than 1600 at the moment). With new publications processed and the number of the selected clusters increasing (813 in January 2011), the system becomes ever more sensitive to tendencies in distribution of motifs.

The catalogue was created not with the purpose of simply registering narrative units, but in order to accumulate data relevant to research on early migrations and prehistoric cultural contacts. Initially the problem of the peopling of the New World was a focus of the studies. After about 2003, when the materials from Western Eurasia and Africa had been included, even earlier periods of human history could be addressed.

I define motifs as any episodes, chains of episodes, structures, images, etc. that are subject to replication and therefore found at least in two (practically, in many) texts. People themselves do not analyze their stories and do not select any motifs from them. Just because of this such units are copied unconsciously and can be transmitted between generations and populations with only minor and random modifications. We can hypothesize that the speed of change directly depends on the number of acts of transmission of stories from one person to another. Accordingly, this speed must have been very low, as long as human societies were small and population sparse, but increased in complex societies. The recent disintegration of “traditional folklore” along with emergence of the global information network is the last stage of this process.

At the turn of the nineteenth to twentieth centuries Franz Boas and his colleagues were engaged in comparative study of the American Indian mythological texts using units which they named “elements,” “catch-words,” etc. (e.g. [Boas 2002: 662-674; Kroeber 1908; Swanton 1929: 269-275]). Such units, for which Boas and others never coined a specific label, are very similar to my motifs. I am not sure that the term “motif” is the right decision because I mean something different from S. Thompson’s definition [1951: 415] but no other suggestion was better. The key word in my definition of motif is “replication,” i.e. the motif is

1 In 2011 the financial support for my work was provided by program of the Presidium of Russian Academy of Sciences “Historical-cultural heritage and spiritual values of Russia.”
something that is copied unconsciously. It is impossible to distinguish, with one hundred percent probability, copying from independent multiple invention. However, the uneven but not chaotic areal distribution of motifs is an argument against their permanent independent reinvention in different traditions. Besides trivial cases like lack of agricultural myths in the Arctic or kings not being mentioned in aboriginal Australian stories, the areal patterns of distribution of motifs rarely if ever correlate with natural, economic or social factors. The migrations in the epoch of the initial peopling of the earth by modern man seem to be the major factor responsible for such patterns, though later migrations and cultural contacts also played their role.

Boreal and Austral sets of motifs

In the late nineties the computing of data on areal distribution of about 1000 mythological motifs checked for the American Indians and the Eskimo demonstrated the existence of two main sets of motifs [Berezkin 1998; 1999]. One of them was best represented in Amazonia and Guiana and another across the Plains and around the Great Lakes. The mythologies of these regions proved to be the most different from each other. As the database acquired world-wide dimensions, it became clear that these American mythological complexes corresponded to similar complexes in the Old World [Berezkin 2002; 2003; 2005a; 2005b; 2006a; 2007; 2009a; 2009b; 2010b].

Some tendencies are especially clear if we minimize the entropic effect of the western Eurasian fairy-tale and compute only cosmological and etiological motifs, which are relatively rarely adopted into the fairy-tale, to be introduced with it to new territories. Some other tendencies can be better understood when we address just the motifs of adventure and tricks. Though they are used in the fairy-tale and heroic epics, at least some of them were adopted from the more archaic forms of folklore and could be quite old.

Now to demonstrate in the simplest way major tendencies in the global distribution of motifs, 50 sample traditions were selected and all the motifs found in them computed (fig. 1). These traditions were chosen as representative of the corresponding areas, moderately well supplied with sources (number of registered motifs between 60 and 150), and containing motifs related to cosmology and etiology, and to adventure and tricks, in a more or less equal proportion (motifs of the first category make from 1/3 to 2/3 of the total). The 1st principal component (1st PC, axis x) of factor analysis reveals the most powerful tendency in the mutual correlation of motifs. It demonstrates that the folklore-mythological traditions which share the least number of motifs are located (1) in northern and central (continental) Eurasia and (2) in Melanesia and Latin America. The sets of motifs in Melanesia and Amazonia revealed by the 1st PC are statistically identical. The Ancient Greek set of motifs, though clearly European, stands nearer to the center of co-ordinates because it does not contain most of the motifs typical for the fairy-tales and best represented in our case among the French and Latvians.
Ancient Greek mythology also contains a few motifs typical for southern Eurasia and Africa.

**Figure 1.**

I name the two major sets of motifs of world mythology (1) the *Continental Eurasian*, or *Boreal*, and (2) the *Indo-Pacific*, or *Austral.* Their areal

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2 Note that the term “Indo-Pacific,” as used by the author, is not equivalent to the “Indo-Pacific” linguistic family postulated by Joseph H. Greenberg. Berezkin’s usage denotes the whole area south and east of northern Eurasia, i.e. South and Southeast Asia, Australia and the surrounding islands (Indonesia, Philippines, Melanesia, Micronesia, Polynesia, etc.). Thus the term “Austral” (southern), opposed to “Boreal” (northern) is probably preferable on a global scale [Ed.].
distribution strongly suggests correlation with two sets of genetic haplotypes brought to northern and southern Eurasia by the first African migrants [Kayser 2010; Majumder 2010; Mellars 2007; Rootsi 2004; Stoneking, Delfin 2010; Zilhão 2006]. Ca. 60,000 b.p. groups of *Homo sapiens*, the so called “beachcombers,” entered Asia from northeast Africa and began to move along the coast of the Indian Ocean. In the Middle East this stream split. Some groups continued their movement to the east as far as Australia and East Asia, while others migrated in a northerly direction and eventually occupied about the same part of Eurasia where the Neanderthals had lived before. This northern migration probably took place 10-15,000 years after the time when the first modern people occupied South and Southeast Asia, though any dates are still very provisional.

Mythology of Southeast Asia and adjacent areas not only preserved its African roots but began to change and proliferate. In comparison with African mythologies, the mythologies of the Indo-Pacific borderlands of Asia are richer and this enrichment had to have taken place between the initial peopling of these territories by *Homo sapiens* and the beginning of the peopling of the New World. (The existence of similar stories in America and in Asia proves their existence in Asia before the peopling of the New World began.) At about 15/17,000-12,000 b.p. both Boreal and Austral sets of motifs were brought to the New World and mixed there. The Indo-Pacific complex spread everywhere and became predominant in South and Central America while the Continental Eurasian complex spread mainly in North America. Since the time of the peopling of the New World American traditions influenced each other, especially in North America. Such an interaction between two major sets of motifs could have begun already in Siberia if the East Asian groups took part in its repeopling after the Late Glacial Maximum (LGM).

The Near East was the first out-of-Africa region occupied by *Homo sapiens*. The data on the pre-Islamic folklore and mythology of this area are scarce and the data on southern Iran and southern Pakistan are completely absent. However, there are several typically Austral motifs in the ancient Sumerian and Semitic sources. Some parallels of this kind are also found in European folklore (e.g. see below about the *Rainbow serpent* motif) but they are absent in Central Asia and Siberia.

In fig. 1 traditions of the southeast borderlands of Asia such as northern Taiwan (Paiwan), northern Luzon, northeast India (Miri), Timor (Tetum), Middle India (Maria and other Central Dravidians), Borneo (Dayak), Sulavesi (Toraja) occupy an intermediate position between continental Eurasian and Melanesian/South American sets, being a mixture of both. Most North American traditions are slightly shifted towards the Austral pole, and African traditions (Margi, Nyamwesi, Mende, Kongo) are slightly shifted towards the Boreal pole. The latter tendency is conditioned by the predominance of motifs of adventure and tricks in African folklore that probably spread from Asia. As we shall see below, African cosmological motifs, few as they are, have Austral parallels.

The American mythologies are the richest. It is enough to say that for several tiny groups of the Coastal Salish of the Puget Sound area (the
Lushootseed) we have the world maximum number of registered motifs (273). Even such complex and well documented traditions as the Russian, Bulgarian or Georgian have lower numbers (264, 228 and 223 motifs correspondingly). This is probably explained not only by the fact that both Austral and Boreal groups took part in the peopling of North America, but also by the great natural, and by extension cultural, diversity of the continent. To take another example, for the 1st PC the Austral extreme is represented not by the Melanesian (Trans-New-Guinean and Toricelli Papuans and southern Solomon islanders of San Cristobal, Malaita and others) but by the South American traditions (Sicuani, Paresi, Pemon). This also may be not so much thanks to the greater admixture of Boreal motifs in New Guinea and Melanesia than in Amazonia and Guiana but to the greater further elaboration of corresponding sets of motifs in the New World.

The same tendency is demonstrated by the 2nd principal component (axis y) that on fig. 1 distinguishes the North American mythologies, plus traditions of the Southern Cone of South America (Tehuelche), from all the rest. The North American Plains traditions (Pawnee, Blackfoot, Lakota) and the eastern South American traditions (Sicuani, Paresi, Pemon) occupy here the two extreme positions. Again, two factors were probably responsible for this. Firstly, the rich North American set of motifs could have preserved elements introduced from Eurasia at different times and accumulated. Secondly, new ideas and stories emerged on American soil using old Asian background materials.

In Continental Eurasian (Boreal) mythologies African elements were mostly lost. Such a loss was probably a result of the penetration of people into the sub-glacial zone with its very different environment in comparison with their tropical homeland. It could have taken place from the very beginning (i.e. from 45/40,000 b.p.) or it took place mostly during the LGM when population density in Northern Eurasia decreased. Though during the LGM population survived in the periglacial steppes and forests of the southern half of Siberia including the Angara and Aldan basins, the more northern areas were depopulated [Kuzmin & Keates 2005]. Those groups that successfully adapted themselves to the changed climatic conditions certainly underwent deep cultural transformation and this probably contributed to the idiosyncratic deviations from former tradition. Since about 19/18,000 b.p. when the acme of the LGM was over, the Continental Eurasian (Boreal) set of motifs probably became disseminated thanks to progressive expansion of the surviving population.3

A more detailed picture of the distribution of motifs across the world is demonstrated in fig. 2. This time all of 813 traditions were computed and positions of 200 of them in relation to the 1st and the 2nd PC fixed on the scheme.4

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3 The 18-19,000 b.p. dating of the beginning of recovery from LGM populational minimum is based on the dating of the Dyuktai culture in Eastern and Northeastern Siberia [Yi & Clark 1985: 10] and for assessment of time for repeopling of Northeast Europe by human groups of probable Southern Siberian origin [Pavlov 2009].

4 We should remember that there are many different tendencies in the distribution of motifs, so the first two principal components reflect but 7% of all information. However, just these seven percent demonstrate global tendencies while all the rest reflect situations on a smaller scale.
All the sub-Saharan traditions are concentrated at the bottom of the scheme. The area they occupy is compact because the traditions in question are uniform and relatively poor. Traditions of South and Southeast Asia, Melanesia and Australia are the nearest to them. As mentioned above, just they, unlike the Boreal traditions, preserve old links with Africa. Among the Boreal traditions there is a dichotomy between those that were strongly influenced by the fairy-tale (or, looking from another side, the fairy-tale itself developed on their base) and those of traditions of Siberia and East Asia that were influenced by the fairy-tale to a lesser degree. For the Yakut, Altai, Buryats, and Tuvinians both rich traditional mythology and many fairy-tales are recorded. The Ainu, Paleoasiatic (Chukchi and Koryak) and Eskimo traditions occupy a position between the Siberian and the North American sets, being more similar to the latter. All North American traditions form one group as far as the 1st and the 2nd PC are concerned though the 4th PC (not on the scheme) radically differentiates the Northwestern traditions, on the one hand, from the traditions of the Plains and of the North American East, on the other. Latin American traditions are well differentiated from the North American ones and demonstrate links with Melanesia, South Asia and ultimately with Africa.

**African motifs in the Indo-Pacific world: the origin of death**

Though mythologies of South and Southeast Asia preserve African links, these links are not many and we can look at the most important of them one by one.

There are far fewer cosmological and etiological tales in Africa than in Eurasia, not to mention America. The ultimate reason could be the relative monotony of landscapes and climates in Tropical Africa. Cultural evolution accelerates in response to changes of natural and cultural conditions. Peopling of new territories certainly contributed to rapid cultural development of out-of-Africa migrants, while the Africans themselves continued to live in their homeland. Serious climatic changes that took place from the LGM till the end of the Climatic Optimum of the Holocene (25,000 - 5,000 b.p.) most of all influenced the environments of the temperate zone, while in Africa the borderlines between the rain forest, savannah and desert moved back and forth but the zones themselves preserved their basic features. Because of this, innovations in African mythology and folklore were most probably thanks to the spread of tales and ideas from Asia rather than because of inner development. Those motifs which lack clear cultural particularity and are not related to the sphere of the

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5 Rich traditions stand farther from the center of the co-ordinates than those which are not so well represented, even if they are basically similar (like Shuar and Aguaruna, Avar and Lezgin, eastern Trans-New-Guinean and Toricelli Papuans). So in fig. 2 the vector of the tradition in relation to the center of the co-ordinates is probably more important than the distance from the center.
sacred have better chances of being borrowed and of crossing ethnic borders. Though African folklore was enriched, local cosmologies remained rather poor. African stories related to explanations of why people are mortal provide, however, an exception. The number of corresponding texts is small in comparison with, e.g., the number of recorded animal tales, but the set of African motifs related to the etiology of death is relatively abundant. Almost all major variants of such explanations recorded on other continents are also known in Africa. Most of them, apart from Africa, have been recorded across the Indo-Pacific borderlands of Asia, Australia and Oceania and in the New World, mostly in South America. The motifs in question are not found uniformly across the whole African continent but first of all among the Negroid populations of the Tropical zone. They are rarer among the Khoisan groups and almost absent in North Africa, whose folklore underwent deep transformations after Islamization and possibly earlier, after the spread of Afrasian languages. Typical African “death-myths” are not often found among the Atlantic- and Mande-speaking people. It appears that the far western Tropical African folklore was more strongly influenced by stories of Eurasian origin than the Gur, Kwa, Adamaua-Ubangian, Bantoid or Nilotic traditions.

The most important (but not the only) tale-producing motifs in question are Shed skin, Immortal Moon, Stone sinks, stick floats, Call of God, Originator of death the first sufferer, the Muddled message.

Shed skin (fig. 3). Those who can shed their skin become young again and people are mortal because they cannot do it. In most of the cases, people are contrasted to snakes and more rarely to invertebrates, or to some trees which shed their skin or bark and rejuvenate (motif H4 in my catalogue).


It is significant that there are practically no stories that explain the origin of cultivated or of wild edible plants in Africa. Some stories describe the invention of agriculture but not the origin of species. Western Eurasian traditions of this sort are also poor while the Indo-Pacific agricultural myths both in Asia and Oceania and in Latin America are extraordinary rich and share a lot of motifs. All this argues, firstly, against the easy emergence of etiological stories everywhere where corresponding realities are presented and, secondly, in favor of possible Asian roots of American agricultural myths that could initially be related to wild edible species.


Figure 3.

In Africa (Chagga, Dogon, Gogo, Kongo, Luba, Lur), Indonesia (Toraja, Mor, Loilang, Kai, Babar, Tetum), Melanesia (Lakalai, Dobu, Trobriand Islands, Admiralty Islands, Gazelle Peninsula, Malaita, Guadalcanal, Shortland Islands, Eddystone, Oba, Pentecost, Malekula, Tanna, Aneytium, Yande Island) and South America (Yanomami, Secoya, Harakmbet, Nambikwara) the Shed skin stories have an additional common element. The process of rejuvenation is ruined and people become mortal because a person's relatives did not recognize him/her in his/her new state, or disturbed the person when he/she was shedding his/her skin. In Micronesia on Palau Island this motif is also present, though the woman must rejuvenate not after shedding her skin but thanks to a branch of dracaena put into water [Anell 1964: 6]. The motif of snakes that become young again every time they shed skin was known in antiquity to the Greeks and Phoenicians. However, in the corresponding sources this motif is not used for the explanation of the mortality of man. Only in Table 11 of the Akkadian Gilgamesh epics, the Shed skin, though rather vaguely mentioned, is linked to the motif of a failed attempt to make people revive after death (the snake steals from Gilgamesh the “flower of immortality” and crawling back to its hole, it shreds its skin).

In North America, the Shed skin is recorded only once, among the Klamath. The Baffin Land and West Greenland (Sakskak) Inuit legends do not contain the etiology of death but speak about a particular woman who became young after shedding her skin [Boas 1901: 226; Millman 2004: 184].

Immortal Moon (fig. 4). Moon revives or rejuvenates every month but people do not; those who live on the Moon are immortal; Moon makes the decision if people should die forever or regularly revive (motif A36).

Khoisan and Bantu Africa: Acholi, Ambo, Bemba, Bushmen, Chagga, Chokwe, Khoikhoi, Kuta, Luba, Nyoro, Pare, Poto, Upoto, Vili, Yaka [Abrahamsson 1951: 8, 12, 20, 28-32, 39, 57; Andersson 1974: 61; Baumann 1936: 279, 296; Frazer 1926: 235-236;

**Figure 4.**

**Immortal Moon**

Moon dies and revives, people are mortal
Those who live in the Moon are immortal
Moon pronounces a verdict if people should revive or die forever

This motif is less specific than Shed skin and its multiple independent emergence seems possible. However, its complete absence in continental Eurasia makes its initial appearance in Africa more probable, and consequently its further spread in the context of the Austral set of motifs. Its popularity mostly in Africa and Australia supports such a hypothesis.

Call of god (fig. 5). Humans are mortal because they did not hear or answer the call of a being who had promised them immortality (or did not pronounce his name) or answered the call (pronounced the name) of a being who had brought death (motif H11).

Figure 5.

Call of God
People answer the call of a being who brings death, or they do not hear or answer the call of a being who promises immortality


This motif, which is often combined with *Shed skin* and sometimes with *Immortal Moon*, is especially widespread in Bantu-speaking Africa and in South America.

**Stone sinks, stick floats** (fig. 6). Humans are mortal because a stone thrown into the water sank. They have missed the chance to be like wood or other organic matter that floats (motif H10).

**Bantu Africa:** Kwiri [Abrahamsson 1951: 10]. **West Africa:** Fon, Ewe [Baumann 1936: 274-275; Müller 1907: 277]. **Sudan:** Dinka, Nuer [Crazzolara 1953: 67; Katsnelson 1968: 139-140, 144-145]. **Australia:** Noongahburrah [Waterman 1987: 84].

**Figure 6.**

In North America the spread of the motif seems to be related to recent Athabascan migrations. In particular, the Plains Indians probably borrowed it from Athabascans when the latter moved from Canada to the Southwest. If so, the motif was initially as rare in North America as it was in South America, Australia and in Africa itself. However, its spread fits very well the usual pattern for Austral motifs.

**Originator of death the first sufferer** (fig. 7). Person insists that people should die forever. Somebody dear to him or her (usually his or her child) dies. Person consents that human beings might revive after death but the original decision cannot be changed (motif H1A).

**Figure 7.**

Originator of death the first sufferer

One person wants man live forever, another wants him be mortal. When the latter's child or mother dies, he or she is eager to accept suggestion of his or her opponent. The original decision cannot be changed, however


**Great Southwest**: Yavapai, Western Apache, Lipan [Gould 1921: 320; Gifford 1932: 246; 1933: 412; Opler 1940: 39-40]. **Mato Grosso**: Caduveo [Wilbert, Simoneau 1990a: 15-17, 36-37].

As in the case of **Stone sinks**, **stick floats**, a vast but well restricted area of this motif in North America was probably formed after the main stage of the peopling of America was over. The spread of **Originator of death the first sufferer** seems to be related to the spread of the Proto-western archaeological tradition in the very beginning of the Holocene [Geib, Jolie 2008] with which the areal correlation is perfect. Across the Plateau and the main part of California and Great Basin the motif is known practically everywhere. The Proto-western tradition probably emerged in the American Northwest, but some if its constituent elements must have been brought from Siberia. Though in Asia the mythological motif in question did not survive, its existence in South America argues against its independent invention in Africa and in North America.

The muddled message (fig. 8). Person is sent by god to bring instructions or certain objects but distorts, forgets or replaces them. This has fatal consequences for humanity or for a certain class of living beings (motifs H36 – H36g, H36hh, H36i, H41). In the list below traditions in which Muddled message is applied not to the etiology of death but to other themes are italicized.

**Khoisan and Bantu Africa**: Bushmen, Khoikhoi, Suto, Tswana, Zulu, Cosa, Swasi, Ronga, Yaka, Kuta, Nyangi, Duala, Bube, Yaunde, Koko, Bulu, Ganda, Chuka, Embu, Emberre, Mwimbe, Kikuyu, Kamba, Pare, Ngoni, Yao, Nyanja, Tonga, Ila, Safwa, Subiya, Nyakusa, Konde, Mkulwe, Bemba, Lamba, Nduu, Wenda, Fang [Abrahamsson 1951: 8-34; Andersson 1974: 61-64; Arewa 1961: 13-14; Boas, Simango

Figure 8.

The Muddled Message

Messenger distorts, forgets or replaces instructions of objects to be delivered. This has fatal consequences for a certain class of alive beings

- Origin of death
- Other cases


The Muddled message is the most widespread “death-myth” in Africa. I could find it among 54 ethnic groups (or 55, considering also the Malagasy) while Shed skin, which occupies the second place, was found among 21 groups. Only four traditions (Zulu, Kwaya, Kono, and Galla) share both motifs. Among the Khoisans, Muddled message combined with Immortal Moon is the basic “death-myth” while Shed skin in South Africa is known only to the Bantu groups. Outside of Africa the Muddled message is relatively rarely used to explain the mortal nature of man, while Shed skin is popular in Indo-Pacific Asia, South America and especially in Melanesia, though not in Australia. It appears that the two motifs had different histories, at least after the beginning of the out-of-Africa migration, both in the Indo-Pacific world and in Africa itself.

Unlike other “death-myths” described above, the Muddled message is also recorded in continental Eurasia. However, it is mostly found there not in the form typical for Africa but as a special variant based on an episode of a raven or crow being sent to bring the water of immortality and spilling it on trees that became evergreen. Such stories are found among the Persians, Tadjik, Khakas, Altai, Buryat, and Mongol and with variations (no raven involved or no etiology of death) among the Talyshe, Azerbaijan, Volga Tatars, Uzbek, and Kazakh (motif H6b). There is a text recorded in the early XX century in Iranian Khorasan that is similar to the Assyrian version of Gilgamesh, with the only essential difference being that the raven and not the snake steals the water (instead of the flower) of immortality from the hero [Donaldson 1938: 92]. This change is significant because the bird scavenger as the main creature related to death is typical for Boreal mythologies while the snake and other reptiles are typical for the Austral ones. The replacement of snake with raven can be an evidence in favor of a general trend of territorial spread of Boreal set of motifs at the expense of the Austral set.

In Africa itself there was a partial replacement of traditional native animals responsible for the introduction of death with the “death-animals” of Asiatic origin.

* There is no etiology of death in these Mesoamerican traditions. However, the stories in question either tell about the failed attempt to revive a particular person or (with the Pipil) there are possible fragments of such a story integrated into a different tale.
There are two traditional Muddled message stories in Africa. According to one, the Hare brings message that people must die (Hausa, Nuba, Ilu, Lui, Bushmen, Khoikhoi; motif H36d). In the Hausa version as well as among the Khoisan (Bushmen and Khoikhoi) the Hare is opposed to the Moon who wanted the men to live forever, so the Moon cut the Hare's lip in two and the Hare scratched the Moon's face or otherwise made it covered with dark spots. Such transcontinental parallels reflect cultural links that definitely preceded (possibly by dozens of thousands of years) the spread of the Bantu languages. Outside of Africa the hare as a "death-animal" is unknown, though association between the hare and the Moon so typical for South and East Asia may have African roots. In another African version of the Muddled message, the Chameleon who is too slow is opposed to a quick Lizard who brings the "death-message" (motifs H36b, H36c). This story is widespread across all West (minus the Atlantic and Mande groups) and Bantu-speaking Africa. Among the non-Bantu groups of East Africa (Acoli and Luo) the plot is somewhat different, but the Chameleon is also responsible for the introduction of death. In former times the Chameleon could have played a certain role in the "death-myth" also in North Africa, thence its negative associations among the Arabs of Egypt where it was called gemel-el-jahud, "Jewish camel" [Struck 1909: 177]. Unlike the Hare, the Chameleon and Lizard as the participants of the "death-myth" are known also in the Indo-Pacific world (Kachin, Banar, Ngaju, southern Palawan, Ontong Java, Nagaland) and in Latin America (Diegueño, Mohave, Cora, Tepucru, Veracruz Nahuatl, Makiritare). There is also a Lithuanian variant, the only one across all Northern Eurasia, that precisely follows the predominant African pattern. God sent Snail (no chameleons near the Baltic) to tell people that they will live forever, and Lizard to tell people that they should die, and the Lizard came first. With only one case known in a short retelling, it would be unreasonable to suggest any historical explanation for it.

Across more or less the same area of Tropical Africa where classical Chameleon/Lizard versions of the Muddled message are recorded, similar versions with Sheep, Goat and/or Dog as protagonists are also found (Yaka, Kuta, Safwa, Konde, Nyakusa, Beng, Baule, Bemba, Mkulwe, Luba, Kraci, Dagomba, Akposo, Kono, Ditammarî, Ibo, Idjo, Ibibio or Ekoî, Bulisa, Nyangi, Bongo; motifs H36i, H41). These domestic animals certainly could not have been present in Africa before the Holocene, and they could hardly have reached Tropical Africa before the Iron Age. This is one of the most certain examples of the back migration of motifs from Eurasia to Africa. In West Africa among the Kraci of Ghana the motif of dog as a "death-animal" is combined with the motif of Water of immortality spilled on plants, while in a myth of an unspecified group of Liberia the same plot is related to cat [Abrahamsson 1951: 6; Bundy 1919: 408]. As was told above, the Water of immortality spilled on plants is mainly a Continental Eurasian story though two Pacific versions (Palau and Ngaju Dayak) are also known [Anell 1964: 21; Schärer 1966: 68-71]. Its combination with Dog as death-messenger confirms its late arrival in Africa.
I shall omit some other African - Asian links related to the death-theme for which material is less abundant and make a short overview of motifs related to cosmology and the origin of humans.

**African motifs in the Indo-Pacific world:**
**Origin of people, heavenly bodies, atmospheric phenomena**

**First people from the underworld or the emergence myth** (fig. 9). People of both sexes and all ages come out of the ground, rock, tree trunk, bamboo stem, etc. and spread across the earth (motif E5a). Stories about the emergence of a human couple which comes out of a primeval enclosure, together with different species of animals, are closely linked to this motif as well. Since the primeval dwellers are not clearly differentiated into real people and real animals, the important point is the multitude of the beings which ascend to the earth. The **Primeval couple** motif itself (motif E5b) is less specific though it is also predominantly characteristic of the Indo-Pacific world. Stories which describe how people descend from the sky (motif E5c) or how game animals (not in company with people) ascend from out of the earth should be treated separately, but some of them too share specific details with tales based on the **Emergence from the underworld** motif.

**Figure 9.**

This impressive list of ethnic names contrasts with the complete absence of such a motif in continental Eurasia and only one case in northern North America, the North Alaskan Inupiat [Oswalt 1967: 212]. Here we can find a related but not identical motif of the first people growing out of the earth like grass or crawling out like worms (motif E5aa) which is rare and distributed chaotically across the Globe (Buduma of Lake Chad, Easter Island, Kai Islands, Bulgarians, Komi, Nganasan, Southern Sel'kup, Yukaghirs, Netsilik Eskimo, Western Greenland, Micmac, Tarahumara) [Birket-Smith 1924: 440, Iliev 2001: 17-19; Knappert 1977b: 128-129; Kurilov 2005: 309; Limerov 2005: 39-40; Lumholtz 1902: 297; Pelikh 1972: 342; Popov 1984: 41-42; Rasmussen 1931: 209; Simchenko 1976; Talbot 1911: 250; Wallis, Wallis 1955: 144; Williamson 1933(1): 73].

**Person tricked to kill his kin** (fig. 10). Two persons have children or other close kin (younger siblings or mothers). One of the persons suggests killing and eating them but hides his or her own kin from his companion. Another person really kills his or her kin (motif M104).

In texts recorded among the Dravidian, Munda, Austronesian and Mon-Khmer people of India, Malaysia, western Indonesia and the Philippines, including Sora, Birhor, Santal, Bondo, Bhuia, Baiga, Kond, Oran, Muria, Binjwar, Bhattra, Jehai- and Kintak-Semang, Senoi (Sakai), Aboriginal Malays (Mantra), Batak, Mentawei, Toraja and Tagal, the victim of the trick is the Sun and the trickster is the Moon [Adriani, Kruyt 1950: 377; Bodding 1942: 132-133; Bompas 1909: 402-404; Elwin 1939: 332; 1949: 41, 53, 56-57, 64-65, 74; 1950: 138-139; 1954: 39-40, 47-48, 54-
There are no Moon tricks Sun tales in Australia, but narratives from New South Wales (i.e. from the part of the continent which is the farthest from Southeast Asia) contain motifs that make us consider the Asian and the Australian cases as distantly related. According to the Wonghibon, emu was tricked by another bird into cutting her own wings and eating all but one of her chicks. During the ensuing fight, emu flung her remaining egg at her companion, it stuck in the sky and became the sun [Waterman 1987: 56]. There are other stories from South-Eastern Australia that are more or less similar to the Wonghibon tale.

The Moon tricks the Sun stories are found in Western Africa (Motif A41) [Himmelheber 1951: 18-18; Lembezat 1961: 236; Olderogge 1959: 150-161; Spieth 1906: 557]. Among the Baule of Côte d'Ivoire the Sun suggests that he and the Moon kill and eat their mothers. The Moon has not done it and now visits his helpful mother from time to time while the Sun has to do all the housework himself every day. Among the Fon of Benin, the Moon suggests that he and the Sun kill their children but only the Sun drowns his own children who turn into fish. The Moon explains that otherwise the Sun’s power would be excessive. Among the Ewe (linguistically related to the Fon) the Moon suggests that s/he and the Sun eat up their children but hides his/her own children in a vessel whence they emerge as stars. This Ewe tale is practically identical with the South and Southeast Asian variants. This myth was also recorded among the Wute of northern Cameroon though only a short abstract was published. Similar versions possibly existed among the Nkomi of Gabon and Pigmies of northern Congo. Arguing about which of them is older, the Moon says that she has many children, the stars. The Sun answers that she would also have had many children if the Moon had not killed them [Raponda-Walker 1967: 431-432; Trilles 1932: 290].

Stories about two birds, one of which tricks another to kill its children, are known all across Australia [Dixon 1916: 274-275; Waterman 1987: 55-56] though only the variants from the Southeast part of the continent are related to the etiology of the Sun. Tales about two birds or animals, one of whom tricks another to kill his kin, are also widely known in sub-Saharan Africa. Those which are recorded among different groups of the Bushmen (the adversaries are two birds, one of them kills its children) are identical with the Australian variants [Kotlyar 1983: 42, 53, 232-233, 254-255]. Among the Sakata, Kwiri, Issansu, Kono, and Hausa the adversaries are two animals [Abrahamsson 1951: 10; Colldén 1979: 310-312; Holas 1975: 208-209, 212-218; Kohl-Larsen, Allensbach 1937: 18-19; Tremearme 1910: 492-493]. Among the Shilluk raven and crow agree to kill their mothers [Hofmayr 1925: 372]. In all other cases (Herero, Kamba, Saíwa, Kongo, Bemba, Duala, Yaka, Bulu, Siba, Subiya, Songye, Luba, Lui, Bena Luluia, Tswana, Tsonga, Yoruba, Igbo, Chagga, Bondei, Kaguru, Kinga, Nyanja, Maba, Lango, Swahili-speaking groups)
Figure 10.

Person tricked into killing his kin

- One person proposes to another that they should eat (kill) their children, mothers, or siblings. She hides his or her own while the other one actually kills his. One of the persons and/or the only child to survive is the Sun.
- One animal proposes to another to eat their children (mothers), hides its own.
- Sun’s people were as numerous as Moon’s people (i.e. stars) but died because of Moon (no details).

Neither for African – Asian (the Sun and the Moon agree to kill their children) nor for Khoisan – Australian (two birds agree to kill their children) are there any parallels in other parts of the world. For a version according to which two animals agree to kill their children, there is a single parallel among the Osage of the North American Plains (skunk and opossum involved) [Dorsey 1904b: 11].

Milky Way as border between the seasons. Milky Way is considered to be the dividing line between seasons of the year (motif 1116).

Such a conception is widespread among the Bantu of the Congo basin (Luba-Shaba, Luba-Kasai, Mpongwe, Vili, Shogo, Duma, Ndumu, Ngala, Bangi) and is also known to the Mande groups of Liberia and to Kukuruku of Nigeria [Colle 1913: 716; Lagercrantz 1952: 66-67; Schwab 1947: 413; Studstill 1984: 129; Thomas 1919: 180]. Among the Papuans of the North Coast of Huon Gulf it is...
exactly the same (Milky Way divides the rainy and the dry seasons) [Lehner 1931: 116] and among the Tibeto-Burman groups of the Northeast frontier of India (Miri, Abor, Lushei, Ao and Shan Naga) Milky Way is the divider between the cold and the warm (that is, also rainy) periods [Smith 1925: 115]. The understanding of Milky Way as a cosmic dividing line (between winds, quarters of the terrestrial circle, etc.) is found here and there among the Eskimo and Amerindian peoples [Hodge 1993: 29-32; MacDonald 1998: 91-2; Urton 1981: 201] though these New World ideas are somewhat vague and parallels with African, Asian and New Guinea cases are not precise.

Interpretations of the Milky Way across the globe are variable but River and Snake (or fish, chain of fish) are the most widespread in the Indo-Pacific world. River is especially typical for Australia but only rarely found in sub-Saharan Africa, all Tropical African cases being in Kenya and Tanzania (Nandi, Iraqiw, Niamwesi, Gogo) [Hollis 1909: 100; Lagercrantz 1952: 68]. Snake in Africa is recorded only once among the Malawi [Baumann 1936: 300; Sicard 1966: 81-82]. The scarcity of specified interpretations for Milky Way finds parallels in African interpretations of the Pleiades. The latter are usually selected as a particular object whose heliacal rise and fall signals the end and beginning of a year [Hirschberg 1929] but stories related to the Pleiades or interpretation of the Pleiades as particular animals, persons or objects are rare. The only exception is Hen and chicks of Western Africa and Sudan (Mandjak, Temne, Malinke, Bamana, Dogon, Gbunde, Loma, Bassari, Mano, Gio, Ashanti, Yoruba, Igbo, Ewe, Jukun, Baule, Hausa, Ibibio, Shilluk, Tuareg) but it is certainly late like the domestic chicken itself and has parallels in Europe (with no reports in ancient sources) and in Southeast Asia [Berezkin 2010a: 8-9]. It seems that advanced star lore is a post-LGM phenomenon developed mostly in Northern Eurasia (from which it was brought to America) and in Australia. The Melanesian star lore is almost as poor as the African, and even the Polynesians and Micronesians, who possessed an exquisite practical knowledge of stars, had only minimal star mythology.

Moon married to Venus (fig. 11). Moon is male, the Morning Star, the Evening Star or both are his wives (motif I82c).

Venus is one of the few sky objects widely known in sub-Saharan Africa. The gender characteristics of luminaries, especially of the Moon, are variable but in cases when the Moon is male, the Morning or Evening Stars are often considered to be his wives (Fioti, Luba, Tabwa, Sukuma, Rundi, Niamwesi, Kongo, Songye, Sakata, Kuta, Karanga, Komo, Ila, Ndebele, Mambunda, Bafia, Giriama, Idjo, Western Dan, Mukulehe, Manja, Nzakara) [Andersson 1974: 35; Beier 1966: 15-17; Colle 1913: 715-716; Collén 1971: 162; Fischer 1967: 709; Frobenius 1931: 232, 237-240; Laman 1962: 64-65; Lembezat 1950: 57; Mahieu 1975: 237-238; Millroth 1965: 35; Pechuel-Loesche 1907: 136; Roberts 1991: 260; Schwab 1947: 413; Sicard 1966: 45-46, 57; Smith, Dale 1920: 219; Studtill 1984: 71-73, 130-131; Talbot 1932: 344; Tessmann 1934: 218; Weeks 1909a: 477; Werner 1912: 194]. Outside of Africa such an interpre-
tation has a restricted areal spread. Besides European cases (Bulgarian, Serbs, Ukrainians, Lithuanians, Bashkir or/and Volga Tatars) [Barag 1987: 34-36; Fedorovich 2009: 134; Janković 1951: 99-100, 122; Maksiutova 1991: 186; Nadrshina 1985: 13; Stoinev 2006: 303; Tsivian 1988: 230; Vorobiev, Hisamutdinov 1967: 315], all the others are concentrated either in Australia, New Guinea and nearby islands (Tiwi, Mungkan, Wik-Natara, Marind Anim, Kamano, Usurufa, Torres Strait Islands, Admiralty Islands, probably Ye-Nan) [Berndt 1965: 80-81; Frazer 1939: 217; Haddon 1908: 4; Mountford 1958: 173-175; Nevermann 1934: 371; 1942: 192; Thurnwald 1912: 341; Waterman 1987: 42; Wirz, Nevermann 1981: 207-208] or across South America to the east of the Andes where the “death-motifs” of possible African origin are also numerous (Guajiro, Taulipang, Caribs of Lesser Antilles and/or Guiana, Urubu, Tenetehara, Ashaninka, Takana, Umotina, Kaingang, Chorote, Guarani) [Anderson 1985: 81-83; Gonzalez 1967: 377; Henry 1941: 73; Huxley 1956: 165-167; Jackson 1983: 204; Koch-Grünberg 1924: 55; Magaña, Jara 1982: 112; Nordenskiöld 1924: 297; Roth 1915: 260; Schultz 1962: 244-246; Wagley, Galvão 1949: 135; Wilbert, Simoneau 1985: 18-19; 1986: 27]. Among the Papuans and Melanesians whose star mythology, as mentioned above, is weakly developed, the Venus married to Moon is one of the few motifs related to the interpretation of the night sky that have been recorded.

Rainbow serpent (fig. 12). Rainbow is a reptile (usually a snake) or related to reptiles, fish or invertebrates (motif 141).
Swanton 1928: 480], while Central and Northern Asian cases known to me are only three: Persians, Buryat, and probably Kalash [Crooke 1894: 276; Morgenstierne 1951: 165; Nevski 1934: 372]. In Europe the *Rainbow serpent* is relatively widely spread (French, Bretons, Germans, Serbians, Bosnia Muslims, Poles, all Eastern Slavs, Lithuanians, Estonians, Finns and possibly more) [Afanasiev 1994: 358; Bittremieux 1935: 243-244; Gura 1997: 289-290; Holmberg 1927: 444; Janković 1951: 41] though such interpretations here as well as in the before-mentioned Persian and Buryat traditions are rare exceptions.

Along with *Emergence myth* whose areal spread is almost totally complementary to the spread of *Earth-diver* that is typical for northern Eurasia and North America, interpretation of the rainbow is one of the best indicators of the spread of the Austral set of motifs and probably of "Austral" genes. There is also another dichotomy between the Boreal and Austral worlds, related to the rainbow. In continental Eurasia the rainbow has predominantly positive associations while in sub-Saharan African and in Indo-Pacific traditions the associations are almost always negative and the rainbow is considered dangerous, polluted, bringing diseases, etc.

**Ensnared Sun.** Person prepares a snare or noose to catch the Sun and/or the Sun is caught in a snare by chance (motif A38). Such texts are different from the more general and universally widespread *Sun lost and returned* stories. The *ensnared Sun* is known in Africa, India, Oceania and North America with one doubtful case in South America and were studied by K. Luomala [1940; 1965]. There is an additional link between African and South Asian versions. Only in these regions the Sun is described as an animal (bull, ram, pig). Besides well known Ancient Egyptian ideas (the Sky-cow gives birth to the Sun-calf), in some Western African tales a woman sees an unknown ram and ties it up with a rope after which the world becomes dark because the ram was the embodiment of the Sun. Such an episode is recorded in eastern Nigeria among the Chamba, Jukun "and all the Benue area," the Mbuti Pigmies (the Sun looks like the skin of a pig) and in South Asia among the Munda and Dravidian speaking people of Middle and South India (Bondo, Buna, Agaria, Maria, Toda, a slightly different version among the Gondi). Among Bantu-speaking groups (Kongo, Nkundu, Pende, Luba, Bena-Lulua, Chokwe), stories about the Sun caught in a snare are more Melanesian-like, i.e. the Sun is not associated with an animal. The representation of celestial bodies and atmospheric phenomena as a big or middle-sized mammal in Africa is widespread and is also applied to thunder (motif 15; Luba, Kuba, Tetela, Kuta, Mbala, Lamba, Songye, Pangwa, Yoruba, Zande). Most other cases are in the Indo-Pacific Asia and Oceania and in the New World, mostly in South America. The Mongolian and Kalmyk versions are possibly influenced by Chinese beliefs, and the only Northern Eurasian case is among the Kets.
The dead shake the earth (motif 1119; fig. 13). The earthquakes are produced by the dead who are in the underworld (often when they try to climb out to our world). This explanation of the earthquakes is known only to people of Tropical Africa (Luba, Shambala, Kwena, Konde, Chagga, Ewe, Mangbetu, Masai, Konso) [Colle 1913: 428, 720; Jensen 1936: 497-496; Struck 1909: 85-86], Melanesia (Kai of Huon Gulf, Kuli, Ulawa, d’Entrecasteau Islands) [Aufenanger 1968: 148; Coombe 1911: 259; Jenness, Ballantine 1920: 150; Moss 1925: 33], Andaman Islands, Alor and Timor, Negrito of Luzon (Baraan) and Kuki of Northeast India [Das 1945: 217; DuBois 1944: 164; Garvan 1963: 204; Perry 1915: 138; Radcliffe-Brown 1933: 146-147]. Of special interest is the Ancient Greek version known thanks to Plato [Crooke 1894: 119].

Early Eurasian borrowings in the African set of motifs

I suggested already that some of the motifs found in sub-Saharan Africa, especially in West Africa, may have Eurasian origins. The more materials are acquired, the greater number of motifs that initially seemed to be typically African reveal their probable or possible non-African origins. The time and mechanism of their diffusion into Africa are still far from being clear.
Primeval sky close to earth. The sky was near the earth but then rose (motifs B77).

This motif in its many variations is widespread both in the Continental Eurasian and in Indo-Pacific world but not in Australia. In Africa it is absent among the Khoisan and among most of the Bantu groups (I know but Nyoro and Pare cases) though it is popular in West Africa and Sudan among the non-Bantu people. The Asian links are especially plausible if we look at particular stories that explain separation of the sky and earth.

Figure 14.

Low and edible sky

- Sky rose to its present height when it had been pushed up with a pestle or broom
- First people cut off pieces of the sky or God and ate them
- Possible and related cases of the “edible sky” motif

Sky pushed up with a pestle (motif B77B; fig. 14). Originally the sky was low. Pounding seeds or doing some other household work, a person pushes it up with a pestle or broom, and the sky moves away from the earth. The motif is known in West Africa and Sudan among the Nzema, Ewe, Kraci, Ashanti, Giziga, Kapsiki, Nuba, Dinka, Atuot, and Somali [Anpetkova-Sharova 2010: 37-38; Beek 2010: 53; Belcher 2005: 111; Burton 1991: 83; Cardinall 1920: 23; Fischer 1932: 235; Griaule 1938: 48; Grottanelli 1967: 36; Kapchits 1997: 15-16; Lienhardt 1961: 33-34; Olderogge 1959: 158; Parrinder 1967: 35; Studds 1934: 243] and is recorded in a very similar form among the Dravidian, Mundan, Tibeto-Burman, and Aryan groups of South Asia (Warli, Sinhalese, Garo, Birhor, Bondo, Gondi) [Elwin 1949: 79, 82; 1954: 29; Playfair 1909: 84; Volkhonski, Solntseva 1985: 29-30] and the Austronesian-
speaking people of Melanesia, Indonesia, Taiwan, and the Philippines (Vanuatu Islanders, Mantra, Klemantan, Apayao, Mangian, Manobo, Bagobo, Tagal, Ilokan, Kalinga, Mamanwa Negrito, Bukidnon, Blaan, Subanon, Tiruray, Tboli, and Paiwan) [Egli 1989: 33; Eugenio 1994: 73-74, 90-91, 103-112, 119, 125, 307, 316-317; Fischer 1932: 234; Hervey 1883: 190; Ho 1967: 215; Hose, MacDougall 1912: 142; Skeat, Blagden 1906; Wilson 1947: 20-21]. A somewhat similar motif was known to the Chinese Miao according to which the sky did not rise up immediately when it was knocked with a pestle but a giant raised it [Schotter 1911: 326].

Initially [Berezkin 2009a] I did not exclude the possibility of this motif being of African origin, though its relation to processing of vegetable food with tools often thought to be “neolithic” was worrisome. However, its existence in a not very different form also in the Balkans among the Bulgarians and Serbians [Marinov 2003: 25-26; Janković 1951: 23] with more distant analogies among the Hungarians, and its absence among the Khoisan and especially among the Bantu-speaking groups (in which traditions Austral motifs in Africa are usually found) puts such a suggestion under doubt. Though Asian and African cases almost certainly are related, the early dating of Sky pushed with a pestle is hardly probable and the direction of dissemination of this motif could be from Asia to Africa and not otherwise.

Sky pushed with a pestle is often combined with the motif of Edible sky (H34D; the sky was of an edible substance and the people used it for food). Edible sky is known in West Africa and Sudan (Kraci, Mosi, Kasena, Buiisa, Bini, Giziga, Kapsiki, Nuba, Dinka) [Beek 2010: 53; Beier 1966: 51; Belcher 2005: 111; Cardinall 1920: 22-23; Kotlyar 2009: 55; Lienhardt 1961: 35; Parrinder 1967: 35; Schott 1989: 260] and in Indonesia among the Nias and Ngadju [Fischer 1932: 217, 223; Grabowsky 1892: 118]. Slightly different but probably related stories are recorded among the Tunisian Berber (Matmata) and Khoikhoi of South Africa [Koropchevski 1874: 14-15; Pâques 1964: 186-187]. Balkan parallels are also present. According to the Serbian story, sky distanced itself from earth when a dog took the Moon for a piece of meat and bit a piece of it [Janković 1951: 23, 109]. According to the Chuvash of the Middle Volga region, the sky was low and people took its pieces to use them as medicine [Rekeev 1896: 2].

Many suns as a threat to mankind: Indian – Balkan parallels: Balkan (Serbian, Bulgarian, Romanian) and also Lithuanian parallels exist for the myth about the Sun’s children who could destroy life on earth (motif A2C; fig. 15). According to these versions, the Sun had to cancel his marriage (usually with the Moon) when he learned that his future children would destroy life on earth. In one Serbian and in numerous Bulgarian variants, life on earth was saved thanks to a hedgehog. The hedgehog put a stone in the feeding-trough of his donkey and explained that his animal needed to adapt to such food, because when the new little suns appeared, they would burn everything besides stones [Janković 1951: 63-64; Johns 2005: 268; Kuznetsova 1998: 78; Marinov 2003: 29; Stoinev 2006: 303]. In some Bulgarian versions, the sun’s marriage is canceled because of the devil, not thanks to the hedgehog. In a Rumanian tale, which is strongly influenced by Christian tradition, the motif of the possible emergence of many suns is preserved
although the marriage of the sun is not mentioned [Johns 2005: 269]. The Lithuanian story of the canceled marriage of the sun is very much like the Bulgarian and Serbian tales. The primary difference is that frogs, instead of the hedgehog, raise an alarm. When the sun learns that the frogs went to the god to complain, he deprives them of his warmth, and now frogs croak only after sunset [Lebite 1965: 400].

Figure 15.

Because motifs of Sun’s children are or could be many, Sky pushed with a pestle, and Edible sky are registered across the same three regions, including West Africa and Sudan, South and Southeast Asia, and the Balkan, they appear to be historically related, and this renders doubtful the suggested Paleolithic age for the motif of Moon tricks Sun to kill his children. However, the European cases according to which the Sun had to give up his marriage because his future children would produce unbearable heat, are similar only to the Indian stories but not to the African ones [Berezkin 2010c]. These Balkan – Indian parallels are probably of a relatively late date but the African - Indian links are much older. In Africa the Moon tricks the Sun to kill his children, but not because the latter could destroy the earth, and the corresponding motif is absent also in Australia. In the Asian versions the motivation of saving life from excessive heat is the crucial point of the story, and it is just this motif that appears in the European stories.
This is not the only mythological parallel between South Asia and the Balkans. The motif of a potentially disastrous cosmic marriage that is found both in Bulgarian, Serbian, and Lithuanian versions and in Ancient Greek mythology (mortal Peleus and not Zeus becomes Thetis' husband) is extremely rare in world folklore and as far as I know, is found beyond Europe only among the Baiga, Pardhan and Gondi of central India [Elwin 1949: 87-88, 105, 207]. The conflict between the sun and the frogs or toads described in the Lithuanian story also finds parallels in South Asia, this time among the Tibeto-Burman people of the Himalayas, such as the Lepcha, Minyong, Panggi, and Kachin [Elwin 1958: 47-48, 52-53; Gilhodes 1908: 691-693; Stocks 1925: 363-365].

So the core of the myth about sun's children probably spread from Africa to Asia where more elaborated versions developed in which the accent was put on the Excessive heat of many suns.

**Figure 16.**

African vs. Eurasian origins of Cosmic hunt. Certain stars or constellations are interpreted as hunters, their dogs and game which the hunters pursue (B42). A more particular version is known in Africa: three stars of the Belt of Orion are three persons or animals who pursue each other (motif B42R).

Cosmic hunt myth is known across Africa, Eurasia and the Americas. Its independent emergence on different continents is unlikely because of two reasons.
The first one is that African, Eurasian and North American versions share peculiar details. The second, and perhaps more important, fact is the absence of *Cosmic hunt* across Australia, Oceania and the Indo-Pacific borderlands of Asia. This is evidence against the easy spontaneous emergence of such ideas among any people who practiced hunting. In one Maori and two or three Australian tales certain constellations are interpreted as hunters who pursue birds, but the stories themselves are not about hunting, and their main topics are different [Bonwick 1870: 189; Reed 1999: 210-211; Waterman 1987: 99]. Unlike them, the South American stories have the pursuit of game as their principal theme and in this respect do not differ from their North American and Eurasian counterparts.

The Cosmic hunt is the only widespread star myth in sub-Saharan Africa and it is always related there to Orion (fig. 16). In typical versions (Chokwe, Congo, Songye, Luba-Kasai, Gogo, Yoruba, Bamana) one star is a game animal, another a dog and the third one a hunter [Nilsson 1920: 119-120; Pâques 1964: 170; Studstill 1984: 127-131; Thomas 1919: 180; Vieira 2009: 559; Weeks 1914: 293]. In other cases identification of particular stars may be different but the basic principle of one star as one person or animal remains. Among the Sakata and the Tswana all three stars are three dogs, in Khoikhoi version all three stars are animals (zebras) and the Sword of Orion is the hunter, and in the version of Karanga of Zimbabwe three stars are wild pigs and the Sword is a dog or dogs [Colldén 1971: 162; Koekemoer 2007: 75; Nilsson 1920: 120; Sicard 1966: 42-43]. In South Africa three stars of the Belt are usually identified with three animals even in absence of the Cosmic hunt myth itself, e.g. three rhinoceros among the Venda, three zebras among the !Kung Bushmen, or three pigs among the Suto [Beyer 1919: 10; Gottschling 1905: 382; http://www.psychohistorian.org/astronomy/ethnoastronomy/africanstarlore.php].

Versions according to which the participants of the story are identified not only with separate stars of Orion but also with entire groups of stars are registered only in West Africa. In another version of Bamana myth, Sirius is a dog, Orion is a hunter, the Pleiades and the Hyades are antelopes of two different species. The Temne of Sierra Leone say that the hunter is Orion and the Pleiades are chickens which he is going to shoot. As mentioned above, interpretation of the Pleiades as chickens is certainly late [Berezkin 2009a], as is possibly the very idea of combining into a coherent picture star objects distant from each other.

Both Tropical African (hunter, dog, game) and Khoikoi (three animals and a hunter) patterns have their counterparts in Asia. Something like the first variant is found in Dagestan among the Rutul, according to whom three stars of the Belt are a dog who pursues a wolf, a wolf who pursues a goat, and the goat itself, while Orion’s Belt is the second goat [Bulatova 2003: 222]. The Khoikoi variant finds analogies in Turkic-Mongolian - North American Southwestern myth according to which three stars of the Belt of Orion are three deer pierced with an arrow.

If the African and Eurasian cases are historically related, arguments in favor of localization of the prototypical ideas in Asia seem to be more persuasive though not decisive. The existence of the Southwestern North American versions
of Cosmic hunt based on interpretation of the three stars of the Orion’s Belt and similar up to minor details to the Southern Siberian - Central Asian versions [Berezkin 2006b] is evidence in favor of the presence of the latter in Eurasia since at least the Terminal Pleistocene, before the process of peopling of the New World was mostly over. The dog that is persistently included in the African stories was domesticated in Eurasia and certainly was not known in Africa before Early Holocene times. Therefore the African Cosmic hunt tale could be of the same age and source as that version of Muddled message that relates the origin of death to the behavior of a dog, sheep, or goat, while in the original African versions it was hare, lizard and chameleon. If the African versions really are derived from the Asian ones, this, however, hardly could have happened during the last three or four millennia because the Cosmic hunt stories are absent both in Ancient Egyptian and Near Eastern mythologies and in recent Near Eastern and North African traditions. For the latter Ursa Major is the important stellar object while the Belt of Orion is not, being sometimes ignored altogether.


The Austronesian, Papuan and Japanese stories contain an additional detail that is absent in Africa. The harpoon or hook is the cause of disease of a water-dweller who has been hit with it. The disease cannot be cured by local medicine-men but when the hero extracts his harpoon or hook, the injured person becomes well again. This latter motif is characteristic for the Northern Pacific region of Siberia and America where the African – Asian motif of the harpoon claimed back is absent.
African stories have their own details that are absent in Asia. In many West African traditions (Bobo, Diula, Dogon, Grebe, Ife, Mano, Tangale, Yoruba) and among the Kongo one or both protagonists are women and the object is not a hunting tool but a dish, a comb, a hoe, etc. In different African traditions but especially often in Bantu stories the antagonist makes a demand to the hero which is correct in form but really is unjustified. The hero fulfills the claims or is punished. After that antagonist takes an object or animal possessed by the hero, is unable to give it back and is punished more severely (Batanga, Baule, Dogon, Grebe, Issansu, Kaguru, Kongo, Luchasi, Luo, Mano, Mongo, Ndau, Nzema, Sakata, Swahili, Tangale, Western Dan). An Ancient Egyptian tale according to which the younger brother asks the elder one to guard his dagger, steals it himself and claims back is not identical to the Tropical African tales but still shares with them common elements.

Culturally unspecific stories of adventures which lack cosmological connotations are subject to easy borrowing. Some of the African tales definitely are not just stories of adventure but are well ingrained into local cosmologies. Following the animal that ran away with his spear, a man descends to the underworld where he gets to know that the forest animals are his dead relatives. Or when he gets his spear back, he receives also the Moon as a gift and the night luminary ultimately ascends to the sky. Nevertheless the core of Lost object claimed back stories both in Africa and in the Austronesian world has nothing to
do with cosmology and the Paleolithic age for it is very doubtful. Because the story is not found among the Malagasy, its spread to Africa by the Austronesian voyagers does not seem plausible. The earlier time is more probable but the direction of borrowing remains uncertain. All other out-of-Africa parallels for African stories of adventure are found in Eurasia, so the *Lost object claimed back* is a unique case that possibly will never find explanation.

In favor of the possibility of infiltration of the Indo-Pacific motifs back into Africa that predates the Malagasy migration is the areal spread of the *Strong and weak* motif. It is the only transcontinentally known “death-motif” for which African origins are doubtful.

**Strong and weak.** People are mortal because they have been likened to something subject to decay and easy destruction, *e.g.* to soft wood and not to stone (motifs H9–H9b).


**Strong and weak** is the main “death-motif” across Pacific Asia. In corresponding myths the mortal nature of man is usually considered to be compensated with his ability to propagate like plants and unlike stones which are eternal but do not have children. Besides Pacific Asia, such an idea is known in North and South America, being especially popular among the Na-Dene groups of the North American Northwest.

It is possible that **Strong and weak** motif was widespread also in Siberia, where it was replaced recently with the story about an antagonist who spoiled human figures made by god before the latter could insert in them the immortal
soul [Berezkin 2010c]. Such a myth is known also in Southeast Asia and the relation between both motifs in northern and southern Eurasia needs further investigation. The existence of Siberian versions contradicts the dichotomy between Boreal and Austral motifs and needs explanation. Both continental Eurasian and Pacific populations could have taken part in the peopling of Siberia before and after the LGM. Western Siberian mythologies (unlike the tradition of southern Siberia and the Yakuts, the newcomers from the south) have a strong Pacific component and share many stories with mythologies of Lower Amur, Chukotka and the North American Northwest [Berezkin 2006a].

In Africa the motif is rare and recorded mostly in the east, i.e. in Tanzania. The Malagasy tradition is definitely related to the Indonesian one. A unique West African case among the Nupe (Benue-Congo group of Nigeria) can be, however, interpreted as a result of an earlier diffusion of the motif across the Tropical Africa.

**Conclusions**

The world distribution of motifs related to the explanation of the mortal nature of human beings attests to their spread from Africa ca. 60,000 years ago with bands of modern people, first to Indo-Pacific Asia and Australia and later to the New World. It is easily understandable why just this theme attracted attention of the people at the early stages of cultural evolution. An alternative interpretation that the death motifs initially appeared in Asia and then spread both to the Americas and to Africa cannot be completely rejected. However the popularity and diversity of these motifs in Africa is greater than in Indo-Pacific Asia and Australia, so considering the out-of-Africa scenario based on the data of genetics and archaeology, their African origin is the simplest explanation. Apart from Africa, the “death-motifs” are especially popular in South America where the number of recorded texts is the greatest. However, we should take into consideration that the South American folklore traditions are much richer and better studied, so in the overall totality of cosmological and etiological myths the “death-myths” in South America occupy a less distinguished position than in Tropical Africa.

The African origin of the Emergence myth, i.e. the emergence of the first people (and not of a primeval couple alone) from under the earth or from an enclosure on the earth’s surface (stone, tree, etc.) and of interpretation of rainbow as a serpent are also probable. I would stress again that the folklore data itself does not help us to define the direction of diffusion. However, the strict dichotomy between the Boreal and Austral parts of the Globe regarding the distribution of corresponding motifs undermines the hypothesis of their independent emergence in Africa, Indo-Pacific Asia and the Americas, while the archaeological and genetic materials prove that the migration of modern man was from Africa to Asia and to America and not in the opposite direction. The story about the Moon who tricked the Sun to destroy his or her children also must have been known in Africa before 60,000 b.p. The Australian parallels (one bird tricks
another and the last egg of the tricked bird turns into the Sun) are especially important because they cannot be explained by a hypothesis of the reverse movement of ideas from South Asia to Africa. Venus as the Moon’s wife, Milky Way as divider of seasons, and the Dead shake the earth may have African origins, though the number of registered cases is perhaps not large enough for convincing conclusions.

The most interesting object of future research might be the possible diffusion of folklore-mythological motifs to Africa from Eurasia. Some such borrowings are recent, but some others could be prehistoric, related to the trans-Saharan trade contacts in Antiquity, to the spread of Afrasian languages and the back migrations to Africa in the Paleolithic. As far as I know questions of when and how particular stories and motifs appeared in African folklore and mythology were never put because the predominant approaches to the study of folklore were anything else but historical (typological, structural, psychological, functional). In this paper I addressed only a minor part of African folklore materials which are an important and still largely ignored source of historical information.

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The Mesolithic Distillation of Pitch
and its Ethnolinguistic Reflections:
A Holocene Etymology for an Italian Verb

Francesco Benozzo
University of Bologna

Abstract: One of the most important technological innovations of the European Mesolithic is the production of tar and pitch from trees. Within the framework of the Paleolithic Continuity Paradigm (PCP) – which considers the arrival of Indo-European people in Europe and Asia as one of the major episodes of the arrival of Homo sapiens in Europe and Asia from Africa, and not as an event of recent prehistory – an ethnolinguistic correlation is here proposed between present-day verbs used in the Italian area with the meaning of ‘to light (a fire)’ and the process of pitch creation in the Sauveterrian cultural complex (10,000-7,800 B.P.).

Keywords: Paleolithic Continuity Paradigm (PCP) – European Mesolithic – pitch – Sauveterrian – exploitation of fire

In the period between the final Upper Palaeolithic and the introduction of agriculture, cultures of early postglacial Europe (Mesolithic) start to be associated with relevant specialized activities, such as fishing techniques (Atlantic, Germanic and Baltic areas) and wood industry (Middle and Southern Europe) (cfr. Kozlowski [1973], Bagolini et al. [1994]). This last feature is a consequence of the increasing progression of the forests and of the exploitation of new resources, and its first evidence is the development of woodworking tools-axes, chisels, adzes and gouges. The strong presence of composite tools in Mesolithic archaeological finds implies the discovery, in the same period, of natural gums and, above all, of new techniques able to create natural glues (cfr. Perlès [1995]).

Starting from these considerations, and according also to the evidence that the usual sealants used for the joints between hides and the sewingholes of boats were pitch, bitumen and tar, the invention of tar and pitch can be ascribed to Mesolithic cultures (cfr. Hayek et al. [1990], Aveling-Heron [1998], Sampson et al. [2002]). This invention is well reflected in European languages: for example, with regards to the composite tools, Mario Alinei, in the frame of the Palaeolithic Continuity Paradigm (PCP) (cfr. <www.continuitas.org>), notes that “some words […] still evoke the ancient technique: OIcel. *tjorr* ‘sword’, but literally ‘wooden handle, attached with tar’, dial. Swed. *tjör*, *tjör*, *tjur* ‘piece of resinous wood from an old pine or fir’, ‘curved part of the bow’” [Alinei 2003: 211]. Moreover, “the same Germanic word family of *tree* and *tar* also include such words as *trust* and *true*, originally ‘reliable’. Traditionally, these words have been connected to *tree*, without any pertinent arguments. More concretely and significantly, both *trust* and *true* ‘reliable’ could be connected with glueing techniques, and reflect the impact of this innovation on the mind of Germanic Mesolithic fishers and hunters” [ibidem] (cfr. also Alinei [2008; 2010: 526-527]).
Before deepening the linguistic problem, it is relevant to recall that in the Northern Mediterranean region three Mesolithic (M) cultural areas can be identified in the Holocene (cfr. Kozlowski [2005]):

M1) the Iberian microlaminar complex;
M2) the Northern Balkan complex;
M3) the Sauveterrian in Italy, Southern France and part of Balkan area, followed by the Castelnovan diffusion of trapezoidal microliths [FIG. 1].

According to the most recent archaeological research (cfr. ibidem), these cultural facies must be seen as developments of previous Palaeolithic (P) facies: M1 in continuity with Magdalenian (P1), M2 in continuity with Late Balkanic Epigravettian (P2), and M3 in continuity with Late Italic Epigravettian (P3) [FIG. 2]. This Palaeo-Mesolithic stability, which may be interpreted in some cases also as a substantial permanence of techniques developed by men in the utilization of natural resources (as already stated by Gabel [1958]), can be possibly observed also with regards to the production of tar and pitch: the recent discovery of two stone flakes partly covered in tar in fluvial gravel and clay in central Italy, which are compatible with the late Middle Pleistocene, implies in fact a capability for Pleistocene men to utilize raw materials available during cold phases, and antedates the invention of pitch to Mediterranean Palaeolithic (cfr. Mazza et al. [2006]). The lithic industries from this site indicate that in circum-Mediterranean areas tool hafting with tar “had already been accomplished long before similar techniques became a diffused practice in other parts of the world” [ibidem: 1317]. As I will argue, this late discovery is not without implications for my etymological hypothesis (and cfr. also Boeda et al. [1996], Grünberg [2002]).
The invention of pitch implies a skilled knowledge of techniques and procedures associated first of all with the exploitation of fire. Pitch was made by the dry distillation or destructive heating of pinewood (cfr. Bonfield [1997], Kaye [1997], Gibby [1999], Regert-Rolando [2002], Regert et al. [2003], Regert [2010]) and the traditional production method was intricately elaborate, akin to smelting, and probably involving the construction of small ovens in the form of an inverted cone, of stone kilns of different kinds, and of rudimentary sealed containers in which to heat bark (cfr. Pollard et al. [2006: 154-155]).

Although many archaeologists still consider it a mystery how Paleo-Mesolithic men could distill pine resin and birch bark (“how these tars were produced in the Paleolithic-Mesolithic age remains a mystery”: Peters et al. [2005: 336]), modern ethnographic research can provide useful examples.

For instance, among the Native Americans of the Red River Gorge Pine “tar was made by burning pine trees under pressure in kilns. Charcoal and tar were produced, with the tar collected in drainage grooves around the kilns” (cfr. LRRG: 3). Findings of kilns dated at a pre-Neolithic age, such as the one found in Trollskogen (Sweden) may be easily connected to the same technique [FIG. 3].

Another method of producing pine tar was to dig a large pit with a sloping floor. A barrel was set in the ground at the bottom of the slope. The pit was stacked with resin-rich “lightwood” and covered over with dirt except for one ventilation hole. This was the technique in use among the Navaho [FIG. 4]:

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1 It has been recently argued that even Neanderthals did not come across these pitches by accident: “Today, comparable pitches can easily be produced with modern technical methods, i.e. using airtight laboratory flasks and temperature control facilities. However, any attempt at simulating the conditions of the Neandertal period and at producing these birch pitches without any of these modern facilities will soon be met with many difficulties. This implies [...] a conscious action is, and it is a clear sign of considerable technical capabilities”: Koller et al. [2001: 386].
In Nigeria, bonfires are constantly added with brushwood from time to time over a period of a day, to gradually raise the temperature high enough to distill pitch [FIG. 5]. Bearing in mind procedures similar to the last one, experiments have been made for reconstructing prehistoric bonfires in order to produce pitch, showing that temperatures of 1800 degrees Fahrenheit can be reached in about 24 hours [FIG. 6]
Other experimental reconstructions of European Mesolithic kilns [FIG. 7] show remarkable similarities with kilns still used in the Italian Apennines till a few years ago by charcoal workers (carbonaia) [FIG. 8]: on the level of an uninterrupted continuity – apart from stressing that the prehistoric exploitation of seasonal resources (including distillation of pinewood) is well documented in Northern and Central Apennines (cfr. Lubell et al. [1995]) – it should be pointed out that the production of pitch was one of the secondary activities related to the making of charcoal (it was employed for covering roofs, or as a glue for tools, and the carbonaia used to sell it together with charcoal: cfr. Miniati [1986]).

From the ethnolinguistic and archaeolinguistic perspective offered by the PCP, it would be curious that two crucial and embryonic associations such as the one between fire and pitch and the one between fire and glue did not leave any lexical traces. Starting from the Latin word for pitch (i.e. pix and picula, significantly derived from pinus ‘pine’: cfr. [IEW: 794, Gamkrelidze-Ivanov [1995: 543]), it is possible to re-evaluate in this Mesolithic (or late Palaeolithic) frame the original motivation of the Latin verba picare (with the variants *piceare and piculare). This verb endures in a vast Neo-Italid area (cfr. Benozzo-Alinei 2010) with the meanings of ‘to tar on, to stick, to glue, to entangle, to take’ (cfr. It. pigliare, appiccare, impegolare, impegolarsi, Sard. pikare, pigare, pigulare, Old Occ. empegar, Port. pegar, South. Fr. (Marseille) empegar, Dial. Fr. poisser, Bearn. apegà, Friul. peà)².

² In this occasion I refrain from discussing the several and often bizarre etymologies usually proposed for explaining the verbs in question: this would subtract too much space from the discussion; to this subject I will dedicate a specific article as soon as possible.
In a more restricted and specific area, which corresponds to that of the Italian dialects [FIG. 9], the same verb endures with the meaning of ‘to light, to light a fire, to catch fire, to inflame’. As this meaning is documented simultaneously with the others mentioned above, based on the norm of “semantic density” (cfr. Alinei [1996]) one can argue that the Italian area is the one where the verb in question was first lexicalized.

As can be seen, with the exception of Sicily (where the verb for ‘to light a fire’ is *addumàri*), the area where the iconomastic³ passage {‘to produce pitch, to plaster with tar’} _‘to light (a fire)’ is recognizable, strictly corresponds to the Sauveterrian area (M3) where the invention and production of pitch has been inferred by archaeologists [cfr. FIG. 1]. It corresponds in an even closer way to the (Palaeolithic) Late Italian Epigravettian area (P3), where – as argued by Mazza et al. [2006] – tar and pitch production was an activity developed as early as the Middle Pleistocene [cfr. FIG. 2].

All the existing forms can be easily connected with the Latin ones, according to the following correspondences (geographically listed in FIG. 10):

(IN +) PICARE

_ North. It. _ impigar, mpigà, pigà

(IN +) (AD +) *PICEARE

_ North. It. _ pizà, pizàr, (i)mpizàr, impizèr, apizà

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⁴ *Iconomastic* was unfamiliar to me, and is not found in most English dictionaries. It is a blend of *icon* + *onomastic*, coined by Mario Alinei to avoid the ambiguous term *motivation*. See also *iconym*, below [Ed.].
FIG. 10 - Forms related to picare, *piceare, piculare [based on ALI, map nr. 412: ‘accendere (il fuoco)’, ‘prender fuoco’ [‘to light (a fire)’, ‘to catch fire’]
South. It. forms like *appizzikà, appeceità, appiccêke, appicc-kà, appicçikà, appececkà* (related to It. *appiccicare* ‘to stick’) seem to have expanded the root *PICEARE* in *PICICULAIRE*, presumably in analogy with *PICULARE*, but also with the possibly meaning of ‘to drip pitch’ (*pece colare*).

With regard to the forms related to *PICULARE*, one can assume a palatalization of *CL* to *[x]*, with subsequent loss of the palatal consonant: this phonetic trait (well known in Transalpine dialects and typical of French) is common in Piedmont dialects (cfr. Rohlfs [1966: 350]), and its diffusion in other northern and central parts of Italy would be consistent with the inferred direction (North-West _ South-East) of Italian Sauveterrian (cfr. Broglio [1996], Binder [2000], Kozłowski [2005], Martini [2008: 181-182]) (see arrows in FIG. 1, referring to the later but identical diffusion of Castelnovian). In this way, the absence of palatalized forms in Southern Italian dialects could be correlated with the absence of a few Sauveterrian tools in the same area: “una diffusione del modella sauveterriano da nord verso sud e il suo progressive allontanamento dalla provincia culturale originaria potrebbe essere la causa della mancata produzione al Centro-Sud di alcuni manufatti segnalati nei complessi dell’area alpine e delle zone limitrofe, [...] che fanno parte del Mesolitico transalpino” [ibidem: 181].

I think that the Italian verb *pigliare* (‘to take, to catch’) must also be interpreted as a palatalized form of *PICULARE*, that is to say as an allotrope of the verb *impegolare* ‘to entangle’, which obviously continues the same root. This correlation is confirmed by the synonymic series *impigliare ← impegolare* ‘to entangle’ and *impigliarsi ← impegolarsi* ‘to get entangled’. Moreover, the verb for ‘to catch fire’ is, in Italian and in all the Italian dialects, *pigliar fuoco* (with the variants, from North to South, *pié, pier, pià, piär, pisà, pigà, pijà, peccìà, pillà, pigliquà, piggàrì, piccìàrì*, etc.): here, the old meaning of *impegolare* represents an astonishing confirmation of my iconomastic hypothesis, as its medieval meaning (documented in Guido da Pisa, 14th c.) is ‘impiastrare, spalmare di pece’ [‘to plaster, to cover with tar’]. In this sense, *impegolare* still works as an iconym of *pigliare* (and *pigliar fuoco*).

To summarize and conclude, the above-mentioned verbs documented in Italian dialects for ‘to light (a fire)’ should be seen as developments of the iconym {‘to produce pitch, to plaster with tar’}, represented by the Latin forms *picare, *piceare, impiculare, and *piciculare*, all derived from the Latin word for pitch (*pix, picem, picula*). The iconymic field is the one connected with the various techniques of fire exploitation and of preparation of fires and bonfires in order to distill pitch. This activity was one of the most important innovations in Mesolithic societies, a period when fires, apart from other uses also previously documented, started to be deliberately prepared and lighted for the production of pitches and tars. Cumulative ethnophilological evidence (cfr. Benozzo 2009, 2010a, 2010b) indicates that this verb originated during the twenty-two centuries which coincide with the pre-pottery Neolithic Sauveterrian cultural complex (10.000-7.800 B.P.), an industry clearly linked to the Upper Palaeolithic and Early Epipalaeolithic traditions and to the Final Italic Epigravettian.

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5 It has to be noted that in many dialects, such as the Emilian ones, the palatalized forms exist as allotropes of the forms derived from *(IN +)* *PICEARE* (for example, in Modenese *impier* is synonymous with *impizèr*).
REFERENCES


francesco.benozzo@unibo.it

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The myth of rapid linguistic change III: The evidence from Greek

Jonathan Sherman Morris
São Paulo, Brazil

Parts I and II of this article were an attempt to show that the model for the spread of modern languages into the New World (e.g. English into the United States) in which the language varieties of newly settled areas reflects a specific and demonstrable dialectal inheritance also applied to the spread of Latin across the Western Roman Empire and its subsequent differentiation into its daughter Romance languages, notably French, Italian, Portuguese, Romanian and Spanish.

According to this model, differences between Classical Latin and daughter languages were not due to diachronic change but to borrowings from Italian dialects/Italic languages. Roman military history suggests a plausible correlation between such borrowings and the movements of legions, except in areas settled by a critical mass of the affluent and educated classes, such as Baetica and Provence, which tended to be more linguistically conservative, due to a conscious attempt to uphold a ‘correct’ linguistic standard.

An analysis of phonological and lexical evidence in these articles also showed that such changes occurred during the early Roman Empire and soon became fossilised due to a dramatic decline in recruitment from Italy and a shift towards local recruitment from hereditary army families. The evidence was thus entirely at odds with conventional models which posit an ‘automatic tendency for languages to change’.

While the above model appears to provide a convincing explanation of changes in the Romance languages, it begs the question as to whether this model can be extrapolated to other language groups. This article attempts to carry out a similar analysis for Greek and concludes that it does.

BACKGROUND

By comparison with Latin, which is only sparsely documented before III BCE, knowledge of Greek was extended well into the second millennium BCE by Michael Ventris’ 1951-53 demonstration that the Linear B script transcribed an archaic form of Greek. Linear B inscriptions have been found in Crete and on the Greek mainland (Pylos, Mycenae, Thebes and Tiryns) and date from a period of 1375-1200 BCE. The fact that the syllabary seems to have been adopted from Linear A, which was originally used to transcribe another unrelated language (possibly Anatolian) as early as XVIII BCE, complicates an understanding of the phonology of Mycenaean Greek.

Despite its geographical extent, this language appears to be a homogeneous administrative language with little regional variation. The fact that it innovates in such forms as the 3rd person plural of the present tense with *-o-si, while Doric *-ohti retains the reconstructed proto-Greek form *-onti is nevertheless highly significant, since a) it proves that there were other dialects in existence during the Mycenaean age, b) it shows the specific affinity of Mycenaean Greek with the Attic-Ionic (-OUOi) and Lesbian (-OIOi) dialects more than with Doric and

Arcadian (-ovai), c) the fact that these features are still present in the Doric dialects in VI-V BCE is in itself an argument for linguistic conservatism.

The generalised destruction of civilisations at the end of XII BCE led to a ‘dark ages’ of several centuries, with no written records surviving. By the time these reappeared, at the end of the VIII BCE, the central prestige variety of Greek had given way to a ‘democracy of dialects’ with each city using its own dialect in communication, à la Schwytzertütsch.

These dialects can be classified into five major groups: \textit{Ionic-Attic} (with Attic confined to Attica around Athens, and Ionic to Euboea, Chalcidice, Thrace, Chios, Samos and the coast of Asia Minor from Smyrna (not included) down to Miletus, \textit{Arcado-Cypriot} covering the interior of the Peloponnese and Cyprus (strongly suggesting that the turbulence at the end of the Mycenaean era led to extensive migration from the former area to the latter), \textit{Doric}, which extended from Epirus into the Peloponnese (excluding the Arcadian centre), the Argolis (around Corinth and Megara), and Southern Aegean (Crete, Thera - modern Santorini), Melos, Cythera and Rhodes), \textit{Aeolic} (Thessaly and Boeotia, Lesbos and the Coast of Asia Minor from Smyrna to the Hellespont), \textit{Pamphylia}, spoken in coastal Anatolia NW of Cyprus, which shows affinities with Arcado-Cypriot, but became geographically isolated, and Macedonian.

It is only to be expected that the turbulence which accompanied the end of the Mycenaean civilisation was accompanied by displacements of peoples. Margalit Finkelberg\textsuperscript{1} has analysed the features of the various dialects and attempted to draw up a map of their original distributions based on overlapping features. By her system, Doric was originally confined to Epirus stretching from the Adriatic to the Aegean, while Boeotian was confined to Western Thessaly and Boeotia occupied by Lesbian. Thessalian would originally have been absent from Thessaly but would have occupied a strip of land stretching from the North of Boeotia through Delphi and down into Elis in the North West of the Peloponnese. The Argolis (Corinth, Argos, Epidaurus) would have been occupied by Ionic, as would the island of Euboea, with Arcadian occupying the remainder of the Peloponnese. Analysing her model is beyond the scope of this article, and I merely note that she operates within a conventional Indo-European dating framework and follows Porzig and Risch\textsuperscript{4} in arguing that the Greeks arrived in Greece around 1900 BCE speaking a single language which differentiated into two major dialects, a proto-Ionic/Arcado-Cyprian/Lesbian and a proto-West Greek/Boeotian/Thessalian which subsequently splintered even further Against this, we may argue that if Doric could maintain stability of a feature -OVT unchanged for 700 years after the collapse of Mycenae, why not for 700 years before or for longer, and who is to say that there were not other highly divergent dialects spoken elsewhere which were nevertheless Greek? Chadwick\textsuperscript{5} has argued that there is linguistic evidence in Mycenaean for social stratification, and that the Doric dialects represented the actual speech of an underclass which rose against the aristocracy, hence it is misleading to assume that there were no Doric speakers in Mycenae prior to its downfall. It may thus resemble the “Anglo-Saxon invasion” in which a pre-established mercenary population called on their kinsmen to migrate.

These various dialects were also spread into the Western Mediterranean through the founding of colonies, principally of Doric speakers: Syracuse (734 BCE) from Corinth, Sybaris (720 BCE) and Crotone (710 BCE) from Achaea, Tarentum/Taranto (706 BCE) from Sparta, Cyrene (630 BCE) from Thera, with colonists from Sybaris founding Paestum (around 600

\textsuperscript{2} Map available at \url{http://en.wikipedia.org/wiki/File:AncientGreekDialects\_0028Woodard\_0029.svg}


\textsuperscript{4} W. Porzig, quoted in Finkelberg.

\textsuperscript{5} Chadwick, Who were the Dorians?, 1976, quoted in Méndez-Dosuna, J. In Christidis, III.7
BCE), colonists from Cyrene founding Euesperides (present day Benghazi; c. 525 BCE). Ionian speakers also founded colonies in the Western Mediterranean, originating from Phocaea on the West coast of Anatolia: Massilia/Marseille (c. 600 BCE), Antipolis/Antibes (V BCE), Emporion/Empuries (575 BCE) (Spain), as well as from Euboea, who founded Cumea (VIII BCE) and subsequently Parthenope (VIII BCE) and subsequently Neapolis/Naples beside the latter settlement (V BCE).

While the Ionic dialects initially emerged as the prestige dialects of Greek, from the formation of the First Maritime League in 478/477 onwards, Athens assumed a position of cultural and military supremacy, with Athenian officials visiting or residing in many cities around the Aegean and cities subject to its hegemony increasing subject to its courts and many thousands of non-Athenians either serving as rowers in its fleet or resident in Peiraeus, the dominant trading centre in the region. It goes without saying that the fact that in V-IV BCE, Athens had the best writers, dramatists and intellectuals was also enormously important to the prestige of Attic. In this cosmopolitan milieu, this common Attic language (koinê) itself underwent a number of modifications, notably due to Ionian influence (e.g. Attic. θάλαττα > Ionic. θάλασσα, or σο, ρο > ρο) with both Athenian and non-Athenian writers from other dialectal backgrounds adopting the koinê (e.g. Thucydides) in order to appeal to a wider audience.

In this way, an international dialect akin to American English arose, which differed from pure Attic, and which transcended Athens itself, the influence of which declined from the start of IV BCE. For this reason, it was an essential choice for the official language by Philip II of Macedonia who aspired to raise his backward tribal kingdom with its apparently coarse dialect to the status of a great power.

It is most probably the rapidity with which his son Alexander established his empire that accounts for the dominance of a Greek language which was relatively homogeneous but highly innovative in lexical and semantic terms and which not only resisted the centrifugal force which shattered Latin into many daughter languages but also crushed its rivals.

In areas where a dialectal tradition was entrenched, this process took 3-4 centuries. Hence Doric dialects are recorded until I BCE in Crete, until II CE in Cyrenaica and until III CE in Rhodes, while the prestige of the Phocian dialect of the oracle of Delphi lasted for several centuries and the Aeolic dialect of Lesbos until I CE. Pausanias notes that the Messenians (South West coast of the Peloponnese) still addressed him in their dialect in mid-II CE. Doric characteristics have also survived in isolated dialects (Tsakonian in the Eastern Peloponnese and Griko in Calabria and Puglia (see below), although both show greater or lesser influences from the Koinê).

If anything, the main objection to the Koinê arose towards the end of I BCE in the Atticist literary movement. Its causes are complex, and Browning cites: a reaction by rhetoricians against the floweriness of koinê and the promotion of older literary models, a desire of the educated elite to show their superiority to the masses, and a ‘nationalist’ reaction to Roman repression under the later Republic which took the form of a nostalgia for the glories of the Athenian age.

The Atticist movement was nevertheless profoundly influential, most notably within the Christian Church, whose earliest writers appear to have written more or less as they spoke, with little concern for pagan grammarians (the gospels are of uneven quality, with John’s gospel and the book of Revelation riddled with so many errors and anomalies that Browning doubts that he
had a perfect knowledge of Greek). Starting with St. Luke, however, the register of Christian writings rose, no doubt as a result of a conscious effort to write in an ‘elevated’ style in order to make Christianity, which had hitherto been a movement of the underclass, more respectable to the upper classes. This tendency persists for the whole of the first millennium, e.g. with late IV CE writers such as John Chrysostom and Gregory of Nazianzus writing in archaic literary language. There is indeed an anecdote that John Chrysostom (347-407 CE) was interrupted by an old woman who complained that she could not understand half of what he was saying, with him obliging her by completing his sermon in the vernacular.

The parallels with Latin should be clear here, in that texts from the period are not a faithful mirror of the contemporary language but a deliberate attempt to imitate an archaising literary language, with this veil only slipping when the writer was insufficiently literate to live up to the ideal.

Browning suggests that the major change of the early Byzantine period was the dropping of the initial vowel (e.g. ὑπαρχόν > ψάρη, ἐρυθός > βρόσκω). In the Griko section, we nevertheless suggest that this change may well be earlier.

At the same time, as shall be seen from the Swadesh list and the phonological sections, the vast majority of changes from Classical to Modern Greek had already taken place.

SWADESHE LIST ANALYSIS

The following table examines all of the entries on a 200-word Swadesh list where lexical replacement has occurred and the Modern Greek forms are not transparently related to their Classical predecessors or have undergone minor phonetic changes (e.g. χερή > χέρι ‘hand’, νύξ > νύχτα ‘night’, πέτωμα > πετάω ‘I fly’) or have changed from middle voice to active voice or merely added a prefix (e.g. πνέω > ἀναπνέω ‘I breathe’). It aims to analyse the nature of the changes and where possible, assign a likely date to them.

The basic data for Classical Greek was taken from Ringe, Warnow and Taylor\(^9\) and for Modern Greek from Dyen, Kruskal and Black\(^10\) - although in each case the entries were checked against Buck\(^11\) and the online Modern Greek dictionary at http://www.wordreference.com and amended accordingly\(^12\) - Dyen’s Modern Greek Swadesh list is particularly misleading.

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9 Ibid., p. 53-54.
12 C.D. Buck, A dictionary of selected synonyms in the principal Indo-European languages
13 In particular, 6 BACK ῥαχις is omitted from the list; 55 FOG ὀμίλη is still in use, hence it does not count as lexical replacement; 74 HOLD ἓχο still in use, hence it does not count as a lexical replacement; 76 HUNT was excluded, since κυνηγάω was already used by Homer; 117 RIGHT δίκαιος means ‘right’ in the sense of ‘just’ not ‘correct’; 120 ROAD ὀδός still in use; 126 SCRATCH ξύρω in Modern Greek; 143 SMOOTH λείος (i.e. ‘not rough’ still in use, ὀμάδας means ‘flat’), 143 SOME κανενάς means ‘any, none’; 149 SQUEEZE ξυώ, common word (among several) is σφίγγα; 151 STAB (with stick) Dyen gives λαθώνω for Modern Greek – just means ‘hurt’ – stab with knife would be μαχαρίζω (unchanged since Classical Greek); 153 STICK Dyen gives ξύλο for Modern Greek ‘wooden stick’ – this just means ‘wood’, stick would be κλαδί; 165 THIN Dyen gives ‘líanos’ for Modern Greek ‘thin’ – actual word is λεπτός (survival from Classical Greek); 191 WIND ἄνεμος still in use in Modern Greek, not replaced by αέρας; 193 WIPE σπρόγγα present in Classical Greek, ἀπομόσσω means ‘wipe clean’ – this is just one among a large number of words meaning ‘wipe’ in one sense or another, e.g. ἀμφιμάμα, ἀναμάμα, ἀναμιμά, ἀποκορέω, ἀπομόσσω, ἀποσμά, ἀποψσάω, ἀποψάω, ἀποψήχα, δισσάμα, ἐκζέω, τερσάιν, + many others.
While the choice of some of the words seems extremely ill-advised due to their semantic complexity, my Swadesh list approach at least has the virtue of impartiality.

<table>
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<th>No.</th>
<th>English</th>
<th>Ancient</th>
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<td>1</td>
<td>ALL</td>
<td>τάς</td>
<td>δλοι</td>
<td>B13.13/13.14, D704 - δλος/δλοφς - Homer 'whole' - many IE cognates, note i.e. cognates for τάς much less clear PRESENT IN CLASSICAL GREEK Griko Salentino olo</td>
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<td>4</td>
<td>ASHES</td>
<td>τέφρα</td>
<td>στάχτη, τέφρα</td>
<td>B1.84 - Byz. from στάχτη κονία 'trickling dust' &lt; στάξιω 'drop', 'drip'. - used by Constantine Porphyrogenitus (early X CE) in the sense of 'ashes' but already present in LXX (III-II BCE) as 'lye'. τέφρα INTERNAL BORROWING: HELLENISTIC Griko Salentino statti, Pontic Σαχτάρ</td>
</tr>
<tr>
<td>6</td>
<td>BACK</td>
<td>νάτον, ράχις</td>
<td>πλάτη, ράχη</td>
<td>πάχις already present in Plato, Timaeus 77d, also in Sophocles, Euripides, with meaning of 'lower part of back' F554 πλάτη - originally, 'broad', then in sense of 'broad-shouldered (Sophocles, Ajax 1223), but note Hittite paltana 'shoulder', OChSl plešte 'shoulder' PRESENT IN CLASSICAL GREEK</td>
</tr>
<tr>
<td>10</td>
<td>BELLY</td>
<td>γαστήρ</td>
<td>κοιλιᾶ</td>
<td>B4.46, D551 κοιλιᾶ (cavity &gt; intestines) - not in Homer, technical word for 'stomach' in Aristotle, more common in NT than γαστήρ for 'stomach' and 'womb'. INTERNAL BORROWING: HELLENISTIC</td>
</tr>
<tr>
<td>12</td>
<td>BIRD</td>
<td>ὅρνις</td>
<td>πουλί</td>
<td>B3.64, A293 &lt;Latin pullus 'chicken' EXTERNAL BORROWING: HELLENISTIC Griko Salentino pikuli</td>
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<tr>
<td>14</td>
<td>BLACK</td>
<td>μέλας</td>
<td>μαύρος</td>
<td>B15.65 - in NG, μέλας &gt; μελάνα 'ink', μελανός 'blue black', Lith. melns 'black, dirty', Sanskrit mala- 'filth' μαύρος first mentioned in Odyssey 4.824/4.835 to describe a 'ghost' which is hard to see &lt; ὀμαύρος (C69) Russ. smuryj 'dark grey', chmuryj 'overcast, sullen' INTERNAL BORROWING: POST-HELLENISTIC Griko Salentino mavro</td>
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<tr>
<td>16</td>
<td>BLOW (WIND)-VB.</td>
<td>πνέω</td>
<td>φυσάω</td>
<td>B10.38, D1069 - φύσα (already present in the Iliad, in the sense of 'bellows' - NT 'blow up'; F1055 'bubble'φυσῶ INTERNAL BORROWING: HELLENISTIC Griko Salentino fisô</td>
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<td>17</td>
<td>BONE</td>
<td>óστέον, κόκκαλο</td>
<td>B4.16, C553 - still in formal use, in use in NT. Κόκκαλο &lt; Κόκκαλος 'kernel, grain, seed'. INTERNAL BORROWING: POST-HELENISTIC. Griko Salentino steo.</td>
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<tr>
<td>22</td>
<td>COLD</td>
<td>ψυχρός, κρύο</td>
<td>B15.86, D1100 - still ψυχρός in NT, related to ψυχή 'breath, spirit'. Ψύχος still used formally to mean 'cold'. Κρύο means icy in Hesiod, Herodotus. Cognate with OHG hrosa 'ice crust', Latv. kruvesis 'frozen dung'. INTERNAL BORROWING: HELLENISTIC. Griko Salentino tzichró.</td>
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<td>24</td>
<td>COUNT</td>
<td>όριθμέω, μετρώ</td>
<td>F139, D130, C665 - μετρέω - measure, estimate (already in Homer (Ion.-Att.)). C104 - όριθμέω 'count' - already in Homer (Ion.-Att.). INTERNAL BORROWING: HELLENISTIC. Griko Salentino tzichró.</td>
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<tr>
<td>28</td>
<td>DIG (vb.)</td>
<td>σκάπτω, σκαλίζω</td>
<td>B8.22 Σκάπτω &gt; Σκάμη. Λαγανο (Buck says uncommon) - Cognate with Welsh llain 'blade'. Σκαλίζω &lt; σκάλλω (to stir up, hoe) - in Aristotle Mir. 837b22, Herodotus 2.14. PRESENT IN CLASSICAL GREEK. INTERNAL BORROWING: CLASSICAL → HELLENISTIC.</td>
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<td>29</td>
<td>DIRTY</td>
<td>βρώμικος, λερωμένος</td>
<td>B15.88 - βρωμάρις &lt; βρός 'filth, dirt', cognate with Church Slavonic strupî (wound) &gt; pus, scab. Βρόμικος &lt; B15.26 Late Hellenistic βρώμα (stench) ultimately from B5.11 - ββρώσκω (devour) - used of tooth decay. Λερωμένος - 'soil' &lt; Classical Greek όλερός (impure, turbid) - in Galen &lt; ὀλὸς 'cuttlefish ink', but influenced by θολερός 'muddy, turbid'. INTERNAL BORROWING: HELLENISTIC. Griko Salentino muká.</td>
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<tr>
<td>37</td>
<td>TO EAT</td>
<td>ἐσθίω, τρύγω</td>
<td>B5.11 - τρόγω (originally 'gnaw', 'nibble').</td>
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### MOTHER TONGUE

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**Fifteenth Anniversary Issue • 1995-2010**

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<td>EYE</td>
<td>ὀφθαλμός, ὄμμα</td>
<td>μάτι</td>
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<td>[cognate with Latin 'tergere'- rub] — but used by Jesus in 4th Gospel, so must have become respectable by then. NT also uses ἔσθιω.</td>
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<td>INTERNAL BORROWING: HELLENISTIC Griko Salentino troo</td>
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<td>B4.21, F387 - In poetry ὄμμα present in plural in the Iliad 3.2.17: ὄμμα &gt; ὄμματον (diminutive); ὀφθαλμός still the main form in the NT, but ὄμμα already present.</td>
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<td>INTERNAL BORROWING: CLASSICAL → HELLENISTIC Griko Salentino ammol</td>
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<td>42</td>
<td>FAT (SUBSTANCE)</td>
<td>δημός</td>
<td>λίπος</td>
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<td></td>
<td></td>
<td>δημός - C263 Albanian dhjame 'fat', also Armenian tam- in tam-uk 'moist' Δημός had meaning of 'fat from sacrifices' but rapidly fell into disuse &amp; replaced by:</td>
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<td>Λίπος at an early stage - already in Aristotle (Long. 467a3) with meaning of tallow, lard; Sophocles 'fat'.</td>
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<td>C616-617 λίπα cognate with Skt. limpāti [to smear], Lithuanian lipō [be sticky, viscous]</td>
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<td>INTERNAL BORROWING: CLASSICAL Griko Salentino liparo, pachëo</td>
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<td>48</td>
<td>FIRE</td>
<td>πῦρ</td>
<td>φωτιά</td>
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<td>B1.81 πῦρ - general Indo-European, Πυρα maintained in the sense of a bonfire.</td>
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<td>Φωτιά &lt; φῶς, φωτός &lt; Attic contraction of φῶς, used in sense of 'light of a fire' in Odyssey 18.317, Aeschylus (D1072)</td>
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<td>INTERNAL BORROWING: CLASSICAL Griko Salentino fotia</td>
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<td>49</td>
<td>FISH</td>
<td>ἰχθῦς</td>
<td>ψάρι</td>
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<td>B3.65 - ὀψάριον— dainty ὄμον - side dish, esp. of fish in Athens - Homer 'cooked food eaten with bread' The ὄμον was a supplementary dish which was always eaten on top of grain or bread. This suggests the comparison with Mycenean O-πι 'with, in addition to'. Taillardat adduces other parallels from Greek for the use of a prefix epi- with verbs for eating, expressing the same sense of a supplementary meal. Alternatively, could mean 'cooked dish' &lt; ἔμω (I boil) - Plato's etymology.</td>
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<td>C1341.</td>
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<td>First present in St. John 6.9 with the meaning of 'fish': Ἐστίν παιδάριον ὧδε ὃς ἔχει πέντε ἄρτους κρίθνους καὶ δύο ὄψαρια: &quot;There is a boy here who has five barley loaves and two fish&quot;. ἰχθῦς used in the rest of the NT.</td>
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<td></td>
<td></td>
<td>INTERNAL BORROWING: HELLENISTIC Griko Salentino ipoki</td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>FLOWER</td>
<td>ἄνθος</td>
<td>λουλούδι</td>
</tr>
</tbody>
</table>
|      |      | B8.57 – loan from Albanian lule 'flower', perhaps < Latin liliwm, perhaps in turn
### Table of Borrowed Words

<table>
<thead>
<tr>
<th>Number</th>
<th>Word</th>
<th>Origin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>59</td>
<td>FRUIT</td>
<td>Griko Salentino fluo</td>
<td>borrowed from an Eastern Mediterranean language.</td>
</tr>
<tr>
<td>60</td>
<td>TO GIVE</td>
<td>Griko Salentino dio</td>
<td>[&lt;\ Italio fore]</td>
</tr>
<tr>
<td>61</td>
<td>GOOD</td>
<td>Griko Salentino kalō</td>
<td>[&lt;\ Italio fore]</td>
</tr>
<tr>
<td>62</td>
<td>GRASS</td>
<td>Griko Salentino chorto</td>
<td>[&lt;\ Italio fore]</td>
</tr>
<tr>
<td>63</td>
<td>GREEN</td>
<td>Griko Salentino chiaro</td>
<td>[&lt;\ Italio fore]</td>
</tr>
<tr>
<td>65</td>
<td>HAIR</td>
<td>Griko Salentino maddhi</td>
<td>[&lt;\ Italio fore]</td>
</tr>
<tr>
<td>72</td>
<td>HERE</td>
<td>Griko Salentino evthade</td>
<td>[&lt;\ Italio fore]</td>
</tr>
</tbody>
</table>
**INTERNAL BORROWING: HELLENISTIC?**
Griko Salentino *ettu*

<table>
<thead>
<tr>
<th>73</th>
<th>TO HIT</th>
<th>τύπτω</th>
<th>χτυπάω</th>
</tr>
</thead>
</table>

**INTERNAL BORROWING: CLASSICAL**
Griko Salentino *kopanizzo*

<table>
<thead>
<tr>
<th>79</th>
<th>ICE</th>
<th>κρύσταλλος</th>
<th>πάγος</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1.77 - κρύσταλλος related to IE root <em>krus-</em>, *krus-t ‘hard surface’ – e.g. crust. Πάγος present in Classical Greek with the meaning of ‘frost’, also ‘rocky hill’, related to πήγνυμι ‘fix, make solid, freeze’</td>
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</tbody>
</table>

**INTERNAL BORROWING: POST-HELLENISTIC**
Griko Salentino *sfazzo*

<table>
<thead>
<tr>
<th>82</th>
<th>TO KILL</th>
<th>ἀποκτείνω</th>
<th>σκοτώνω, φονεύω, θανατώνω</th>
</tr>
</thead>
<tbody>
<tr>
<td>B4.76 - ἀποκτείνω &lt; κτείνω, related to Sanskrit ksīman ‘to hurt’ Σκοτώνω &lt; Classical Greek Σκοτόω ‘to make dark’ – Buck suggests that this is a Byzantine development, but already with sense of ‘stupefy’ in Sophocles, Ajax 85.</td>
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</tbody>
</table>

**INTERNAL BORROWING: POST-HELLENISTIC**
Griko Salentino *sfazzo*

<table>
<thead>
<tr>
<th>88</th>
<th>LEG</th>
<th>σκέλος</th>
<th>πόδι</th>
</tr>
</thead>
<tbody>
<tr>
<td>B4.35 – Liddell &amp; Scott state that ποῦς was used in the sense of ‘leg plus foot’ as early as Homer – Iliad 23.772, Odyssey, 4.149, with σκέλος meaning ‘leg’ but also ‘thigh, ham’ (related to σκολίος – crooked) – C.978, and cognate with Old English sceolh ‘what is crooked’.</td>
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</tbody>
</table>

**INTERNAL BORROWING: HELLENISTIC**
Griko Salentino *anka*

<table>
<thead>
<tr>
<th>90</th>
<th>LIE (RECLINE)</th>
<th>κείμαι</th>
<th>ξαπλώνω</th>
</tr>
</thead>
<tbody>
<tr>
<td>B12.13 – Modern Greek κατομαί ‘recline, lie’ ξαπλώνω &lt; presumably ξαπλείω, ἀπλώνω – to stretch out - shift of meaning from ‘simple, plain’ to ‘coat without folds’ to ‘stretch out’ completed relatively late, but we have: ἄγρευθεις εἰς τὸ πλάσον ἠπλώθη [the fish] lay stretched out”, Babrius 4.5 (II CE)</td>
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</tbody>
</table>

**INTERNAL BORROWING: POST-HELLENISTIC**
Griko Salentino *anka*

<table>
<thead>
<tr>
<th>91</th>
<th>LIVER</th>
<th>ἦπαρ</th>
<th>συκώτι</th>
</tr>
</thead>
<tbody>
<tr>
<td>B4.45 Late Greek συκώτος – fed on figs – Galen 6.679 ἦπαρ συκώτος – ‘liver of animal so fattened’, Oribasius (IV CE) 2.39.2, Aetius (VI</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
| CE) 2.127. | INTERNAL BORROWING: HELLENISTIC
Griko Salentino *fikato*

| 102 | NEAR | εγγύς, πλήσιος | κοντά | B12.43 - κοντά used with meaning of short in Polybius – κοντόπορεία ‘shortest way’. Also in Adam 2.20, Hippiastrica, 115 distance’ <Homer κοντά (Odyssey 9.487) ‘pike, goad’ – via sense of ‘pike’s length’ – i.e. ‘a short distance’
INTERNAL BORROWING: HELLENISTIC

| 103 | NECK | αὐχήν | λαιμός | B4.28 - λαιμός – in Homer e.g. Iliad, 13.388 with sense of ‘throat’ > neck of bottle > neck – relatively late development. αὐχήν occasionally used with sense of ‘throat’ – C278 – appears to be cognate with angʰ-u ‘narrow’ – (OHG ancha)
INTERNAL BORROWING: HELLENISTIC

| 106 | NOSE | ἰς | μῦτη | B4.23 - μῦτη < μῶς – Long-standing vulgar term for ‘snout’ by Eustathius (XII CE, Comm. 950; also used by Aristotle to describe ink sac organ of cuttlefish (HA524b15ff).
INTERNAL BORROWING: HELLENISTIC
Griko Salentino *mitti*

| 113 | TO PULL | ἐλκεῖ | τραβάω | B9.33 – Byzantine usage from ταυρῶ < ταυρίζω ‘pull like a steer’
ἐλκεῖ – cognate with Latin sulcus ‘furrow’.
INTERNAL BORROWING: POST-HELLENISTIC

Σπρώχνω – contraction of εἰσ-προ-ὀδεω
Present in Classical Greek as προοδέω – ‘urge, press’ – in Plato, Phaedo, 84d.
ὀδεω still present in Modern Greek with meaning of ‘spur, boost’
PRESENT IN CLASSICAL GREEK
INTERNAL BORROWING: CLASSICAL

### Sense of rain present in Matthew 5.45, LXX Ez. 22.24, from III BCE.
Poss. cognate: Latvian *merga* ‘light rain’

**INTERNAL BORROWING: CLASSICAL \(\rightarrow\) HELLENISTIC**

| 116 | RED | ἐρυθρός | κόκκινος | B15.66 - ἐρυθρός – General IE – still used technically in Modern Greek: ἐρυθρός ντόνος ‘red dwarf’
κόκκινος < κόκκος ‘seed, grain’ – and especially, ‘gall of the kermes oak’. Hellenistic Greek – meaning of ‘scarlet’– e.g. LXX, Exodus 25.4 (III BCE), Plutarch, Fabius Maximus (I CE)
**INTERNAL BORROWING: HELLENISTIC**
Griko Salentino *rodino*

| 117 | RIGHT (CORRECT) | ὅρθος (correct), ὅρθος | σωστός | ὅρθος has classical meaning of ‘right’, but also of ‘safe, prosperous’ – e.g. Pindar P.3.33
Σωστός had classical meaning of ‘safe’;
Cognate with Sanskrit *tavāti* ‘is strong’, Avestan *tavah*- ‘might, strength’
**PRESENT IN CLASSICAL GREEK**
**INTERNAL BORROWING: HELLENISTIC**

| 122 | ROPE | κάλως, στάρτον, σχοίνος | σκοινί | B9.19 - Σκοινί < σχοίνος ‘rushes’ > ‘twist/plait of rushes’ – already in Herodotus, Histories 1.66, 5.16
Στάρτον also originally a kind of rush or broom.
**INTERNAL BORROWING: CLASSICAL**

| 128 | TO SCRATCH | κνάω | ξύνω | Κνάω with sense of scratch, grate, in Homer, Iliad11.659, and sense of ‘scratch’ skin in Plato, Gorgias, Herodotus.
I.e. dual meaning of ‘scratch’ and ‘scrape’ already established.
Ξύνω appears to be a contraction of ξὺμενίζω (strip off the skin, Dioscorides (I CE) 2.76.1, Archigenes (II CE) in Aetius 16.48
**INTERNAL BORROWING: CLASSICAL**

| 130 | TO SEE | εἶδον (see), ὅρα (see, behold, look on), ἰδέρκομαι (look, see), ἰδομαί (see, behold, look on) | βλέπω | B15.51 - Βλέπω – in Classical Greek, with meaning of ‘look at’ – Demosthenes 25.98, Aristophanes, Frogs, 67; Sophocles, Oedipus Tyrannus, 302; Aeschylus, Seven against Thebes, 498
Εἶδα survives as the past tense of βλέπω
**INTERNAL BORROWING: HELLENISTIC**
Griko Salentino *tsio*

| 133 | SHARP (KNIFE) | ὁξύς | κοφτερός | B15.78 - Κοφτερός < κόπτω (to cut) – in sense of ‘cutting’.
ὁξύς still used in Modern Greek with the meaning of ‘acute, intense, focussed’.
**INTERNAL BORROWING: CLASSICAL \(\rightarrow\) HELLENISTIC**

| 134 | SHORT | βραχύς | κοντός | B12.59 - Βραχύς still exists in Modern Greek,
<p>| 135 | TO SING | ἀεὶδω | τραγουδῶ | B18.12 - Τραγουδώ &lt; τραγῳδέω Classical Greek 'act, declaim'. 'Goat singing' which started as imitating the braying of goats in a procession to honour the god Dionysos, was transformed into the chanting of the Greek chorus in V BCE drama. INTERNAL BORROWING: HELLENISTIC Griko Salentino kantalo, travudò |
| 137 | SKIN (OF PERSON) | χρώς, δέρμα | δέρμα | B4.12 - Χρώς – specifically of Human skin and mainly poetic – also ‘complexion, colour’ – related to χρῶμα ‘scratch, graze’ – extension of IE *gher-, cf. Sanskrit ghrīs ‘to rub’ Δέρμα – present since Homer (e.g. Iliad, 9.548), originally more with meaning of 'hide', related to δέρω 'I flay', cognates: Lithuanian dirti, etc. 'flay, skin', English 'tear'. PRESENT IN CLASSICAL GREEK Griko Salentino derma |
| 139 | TO SLEEP | καθέδω | κοιμάω | B4.61 - Καθέδω, εὕδω – Buck says etymology doubtful. Κοιμάω – 'lie down to sleep' – already with meaning of 'rest/sleep' e.g. in Homer, Odyssey 12.372, Sophocles, Electra 504. Cognate with Sanskrit ç- 'lie, rest', Avestan sà- 'rest' PRESENT IN CLASSICAL GREEK Griko Salentino plomo, Calabrian Greek ciumàme |
| 141 | TO SMELL (PERCEIVE ODOUR) | ὀσφαίνομαι (to perceive odour), ὀξω (be fragrant with) | ὀσφαίνομαι, μυρίζω | B15.21/15.22 - ὀσφαίνομαι still in use in Modern Greek for 'to smell (an object)' - related to ὀξή 'smell, odour' – General IE (e.g. odour, Armenian hot, Lithuanian uostis – appears to be a double compound together with φρή-, cognate with Sanskrit ghrī- 'smell' Mūriča – Buck states compound of μύρο 'perfume, unguent' and ὀξω. Classical Greek 'to anoint' whence, passive 'be fragrant with' (Heliodorus, 10.26 (III CE)) – at a later stage, appears to have acquired meaning of 'to smell (an object)' in addition to 'emitting an odour'. INTERNAL BORROWING: HELLENISTIC Griko Salentino mirizò |
| 146 | SOME | ἕνοι | μερικοί | Μερικοί &lt; μέρος 'part, portion' - appears to be general IE – e.g. Latin merère 'receive as a portion or price', evidently meaning 'part of'. First attestations of ἕνοι are relatively late, first appearing in Ionic writers (e.g. Herodotus) INTERNAL BORROWING: CLASSICAL → HELLENISTIC |
| 149 | TO SQUEEZE | πέζω | σφίγγω | Πέζω – in Homer, Odyssey 12.174 – in sense of 'knead together' – still present in Modern |
| Greek with sense of ‘pressure, push’. Σφίγγα already in Plato, Timaeus 58A, with sense of ‘bind together’ INTERNAL BORROWING: CLASSICAL → HELLENISTIC |
|---|---|---|
| 153 | STICK (OF WOOD) | ράβδος, βακτήρια | κλαδί |
| 155 | STRAIGHT | εὐθύς, | εὐθύς, ἰσος |
| 156 | TO SUCK | θηλάζω | θουφάω, μεζαίνω, θηλάζω |
| 158 | TO SWELL | οίδεω | φουσκύνω |
| 159 | TO SWIM | νέω, νήχω | κολυμπάω |
| 164 | THICK (Dimensions) | παχύς (thick, stout) πυκνός (close, compact) | χοντρός, παχύς |
| 166 | TO THINK (Reflect) | φρονιζω, φρονέω, έννοεω, νομίζω | νομίζω σκέφτομαι θαρρω |</p>
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<thead>
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<tbody>
<tr>
<td>'thought' in Plato, Phaedo, 95e</td>
<td>Νομίζω (Modern Greek 'intend', 'be of the opinion) &lt; νομίζω</td>
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<tr>
<td>'consider' in Herodotus, Histories 2.2</td>
<td>Θερμός (Modern Greek 'reckon') &lt; Classical Greek θερμός (Attic), θερμώ (original 'dare, have courage') — cognate with Germanic 'dare', but already with meaning of 'believe confidently in' in Sophocles, Antigone 668 (same semantic development as English 'I dare say').</td>
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<td></td>
<td>INTERNAL BORROWING: CLASSICAL → HELLENISTIC</td>
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<tr>
<td>Grikol Salentino pentzeo (&lt; Latin, Italian)</td>
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<tr>
<td>170</td>
<td>TO THROW</td>
<td>βάλλω, ρήττω</td>
<td>ρίχνω</td>
</tr>
<tr>
<td></td>
<td>INTERNAL BORROWING: CLASSICAL → HELLENISTIC</td>
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<tr>
<td>Grikol Salentino peló (&lt; βάλλω)</td>
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<tr>
<td>177</td>
<td>VOMIT</td>
<td>ἐμέω</td>
<td>ἕσσενα, κανώ εμέτο</td>
</tr>
<tr>
<td>Grikol Salentino τσερό (&lt; βάλλω)</td>
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<tr>
<td>Grikol Salentino termó</td>
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<tr>
<td>181</td>
<td>WATER</td>
<td>ὅδωρ</td>
<td>νερό</td>
</tr>
<tr>
<td>Grikol Salentino neró</td>
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<td></td>
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<tr>
<td>187</td>
<td>WHITE</td>
<td>λεύκος</td>
<td>ἀσπρός</td>
</tr>
<tr>
<td>Grikol Salentino aspro</td>
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</tbody>
</table>
| 188 | WHO | τίς | ποιός | ποιός < Classical ποίος 'of what sort (of person)?' — Already in Aristophanes, Thesmophorouzoua, 874 'Proteus who?/Which Proteus?' — used scornfully like English 'And who pray might he be?'
<table>
<thead>
<tr>
<th>Lexical data:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A = N. P. Andriotis, Etimologiko Leksiko tis koinis neoellenikis</td>
<td></td>
</tr>
<tr>
<td>B = C.D. Buck, A dictionary of selected synonyms in the principal Indo-European languages</td>
<td></td>
</tr>
<tr>
<td>Be = Robert Beekes, Greek Etymological Dictionary, Brill</td>
<td></td>
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<tr>
<td>C = Chantraine, Pierre – Dictionnaire Étymologique de la langue grecque</td>
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<tr>
<td>D = F.W. Danker, A Greek-English lexicon of the NT and other early Christian literature</td>
<td></td>
</tr>
<tr>
<td>Also drawn from:</td>
<td></td>
</tr>
<tr>
<td>Perseus digital library - <a href="http://www.perseus.tufts.edu/hopper/">http://www.perseus.tufts.edu/hopper/</a>, with extensive citations from</td>
<td></td>
</tr>
<tr>
<td>Liddell &amp; Scott – Greek-English Lexicon</td>
<td></td>
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<tr>
<td>Griko – <a href="http://www.greciasalentina.org/index.htm">http://www.greciasalentina.org/index.htm</a></td>
<td></td>
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<tr>
<td>Classical texts:</td>
<td></td>
</tr>
<tr>
<td>LXX = Septuagint, Greek translation of the Old Testament, probably 3rd C. BCE</td>
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</tbody>
</table>
Every word evidently tells a story and the story here is usually one of gradual semantic change starting in the Classical period and ending by the early Roman Empire at the latest.

Merely to select two illustrative (and parallel) examples, where our knowledge of ancient culinary practices can shed light on dating, we have:

_οὔτιδπιόν < οίπος._ This word makes its journey from ‘dainty, side dish’ in the Classical period to ‘fish’ in the Gospel of St. John (around 90 CE). Presumably, John, whose defective Greek has been noted, was merely using the common word rather than the higher register ἰχθύς deployed by the other evangelists. It is nevertheless clear that this ‘side dish’ already had a distinctly fishy connotation in an Athenian context as early as Xenophon (V BCE), since he recalls a Socratic dialogue discussing the ὀπσόφαγοι — gourmets/gluttons who offended against the Greek notion of frugality by eating too much rich ‘side dish’ and not enough σιτός (cereal), indeed, eating fish was doubly censurable, since it was unfit for the gods and therefore ‘impure’ food. The Greeks appear to have had a similar view of eating to the traditional Chinese in that spicy relishes or side dishes merely served to facilitate the ingestion of large quantities of a bland staple and it was actually unhealthy/immoral to eat them by themselves. Classical Athens was nevertheless noted for its ὀπσόφαγοι who actually revelled in their immoderate consumption of fish and even trained like athletes in eating it piping hot (hence clearing the platter before their fellow diners had had a chance to indulge their appetites). We thus have the IV BCE comic poet Antiphanes mentioning Phoikonides and dearest Taureas, “two old ὀπσόφαγοι, such men as gobble down fish slices in the agora” and his contemporary Axionicus, whose play ‘The Euripides fanatic’ contains the line “Another fish, confident in its great size, has Glaukos caught in the deep net and brought to these parts as σιτός for ὀπσόφαγοι”.

_ἡτταρ > συκώτι._ The second parallel example is the semantic transition of ‘fed with figs’ to ‘liver’. _ἡτταρ συκώτις_ is entirely parallel to _jecur ficatus_ in Latin, but is this a Latin borrowing into Greek or vice versa? Force-feeding geese to grow abnormally large livers goes back to Egyptian times and according to Athenaeus (III BCE), Agesilaus, King of Sparta made a present of fat geese to the Egyptians around 400 BCE. Athenaeus points out that the Greeks were experts at fattening geese with ‘wheat pounded in water’, but when did the fig-based method arise? Cato (II BCE) suggests a similar method using pellets of flour or barley meal, so can we infer that at this point, the Romans had not yet heard of using figs? Conversely, we have Apicius, who invented “a method...for treating the liver of a sow in a similar manner to that of a goose. It is force fed with dried figs...” (Pliny the Younger, Natural History. X.-xxvii). Note that the method for feeding the sow is similar to a (presumably pre-existing) method for fattening geese and since Apicius is said to have lived during the reign of Tiberius, the method for fattening geese is presumably older. Since Faas points out that much of Roman luxury cuisine was of Greek origin and that goose fattening was a speciality of Egypt, the evidence points to Alexandria and indeed, it is reported that Ptolemy II (284-246 BCE) ordered his Minister of Finance, Apollonios, to import fig trees from “Libya, Chios or Lydia” with Lydia famous for exporting bunches of dried figs. This practice thus appears to date from late III-I BCE.

While it is not possible to date all of the semantic changes listed in the preceding table precisely, a ‘statistical analysis’ is nevertheless revealing. As shall be seen, most of the lexical replacements are the result of internal borrowing (i.e. where a word already in the language at an
earlier stage undergoes a shift in meaning). I have attempted to date such changes based on citations of classical authors.

- Where two words for the same meaning existed side by side in Classical Greek and one has disappeared while the other has survived, this is classified as “PRESENT IN CLASSICAL GREEK”. E.g. ἐπναίμι ‘to vomit’
- Where evidence for a shift in meaning of a word is already present and predominant in the classical period (i.e. a Homeric word has been replaced by the 5th century BCE), the word is classified as “INTERNAL BORROWING: CLASSICAL”. E.g. φορτά replacing Homeric πῦρ ‘fire’.
- Where there is isolated evidence for the use of a word with a new meaning during the Classical period, but this new meaning has only become consolidated during the Hellenistic period, the word is classified as “INTERNAL BORROWING: CLASSICAL → HELLENISTIC”. E.g. μαλλία replacing τρίχες – first attested as a ‘lock of hair’ in Euripides, but wholesale adoption for ‘hair’ is later.
- Where there is no evidence for the use of a word with a new meaning during the Classical period, but clear evidence during the Hellenistic period, the word is classified as “INTERNAL BORROWING: HELLENISTIC”. E.g. Ψάρι replacing ἱθός ‘fish’ – the internal borrowing first appearing in Hellenistic times.
- Where there is isolated evidence for the use of a word with a new meaning during the Hellenistic period, but clear evidence during the POST-HELLENISTIC period, or where a meaning has shifted during the Hellenic period, and has shifted again to the modern meaning during the POST-HELLENISTIC period, the word is classified as “INTERNAL BORROWING: HELLENISTIC → POST-HELLENISTIC”. E.g. πράσινος replacing χλωρός ‘green’ – already with meaning of ‘leek green’ in IV BCE, but only systematically adopted for ‘green’ in Roman times.
- Where there is no evidence for the use of a word before the POST-HELLENISTIC period, the word is classified as “INTERNAL BORROWING: POST-HELLENISTIC”. Σκοτώνω ‘die’ had the meaning of ‘stupify’ in Classical times, but there is no indication of the meaning ‘die’ until post-Hellenistic times.
- Words which are not of Greek origin are termed “EXTERNAL BORROWINGS”.

Of the 200 lexical items on the Swadesh list, XXX involve some form of lexical replacement, with these classified in the above categories as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present in Classical Greek</td>
<td>5</td>
</tr>
<tr>
<td>Internal Borrowing: Classical</td>
<td>10</td>
</tr>
<tr>
<td>Internal Borrowing: Classical → Hellenistic</td>
<td>15</td>
</tr>
<tr>
<td>Internal Borrowing: Hellenistic</td>
<td>23</td>
</tr>
<tr>
<td>Internal Borrowing: Hellenistic → Post-Hellenistic</td>
<td>7</td>
</tr>
<tr>
<td>Internal Borrowing: Post-Hellenistic</td>
<td>6</td>
</tr>
<tr>
<td>External Borrowing</td>
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While there is an evident element of subjectivity in allocating words between categories, two overall points should be clear from the above figures – a) external borrowing is of extremely limited importance as a motor of linguistic change, accounting for only 3 out of 69 lexical
replacements, b) 53 out of 70 lexical replacements on the Swadesh list can be explained as internal borrowings which had occurred before the end of the Hellenistic period or the words in question already had their modern meanings in Classical Greek, since which time, there has been very little lexical change.

It should also be pointed out that if anything, the above categories understate the true age of internal borrowings, since by definition, a meaning has to exist in the spoken language before it can appear in the written language. Furthermore, Greek speakers have as a rule been exceptionally self-conscious of their own linguistic heritage – as mentioned above, the Atticist movement, which arose during the 1st century BCE, insisted on reviving Attic forms from half a millennium earlier, and received widespread support, including from the writers of the gospels.

While the written evidence already shows that lexical replacement on the Swadesh list is overwhelmingly due to internal borrowing during the Classical and Hellenistic periods, it is not unlikely that many of the changes attributed to the POST-HELLENISTIC era actually date back to the Hellenistic period. Circumstantial evidence for this is provided by an analysis of the Greek dialects of Southern Italy, now restricted to two small areas (around the town of Bova at the Southern tip of Calabria and in the Salento region of Puglia (Griko Salentino).

GRIKO

Against a consensus that the Greek-speaking communities of Calabria and Puglia may only go back to Byzantine times, Rohlfs argued that these areas were survivals of Greek speakers dating back at least to Roman, if not to Classical times, both on account of their preservation of arcaic Doric features and the survival in Salentino of Classical nt, mb, nk (pente v. Modern Greek pende, vrontí v. Modern Greek vrondi, ampeli v. Modern Greek ambéli) or e.g. dz (in ridza ‘root’, dzoi ‘life’).

Rohlfs also argued that if such communities represented intrusions of Greek-speaking migrants under later Byzantine rule in IX and X CE, then why did the Byzantines fail so utterly to impose Greek on other evidently non-Greek areas under their rule during the same period (e.g. Ravenna (540-752), Bari (871-1078) and Sardinia (VI-VIII CE))? The historical record and an analysis of place names also shows that these communities were remnants of a much larger area which had spoken Greek since the time of Magna Graecia, covering the South of Calabria, NW Sicily and an area of the Salento three times as large, in which Greek was the language of official public documents almost until the end of XIII CE, with the Orthodox rite maintained in use in both areas well into Mediaeval times and possibly until XVI-XVII CE. Furthermore, while the islands of Albanian and Southern Slavonic dating back to Mediaeval or later times in Puglia are clearly isolates in an Italian-speaking milieu, the Greek-speaking areas show geographical continuity.

Two examples cited by Rohlfs suffice to show that the Salentino and Calabrian dialects are similar to each other, but divergent from Modern Greek.

1) The tongue has no bones and breaks bones.
Modern Greek: Ἑ γλώσσα κοκάλα δέν ἔχει καὶ κοκάλα τσακίζει
Calabrian: I glossa stea δεν εχε ce stea klanni.

19 Cited in Fanciullo, F., Fra Oriente e Occidente, ETS, Pisa 1996, p. 148 – 15 due to Rohlfs with another 8 to Karanastasis, with 21 out of 23 exclusive to Calabrian Greek and only 1 to Salentino Greek.
Salentino: I glòssa en èxi stèata ce stèata iklángni.

2) He who has said yes cannot say no.
Modern Greek: Όστοιος είπε ναί δέν μπορεί να πη δχι
Calabrian: Tis ipè manè, dé sònni pi dé.
Salentino: Tis ipè úmme, 'e sòndzi pi dèngje.

Rohlfs nevertheless admitted that while the Calabrian dialect showed greater continuity with the Doric-speaking colonies of Magna Graecia, it was only ‘probable’ that the same was true of the Salentino, which lay outside the catchment area of the Doric-speaking colony of Taranto and hence might instead represent the language of communities which were originally Messapic speaking but which adopted Greek or became bilingual on grounds of expediency sometime during the Imperial Roman period. This is known to have been the case of the neighbouring Bruttii in Calabria, who were native Oscan speakers, but who used Greek for trade and cultural activities. Fanciullo 20 has argued for this distinction between Doric Calabria and later Doric/Koine Salentino due to the lack of evidence for extensive hellenisation of the countryside in Puglia. At the same time, he argues that on the basis of the latinisation of local Greek place names in the interior of Puglia (and hence outside the orbit of Taranto), the dating of this adoption of Greek is consistent with the Roman rather than the Byzantine era.

The fact remains, however, that both varieties retain archaic features of Classical which are hard to explain in a post-Roman context, as well as borrowings which are clearly from Latin but which are anachronistic in a Dark Ages context.

Assuming, therefore, that the Salentino dialect is pre-Byzantine, then it follows that many of the changes in the Swadesh list labelled as Byzantine on the basis of extant classical texts are considerably older. (e.g. ξέρω – tzero, εδώ – ettu, ἀσπρος – aspro, μαυρος – manuro).

In addition, we find forms κιο < άκουω (I hear), gro < ύγρος (wet), steo < οστέον (bone) in Griko which are more innovative than Modern Greek, which retains the initial vowel. In the light of the above discussion, it seems anachronistic to regard these forms as Byzantine imports of which there is no trace in mainland Greek and much more reasonable to assume that they are much older (probably to early imperial times) and represent survivals in a peripheral part of the Byzantine empire which were subject to correction at the centre (this is analogous to the example of Latin PLUVIUM > French pluie, but Portuguese chuva, which can be dated to a dialectal borrowing in 1 BCE-1 CE).

**TSAKONIAN**

Tsakonian is a highly divergent dialect of Greek spoken in the Eastern Peloponnese, inland from the Argolic Gulf. I mention it en passant since it forms an interesting case of a language with some highly conservative phonological features21 (e.g. maintaining the Doric α in αμέρα for ‘day’ against Modern Greek ημέρα, or μάτι (mother) as well as retention of ο: σόύκα ‘figs’ v. Modern Greek σύκα [sika], γούνατικα (woman) as well as lexical ones: E.g. πάσε (much,
many) < πᾶς (all) [v. Modern Greek πολύ], ύο (water) < ὕδωρ [v. Modern Greek νερό], ἀγρύ < ἄργος (bread) [v. Modern Greek γάμμη], κοῦ < κῦν (dog) [v. Modern Greek σκύλος], ὄνος < ὄνος (donkey) [v. Modern Greek γάμμης], λευκό < λευκός (white) [v. Modern Greek ἀπρος], σάτρ < θυγάτηρ (daughter), [v. Modern Greek κόρη].

At the same time, Tsakonian has undergone extreme morphological simplification, with minimal case inflection (some nouns have no cases, others a single Nominative/Accusative form and a Genitive form) and the formation of the present and imperfect indicative with participles, like English but unlike the rest of Greek (e.g. ενίαν αύτο, ἔμμα αύτο “I am listening, I was listening”). It thus represents an excellent example of lexical and phonological conservatism and a counterexample to the argument that it is better to date languages on the basis of morphological changes than lexical ones.

PHONOLOGICAL CHANGE

The ‘Myth of linguistic change’ I and II made the point that most changes between Latin and the Romance languages were invisible in the written record, since there was no necessary link between the spoken vernacular and the literary language. Indeed, the relationship between the two is inversely proportional to the degree of education of the writer, so that we frequently need to rely on the semiliterate to ‘spill the beans’ on the true state of the spoken language.

Furthermore, the opacity of written evidence may conceal the fact that many phonological changes should be largely contemporary with lexical replacement, since if ‘changes’ are not really internal changes per se but the adoption of pre-existing dialectal forms as a standard, then it follows that not only are all of the dialectal features available for adoption at the same time but also that this situation militates against the adoption of one dialectal feature at a given point in time and then the adoption of another feature from the same dialect at a later date. This is evidently not to deny wholesale the possibility of later phonological change (e.g. abandonment of final vowel in French under the influence of Frankish in V-VII CE), but it is definitely far less significant than has conventionally been assumed.

Even taking the written evidence at face value, however, we indeed find that most of the major phonological changes between Classical and Modern Greek had already occurred well before the end of the Hellenistic period. Without any claim to exhaustiveness, we examine the most salient ones:

1. El merging with i
   The Diphthong ei had already merged with i in V BCE in regions such as Argos or in IV BCE in Corinth, as well as in Boeotia in early IV BCE.22 (Allen, op. cit., page 74).

2. Ai > [ει]
   Diphthong ai was probably monophthongised at first as [ει]. This value is attested in Boeotian, which is written αι in V BCE and ι in early IV BCE. Lejeune (1972:§242)24 nevertheless notes that this development was several centuries in advance of the other Greek dialects, only appearing in Egyptian Greek in II BCE,

3. ιτ > 125

22 Wikipedia article on Koine Greek phonology.
23 Allen, Vox Graeca, p. 74.
25 Ibid., §243.
Written oe in Boeotian as early as V BCE, then as ü from III BCE. Boeotian is again early relative to other dialects but the diphthong has clearly disappeared (i.e. Boeotian τυς οὐλεις against Attic τοις οὐλοῖς), with Lejeune suggesting a transitional stage [6] and then [y]. The diphthong œ long must have kept a diphthongal value until Roman times, at least in learned language, as it is transcribed as oe in Latin. Further evidence of monophthongisation is found from early I BCE onwards in Egyptian Greek, as well as in early II CE in Palestine.

4. œν, œυ > αβ, εβ
Once again, the first signs of this transformation occur in Boeotian dialect, in which graphic confusions arise between -αβδ- and -αδ-, -εβδ- and -εδ-, from III BCE onwards, with confusion of œν and œυ with αβ and εβ found as early as the beginning of I CE in Egyptian papyri, attesting to a diphthongal pronunciation. It is unlikely, however, that this diphthong pronunciation was generalised at once; for instance, Jewish catacombs inscriptions still show a diphthongal value in II-III CE.

5. u > i
Koine Greek adopted the pronunciation [y] of Ionic-Attic for the vowel u. Confusion of u with i appears in Egyptian papyri in II CE, suggesting a pronunciation of [i], but this is probably a regional trait. Transcriptions into Gothic and, to some extent, Armenian suggest that u still retained a [y] pronunciation, and the transition to [i] in mainstream Greek is thought to have taken place in IX CE.

6. b > v, g > y, d > δ.
These changes are evidently difficult to detect as they do not entail a change in spelling except for certain dialectal transcriptions: e.g. Corinthian V BCE σμοιρᾶ (Attic: σμοιρῆ) or Boeotian III BCE εὐδομόν (Attic ἐδομόν). Petrounias27 nevertheless sees these as Hellenistic developments, starting with g > y as early as IV BCE with the further y > j before a front vowel starting around the same time, even if this does not seem to have been a standard pronunciation. He points out that these stops did not change after a nasal consonant, so during the Hellenistic period, δὲνδρον would have been pronounced [dendron].

7. pʰ > f, tʰ > θ
Evidence suggests that these are relatively late post-Hellenic developments, on account of transcriptions into Latin in II BCE retaining the older pronunciation, e.g. ampulla < ἀμούρα, purpura < πορφυρα, but Filippus by II CE. θ present in Palestine in II CE, f in Jewish catacombs in II-III CE.

What is interesting is the fact that 1 out of 7 of these major changes was already present in Ancient Greek, while 5 out of 7 appear to originate in Boeotia and only one is arguably post-Hellenic. This is entirely consistent with the model of linguistic conservatism observed in Latin and provides further circumstantial evidence that phonological innovation is not so much change ex nihilo, but the adoption of previously existing dialectal forms.

This Boeotian origin of most of the phonological changes which differentiate Modern Greek from Ancient Greek is intriguing and the explanation for this is not yet clear to me, although attempts to argue away such changes as parallel developments seem thoroughly unconvincing and the fact that there are so many innovations deriving from a single dialect hardly seems to be a random occurrence. The spread of the Koine into Asia Minor, the Levant and Egypt evidently coincides with the rise of the Macedonian empire and one of the early actions of Alexander was to destroy the rebellious city of Thebes (the main city in Boeotia) in 335 BCE,
with the sale of an alleged 30,000 of its citizens into slavery. According to Plutarch, there was a general feeling of sympathy at their appalling fate, notably in Athens, where the survivors were received with kindness. From this point onwards, the remaining areas of Boeotia were generally loyal to Macedon. Could the Thebans have been sold into slavery en bloc in Piraeus, the main slave market of the day, and formed a dominant component of the local population, influencing the pronunciation of the koinê there, à la Cockney or working-class Parisian French.

CONCLUSION

The above analysis conclusively shows that in similar fashion to the modern Romance languages, the basic motor for lexical change is internal borrowing and that the main phonological changes are dialectal in origin (Boeotian). Furthermore, there is no evidence of a ‘natural’ process of continuous change, since the basic phonology and vocabulary of Modern Greek were largely defined well before the end of the Roman Empire, with the evidence from Griko suggesting that changes commonly dated to Byzantine times are centuries older. On account of these points, I conclude that the model developed for the transition from Latin to Romance is also valid for Greek.

São Paulo, April 2011.
Yeniseian Numerals

Václav Blažek
Masaryk University

The purpose of the present contribution is to summarize all relevant forms of numerals in the Yeniseian languages, their internal analysis, and external comparisons in the perspective of the Sino-Caucasian macro-family.

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C Castrén, F Fischer, KL Klaproth, M Müller, Ms Messerschmidt, Str Strahlenberg, X Xelimskij

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| **MOTHER TONGUE**
| *Supporting Journal for the Study of Language in Prehistory • Issue XV • 2010
| **Fifteenth Anniversary Issue • 1995-2010**

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### Analytical and etymological survey of Yeniseian numerals

1. $\chi\mu$-sa = "1" attributive inanimate (a) vs. $\chi\sigma$'-k(V) = "1" animate (b) > Ket $\sigma'$, Yugh $\lambda'$ (S95 306; S82 225). The second components probably correspond to the pronominal roots:

(a) $\chi si$-$\chi su$ > Ket $\tilde{s}\ddot{i}y$ / $\ddot{s}\ddot{i}y$ "here", Kureika dial. $\ddot{s}\ddot{i}y$ "there" (S95 273); Starostin added the following formations: Yeniseian *pa-s "one time" (S82 219; S95 244), *de-s "(one) eye" : Arin pl. tıey (S82 219; S82 219), further Kott al-še-n "once, one time" (S95 306; S82 225).
(b) *ki- > Ket kídə : kida m. : f. "this", Yugh kít : kida id.; *ka- > Ket ka-nil "from here", Yugh kāt : kado m. : f. "that"; Kott hānaj "here"; Arin xa-tu "he" (S95 238, 234)

A remarkable formation appears in Kott of Kan xančixit "1", lit. "one man", cf. xitcixit, and this is practically excluded with regard to the word xančixatela "neighbor" [Xelimskij 1986, 205]), the component xan- "1" < *xan- should be segmented. The element -ci- is puzzling. It is probably not derivable from Kott (Castren) cedij, ceaij "people", as are the higher numerals in Kott of Kan: inca "2", tonca "3", sejce "4", kejce "5", keljitce "6", xakce "10" (Xelimskij 1986, 205). A better solution seems to identify in -ci- the same singulative function as in Kott (Castren) atci "tree" : pi. ak / ax / āx "trees, wood" < *xksi : *xa'q. Etymologically it should be of the same origin as the sigmatic element discussed in (a) - see S95 198. Summing up, the internal analysis allows us to separate the following segments: *xu- / *xɔ- / *xan-; *-sa / *-si; *-k(V), which in combination formed such meanings as "that/this one", "one (t)here", and further functions as animate or inanimate. The external parallels confirm this conclusion:

Burushaski:
(i) Hunza-Nagir hin, Yasin hen "1" for human beings, hun for all other nouns, but Hunza-Nagir hik, Yasinhek for abstract nouns and mass entities (Berger 2008, 78). Cf. also Hunza-Nagir hunčò / hunți, Yasin huçò / hütì "9" < *hun-tr-i-o, where *hun- = "1", *-tr- reflects Hunza-Nagir tőorum-o/-i "10", Yasin tőrum, shortened also in another archaic compound, namely Hunza-Yasin āltar, Nagir āltar "20" < *aliō tőorum "2 x 10", while *-io is the plural ending, today usually -o (Berger 2008, 79-80).
(ii) Hunza-Nagir i-se, ise "that, the; that one, it" (class x), pl. i-tse "those, the; those ones; they" (Lorimer 1938, 47, 49) = ise & es, pi. icē & ec "das da" (class x), Yasin se & os, pl. ce & oc id. (Berger 1998, 215; 2008, 70-72).

Sino-Tibetan:
(ii) Kamarupan *(t)sa > Garo sa, Kokborok -cha, -sa, -ca, Lakher sá "1", cf. also sa-pali "4", sa-pangaw "5", further Lotha ma-tsa-nga "1", Tiddim a-ma-sa "first", and Jingpho sà "only"; *(t)se > Tangsa of Moshang aši, aše, Tangsa of Muklom aše, Kimsing ašī, Boro -še, se, Dimasa se, Mikir isi "1", cf. also throk-si "7" = throk "6" + si "1", si-r-kep "9" = "1" subtracted from kep "10" (Matissoff 1997, 22).

North Caucasian: *həcV or *cahV (NCED 323-24)

Tsezic *hôs "1" > Tsez sis, Ginukh hes, Khvarshin has, Inkhokvari hos, Bezhta hôs, Gunzib hâs (this form corresponds best with Yeniseian *yusa & *yansî "1");
Nakh *cha "1" > Chechen cha', Ingush caC, obl. cha-mne, Batsbi cha id.

Other forms indicate the monosyllabic structure:
Avar-Andi *ci- "1", *ca-rv/-mû "together"; Tsezic obl. *ssî-; Lak ca; Dargwa *ca; Lezghian *ssa; Khinalug sa; West Caucasian *zV "1".
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Lit.: Sg₂ 225 & Sg₉ 306: Yen+NCc (Sg₉ also thinks about ST *'it "1", if it is derivable from *'ic).

2. *xina = "2" (Sg₉ 296; Sg₂ 162, 209).
Sino-Tibetan *K-ni[j] (Sg₉ 296) = *ni ([CVST II, 35):
Old Chinese 흔 *nijs; Tibetan gnyis; Lolo-Burmese *ni(k)x, Burmese hnač; Kuki-Chin *k-hnis; Bodo-Garo: Dimasa gi-ni, Garo g-ni etc.
Nadene *de-naq-qai "2" (Werner 2004, 160):
Tlingit déix "2"; Tahltan laké, Chipewayan nakke, Tututni náxe, Umpqua nakhuk, Hupa nakh, Mattole nakxe', Kato naka, Navajo naaki, Chiricahue naaki, West Apache nakh etc.
Ascribing the value "two" to both the hypothetical components of the Yeniseian and Sino-
Tibetan numeral "two", Starostin (Sg₉ 296) compared them with North Caucasian
*(t)qHwi "2" (NCED 924-25) and *nǎw şi "two-year-old animal" (NCED 845-46),
respectively. It is rather difficult to accept the equation 2 x 2 = 2, perhaps more
acceptable is "both two" = "2".
Lit.: Ramstedt 1907, 3; Bouda 1957, 87: Yen+Tib; Sedláček 2008, 249: Yen+ST; Sg₂ 209:
Yen+ST+NCc *(t)qHwa; Sg₉ 296: Yen+ST+NCc *qHwa & *nǎw şi.

3. *do'ja = "3" (Sg₉ 222-23; Sg₂ 210)
Sino-Tibetan *(g-)sűm "3" (CVST IV, 110) = *sǐn (Starostin, ST Database):
Old Chinese  ayr *sǐm; Tibetan gsum; Lolo-Burmese *sumx > Burmese sumh; Bodo-Garo:
Dimasa gā-thām, Garo gi-thom; Moshang a-tūm; Kuki-Chin *k-in-thum, Lushai thum "3"
 etc.
North Caucasian *(j)wimHV "3" (NCED 978):
Lak şam; Khinalug pša "3"; Lezghian *(š)imV-çu-r "30" > Tabasaran Dübek simi-čur,
Kandik sumčur, Agul Burshag šin-čur id.
Burushaski:
Hunza şum-sōoi "third unit in the four-finger measure system" : sōoi "the first unit in
calculation with four fingers" (Berger 1998, 399, 382).
Lit.: Ramstedt 1907, 3: Yen+Tib; Sedláček 2008, 248: Yen+ST; Bouda 1957, 83:
Yen+Tib+NCc+Kartv *sam "3", probably of NCc origin (cf. NCED 978); Sg₂ 210 & Sg₉
223: Yen+ST+NCc; Starostin, Burushaski Database: Yen+ST+NCc+Bur.
Note: Starostin (Sg₂ 219; Sg₉ 220) saw an analogous initial correspondence in Yen *de(*)n
"milk; nipple" vs. NCc *sán?u (or *sám?V) "milk, udder". Concerning the
correspondence of Yen *ŋ vs. m in other Sino-Caucasian languages, cf. e.g. Yen pl. in *ŋ
vs. ECc *mV id., Yen *čajjan "bear" vs. NCc *cwärīmV id. (Sg₂ 210-11; Sg₉ 215). On
the other hand, the initial correspondence is rather exceptional and so it is legitimate to
seek another solution. It may be found in ST: Written Burmese toy "to measure in cubits",
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"gtoij "a cubit (measure of length equal to 2 spans); wing", tamtoŋ & tətɔŋ "elbow; measure of arm from elbow to end of middle finger" (Matisoff 1985, 431).

In agreement with the rules of nominal morphology, Werner (2004, 83) derives Yen *do’ŋ "3" from *do’/ *dok + collective suffix *-j and compares it with Nadene *taq(-eq-i) "3" > Ahta taaki, Tana taguh, Chipewayan taayi, Umpqwa ta’aŋ, Mattole daak’eh, Navajo táa” etc. With regard to Tlingit daq-ká “interior” it could designate originally "middle finger”.

4. *si-ka/-jV = "4" (S95 273; S82 161)

North Caucasian:
Nakh *ši?, obl. *šina- "2", Hurrian šin(a) "2" (NCED 845-46).

?Nadene:
Haida stĩn "2": stansiŋ "4" = "2 x 2" : stansašxa "8" = ("2 x 2")plural (Swanton)?

The connection between the numerals "2" and "4" and also "8" is most apparent in Burushaski: altö "2" vs. Hunza-Nagir wáltö, Yasin wáltu "4" < *u-(w)áltö "die (zwei) Zweier", besides Hunza altámbo, Nagir altánchez, Yasin altémbo "8" (Berger 2008, 78-79).

Note: Ramstedt (1907, 3) compared the Yeniseian numeral with Tibetan bži and Modern Chinese 四 "4" (Similarly Sedláček 2008, 235), but the Early Old Chinese reconstruction *slihs "4" together with Lolo-Burmese *(b)liz > Burmese liž; Kachin: moli; Kuki-Chin *b-n-d’-li; Kiranti *bhli ( / *bhãli); Bodo-Garo: Garo bri, Dimasa biri; Kanauri pò; Moshang bā-li; Namsangia bē-li; Thulong bli; Digaro kəprei; Mû phli; Trung bli id., idicate the protoform *(p-)liz(CVST III, 25) which is probably not compatible with the Yeniseian numeral, but with West Caucasian *p(:)dXa "4", East Caucasian *bǔnLe "8" (NCED 314-15); Burushaski: Hunza-Nagir wáltö, Yasin wáltu "4" (Berger 2008, 79); Basque lau "4" (Bengtson 2009, 182: WCc+ECc+Bur+ST +Basque).

5. *qä-ka/-jV = "5" (S95 256; S82 161).

Perhaps most promising is an internal etymology based on Yeniseian *qo "full, complete, enough" > Ket qə, Yugh çə, ço id. (Werner II, 92). Concerning the semantic shift, cf. Nama (Central Khoisan) gòro "5", lit. "whole", or Northern Sotho (South African Bantu) mphetša "5", lit. "completion", maybe also Indo-European *penk’e "5" vs. Hittite panku- "all (of), entire, complete, every; multitude" (Polomé 1968, 99-101; Blázek 1999, 226). The difference in the root vowels resembles the opposition between the front and back vowels in the singulars vs. irregular plurals respectively in some forms: Ket tip, pl. tap "dog", Kott alšip, pl. alšap id.; Ket ses, pl. sás "river”; Kott ép, pl. ag "goat”; Kott šet, pl. šat "larch" (Castrén 1858, 18, 24).

Alternatively, Yen *qä-Ka/-jV can be compared with one of the Sino-Tibetan designations of "hand": Boro a-káy, ha-káy "hand, arm", Kachari a’-kai "hand"; Lepcha ká, a-ká id., Yimchungri kha, Ao Chungli te-ka id.; Sangtam khe, Lotha okhe id., maybe originally with final -t, cf. Meluri akhet, Yacham-Tengsa takhat "hand" (Matisoff 1985, 438-39). It
is also attractive to compare it with Tlingit \textit{keijin} "5" \url{http://www.zompist.com/amer.htm}, but this form is quite isolated within Nadene and its internal structure is rather obscure.

Werner (II, 81) suggests an etymology based on the word "thumb", cf. Ket \textit{qa}l, Yugh \textit{ka}l < *qol (Werner II, 148) or \textit{gV} "thumb" = "big finger" (S95 307: Yen+EC

\textit{kolV}~\textit{*kolV} "toe"; OCh 拇 "finger" < *\textit{ki}l), but he does not explain the absence of \textit{r} in the numeral (its presence in Arin & Pumpokol is apparently suffixal) and different vocalism.

Ramstedt (1907, 3) and Bouda (1957, 91) compared Yen "5" with Tib \textit{l}a, Middle Chinese \textit{ηό} (Old Chinese \textit{ηa} < ST *\textit{ηaH} - see CVST V, 136). In Yeniseian there is no initial \textit{*η} (S82 162) and the correspondence of ST *\textit{η} = *\textit{b} (cf. Starostin 1984, 22, 24, #29), is doubtful. On the other hand, the record of Ket \textit{nayam} "5" from the Archive of Adelung (see Dul’zon 1961, 179), if it is not a mistake, supports Ramstedt’s comparison. Finally, in the Qiangic branch of Sino-Tibetan, there are desanalized forms of the numeral "5": Pumi \textit{yua}, Qiang \textit{kua} (Matisoff 1997, 77).

6.1. \textit{*a}V = "6" (S95 185; S82 215) ~ \textit{*a}\textsuperscript{2} \textit{ag} "6" (Werner I, 93). The key to the internal Yeniseian etymology is probably in the etymon \textit{*a}k (\sim x- & \textit{-g} - \textit{x}) "superfluous" > Ket \textit{A'k}, Yugh \textit{a'\textasciitilde{k};} Kott \textit{êx}, \textit{êg} id., \textit{êak} "too many" (S95 191; Werner II, 402; Castrén 1858, 148, 200). Its derivatives are used to form teens: Ket \textit{á\textasciitilde{yam} á\textasciitilde{yam} qo-"16", lit. "six superfluous over ten", Yugh \textit{asakxo} \textit{16} = \textit{a's} \textit{6} \textit{ak} "superfluous" + \textit{x} \textit{10} (Werner I, 84), similarly Ket \textit{qá\textasciitilde{yam} á\textasciitilde{yam} qo}, Yugh \textit{ájamak xo} \textit{15} etc., but also units over tens: Ket \textit{qá\textasciitilde{yam} á\textasciitilde{yam} e'k} "25", \textit{qá\textasciitilde{yam} á\textasciitilde{yam} s'o} \textit{45}, etc. (Werner II, 75-77).

In perspective of semantic typology there are remarkable structural parallels: Dravidian \textit{\textasciitilde{c}aru} "6" < \textit{\textasciitilde{ca}l-} "to be abundant, full, enough" + the neuter marker \textit{-tu} (Andronov 1978, 245); Beja (North Cushitic) \textit{asa-gwol/r} "6" = \textit{asa-} the participle \textit{asa-} from the verb \textit{as-} "to be/become/go up" + \textit{gwol/r} "1" (Reinisch 1894, 7, §145b); Umbundu (Bantu language from Angola) \textit{epandu} "6": \textit{panda} "to proceed, advance, approach" (Hoffmann 1952-53, 65); Indo-European \textit{(K)sweks} "6" < \textit{\textasciitilde{g}e}s-\textit{h}-s- "hand" + \textit{weks}- (not \textit{H2weg-s-}) "to grow", cf. Lithuanian \textit{veši} "to grow vigorously, thrive; prosper, flourish" (Blažek 1999, 239-40). The original protoform could be a hypothetical compound \textit{\textasciitilde{ka}usa-\textasciitilde{a}V-qaka} "1 superfluous over 5", simplified in \textit{\textasciitilde{ka}usa-\textasciitilde{a}V} "1 superfluous" or \textit{\textasciitilde{a}V-qaka} "superfluous over 5", and finally only \textit{\textasciitilde{a}V} "superfluous", similar to Indo-European (Armenian, Prussian) \textit{weks}- "6", lit. "overgrowing".

Note: Starostin (S95 185; S82 215) compared Yen "6" with NCc \textit{\textasciitilde{r}an\textasciitilde{A}E} "6" > Nakh \textit{\textasciitilde{j}al\textasciitilde{g}}; Avaro-Andian \textit{\textasciitilde{t}in\textasciitilde{l}i}; Tsezian \textit{\textasciitilde{t}e\textasciitilde{t}a}-(na); Lak \textit{ral\textasciitilde{x}}; Dargwa \textit{\textasciitilde{t}urek}; Lezghian: \textit{\textasciitilde{r}i\textasciitilde{I}i}; Khinalug \textit{s\textasciitilde{k}}; WCc \textit{\textasciitilde{\textasciitilde{l}}\textasciitilde{V}} id. (NCED 219-20); ST \textit{\textasciitilde{r}uk} "6" > OCh \textit{\textasciitilde{r}huk}; Tibetan \textit{drug}; Lolo-Burmeses \textit{\textasciitilde{khrauk}} = Burmese \textit{khrauk}; Kachin \textit{kr\textasciitilde{u}}; Kuki-Chin \textit{\textasciitilde{t}-\textasciitilde{r}uk}, Lushai \textit{pa-ruk, ru'}; Lepcha: \textit{\textasciitilde{t}-\textasciitilde{r}ak}; Kiranti \textit{\textasciitilde{(T)-r}uk} id. etc. (CVST II, 105), but
these forms have their internal structures:

North Caucasian *tréñÅE "6" is analyzable as a compound of x*téñ- *"5" & *ÅE. The first component is compatible with Hurrian nariy(a) "5"; Yeniseian *r³η "hand" > Ket: lõŋ (Werner II, 9: lâ'ŋ; Castrén 1858, 175: Imbak lâŋat "hand" < *lå'ŋ + *a'd "bone", reconstructed in S95 178), Yugh lõŋ "hand"; Arin lâm-lûŋ (Miller, Klaproth), łan-puj (Loskutov) "wing" (Dul'zon 1961, 170; Xelimskij 1986, 193); Burushaski *rëŋ > Hunza -rûn & -rûn, pl. rûnčûn, Nagir pl. in *çâiŋ, Yasin -rën, pl. -réûn (čûn) "hand" (Berger 1998, 364-65); Sino-Tibetan *rî > Mikir ri & ri-pak "hand", ri-kan "forearm", eri "arm", Tamang nâ:rî "arm" (Matisoff 1985, 446) and Abor-Miri-Dafla *(s-)rim ~ *(s-)ryañ "10" > Tagin ering, Nishi aring, Nishing/Dafla erî ~ oranj, Bangru ron, Bengni ur-rum id., Idu/Luoba hreno "tens" (Matisoff 1997, 27); Basque *a-rae "palm, span" (Bengtson, Basque Database).

The latter component is derivable from the North Caucasian verb *=âxi w "to lie, put, lead" > Nakh *=ill- "to lie, put upon (something)", *r-ill- "to put (from above)"; Chamalal =âli- "to begin"; Tsezian *sL "to be"; Bezhta =ol-, Gunzib =ol- "to finish"; Lezgian *=el, *i- "to put, lie"; West Caucasian *z'or- "to lie" (NCED 278-79). The primary semantics could be "six" = "(one) put upon five" or "beginning the (new) five". Concerning the structural parallels in various language - see above.

Sino-Tibetan *riók "6" (CVST II, 105) is analyzable as a compound of *rî "hand" and the numeral "1", attested e.g. in Bahing, Thulung kwoŋ, Thulung Rai ko; Abor-Miri a-ko, Dafla aktu, Miju -ko (Hodson 1913, 320; Matisoff 1997, 19), cf. also Mirî ákkéíkó "6", which represents a transparent compound of ak "1" & aísko "5" (Gowda 1983, 424).

6.2. *qâ(y)V-l(V) xusa = "5 extended by 1". The l-suffic extends the base of the numeral "5" in the Assan-Kott compounds "6", "7", "8", but also the Kott numeral hágöa "10" extended in hágál híciça "11", hágál ãna "12" (Castrén 1858, 45). It can perhaps be identified with the Ket derivational suffix -la forming adjectives and adverbs (Werner II, 1), with a probable original function "extending, extended" (Vajda 2004, 38).

7.1. *a'ñV = "7" (S95 197; S82 ). Perhaps shortened from a hypothetical compound *qâka(m)-'o'-xíña "5 with 2", where the numeral "5" was omitted as in the numeral "6". The postposition "with" is attested in Kott ô "mit, zugleich" (Castrén 1858, 201; Werner II, 30).

Castrén (1858, 42) saw the identity of oan "7" and oan "many", Dul'zon (1968, 127) mentioned the quasi-homonym between the numeral "7" and the word "many", reconstructed as *ôñ- (~ *ôn- ) (S95 198) = *ôn (Werner II, 42). It is possible to imagine a compound *xína-ôñ- "2 in addition", but it is a questionable, if the meaning "in addition" could be ascribed to the word *ôñ-. By the way, it is not excluded the
meaning "7" developed metaphorically in "many" and not vice versa.

Starostin (S95 197) compared Yen *'o'*nV "7" with ST *(s-)nîś "7" > OCh ʔ *chît (< *snhit ?; cf. OCh > Hmong-Monyng *zialt "7" - see Benedict 1976, 171); Burmese khu'-nač; Kachin sənît; Kuki-Chin *s-Nîś; Limbu nu-sî; PGurung *nîi(s); Bodo-Garo: Garo snî, Dimasa sīni; Rawang sānît, Trung sā-nî; Kiangsî stîś; Mantshati sny̞-i; Rgyarung sînîs, -snes; Namsangia ṣīnit; Andro sîni (CVST II, 37-38). But the ST numeral "7" is also derivable from the numeral "2" (cf. Matisoff 1997, 66-67). The velar prefix in some forms, e.g. Burmese khu'-nač; Mišîng ki-nît, Abor ki-nid-e, Yano ka-nî, East Nyising ka-ni "7" (IST 202), may be identified with one of the following etyma:

(i) Written Burmese khu & "okhu "unit, individual thing", implying the semantic motivation "unit of fingers" + "2" = "7" (Matisoff 1985, 432; 1997, 84).

(ii) ST *kūt "(bone of) hand" (CVST V, 75; Matisoff 1985, 432; IST 140, 144, 161).

(iii) Khumi kło, Zotung kuf-, Sunwar guy, Kham of Nepal kwi "hand" (Matisoff 1985, 437).


7.2. *qāj(V)-l(V) xîna = "5 extended by 2".

8.1. *xîna wən-sV x̄Ga = "2 subtracted from 10".

The component *wən-sV "not existing, there is not" continues in North Ket bǒńčaŋ / bǒ́tśaŋ / bōt'laŋ, South Ket bőńśaŋ, Yugh bǐńči, Pumpokol bejsem, Kott monča (Werner I, 158), derived from *wən "not", attested in Ket bōn, Assan bon / mon, Arin bon, Kott mon / mŏn id., before the imperative stems bō (S95 293; Werner I, 157). External relatives appear in NCe *ma "not" (NCED 797) and ST *ma 'no' (CVST 16; STC 97).

8.2. *qāj(V)-l(V) do'ŋa = "5 extended by 3".

9.1. *xusa wən-sV x̄Ga = "1 subtracted from 10".

The strange record cūmnāga, cūmīga of Castrén (1858, 45) is understandable in the light of the records from the 18th cent.: hučabunāga (Müller, Klaproth) - see Werner 1990, 304. The Kan Kott form gulčanak ċem looks like a misprint with g instead of h (in South Russian, Ukrainian and Belorussian the Cyrillic letter ͗ is pronounced as [h]).

9.2. *qāj'am sijam = "5 + 4".

The final -am is the neuter-class predicate concord affix (Werner I, 32; Vajda 2004, 36, 40).

10. *x̄Ga = "10" (S95 303; S82 167).

There is no internal etymology, maybe with exception of the first component of the
numeral *γυ-σα & *χδ'-κ(Ψ) "1" (see §1 above).

Outside Yeniseian there are rather limited Sino-Tibetan counterparts; Mewahang hukhu "10": ihuk "5" vs. huk "hand" (Matisoff 1997, 77; Gvozdanovic 1999, 102), Limbu hukpe "hand" (Matisoff 1985, 432), maybe comparable with Sherdukpen κου "5" (Matisoff 1997, 77 thought about influence of κιτ "6", but why not an opposite influence?).

North Caucasian:

ECc *Гъ "20" > Nakh *тъ ( ~ -ä); Avaro-Andian *ђ:V-; Tsezian *кт-(n); Lak ė; Dargwa *ка; Lezghian *ђ:α; Khinalug ėά(n) (NCED 456). The initial dental in Nakh could be a relic of the original compound *(t)ђHwā & *Гъ "2 x *10". The NCc numeral *(t)ђHwā "2" is attested in all branches with the exception of Nakh: Avaro-Andian *κι-; Tsezian *κъ-nVā; Lak κί=α; Dargwa *κъ; Lezghian *ђлъά; Khinalug κυ; West Caucasian *тълъ;... id. (NCED 924).

Basque *hogei "20" > Bizkaiian, Gipuzkoan, High Navarrese ogei, Low Navarrese, Lapuridian hogoi, Zuberoan hogei, Roncalense ogei, ogêi (Bengtson 2009, 136; but the initial (h)o- can be a prefix, defined by Bengtson 2009, 66). The final -i can perhaps be identified with the pronominal plural in -i-, cf. (h)ar- "that (one)" vs. (h)ai(e)- "those" (Trask 2008, 99). In this case it is possible to conclude the original meaning of *hoge would be **10".

Nadene:

Eyak *Gă in dAGăq"10" (Krauss). Nikolaev (1991, 55) who tried to connect Nadene + NCc, also added Tlingit -qa "20". In reality it is tlēqă "one (person), cf. ilex ~ tlek "1" & gă(h) "man", i.e. "fingers of one person" (Ruhlen 1994, 102, 104).

20.1. *e'k / *xe'k = "20" (S95 186; S82 215).

It is possible to etymologize this on the basis of *σ'k (~ x- & -g, -χ) "superfluous" > Ket σ'k, Yugh σ'k; Kott εξ, εγ id., ēξk "too many" (S95 191; Werner II, 402; Castrén 1858, 148, 200), originally perhaps "10 superfluous over 10", similarly as in formation of teens: Ket āγαm āγαm qo "16", Ket Sym ās ač xuos (Castrén 1858, 41), lit. "six superfluous over ten" (see §6.1. above).

Note: Starostin (S95 186; S82 215) compared Yen *e'k / *xe'k "20" with NCc *Гъ "20" (NCED 456), but the internal etymology seems preferable, while NCc "20" is better compatible with Yen "10" (§10).

20.2. *xin(a) tu'kį = "2 tens".

The reconstruction *tu'ŋ of the numeral designating tens (S82 216; S95 289) should probably be changed, because there is a different reflex of the sequence *-Vŋ-, reconstructed for the numeral *do'ŋa "3". The Kott plural in -kŋ indicates the singular in velar, cf. ix "name", pl. e(à)kŋ, ĭg "day", pl. ēkŋ, d'ix "mountain", pl. d'ękŋ, t'ęx "rope", pl. t'akŋ, pęg, pęx "stump", pl. pąkŋ, hųjekk "mane", pl. hųjekŋ etc. (Castrén 1858, 24).
The hypothetical protoform *tV'K, pl. *tu'kŋ, may be identified with Yen *tu'q "finger", pl. *tu'aqVn "fingers; hand" (see below). In the plural form the zero-grade of the plural suffix (in compounds) leads to *tu'aqVn > *tu'aq > *tu'kŋ, the root vowel ą appears in some irregular plurals in Ket: xol "thumb", pl. xol, kol, pl. k<ul>u</ul> "stem, trunk, log" (Castren 1858, 18). So it is possible to explain the protoform *tu'kŋ.

Cf. Yen *tu'q "finger" > Ket ta'q, pl. ta'xn / ta'n; (Müller, Pallas) tågon, (Klaproth) togan, tegon "hand (manus)" (= "fingers"); Yugh ta'x / ta'q, pl. ta'xn; Kott thok, gen. thogi, thogei, pl. thogan; Pumpokol tok (Müller, Pallas, Klaproth) "fingers"; ton (ibid.) "manus", (Pallas) "brachyum" (Dul'zon 1961, 176; Sg 283-84; Werner 2, 302 *tβ'q).

?ST *тjäk (CVST II, 130) ~ *дjäк "1" (Starostin, ST database) > OCh 爀 tek "single, one"; Tib. چچ چ "1"; Lolo-Burmese *t(h)i(k)x > Burmese tač "1"; Kachin ?tai "to be single"; Lepcha ṭak, ṭåk "what comes first, the first, the summit"; Kiranti *th[i]k (C<sup>t</sup>-) "1"; Rawang thi; Rai tik; Trung ṭi. (STC 94: *tyak ~ *tyik; CVST II, 130; Bengtson 1991, 90: Yen "finger" + ST "1").

Note: Starostin (S 289, S 216) compared Yen *tu'ŋ with NCc *ʔecnE"10" > Nakh *tj; Avaro-Andian *hočo-; Tsezian *çča(-no); Lak ać; Dargwa *wec-; Lezghian *uicč-; Khinalug jid iz; West Caucasian *b-c =; especially the forms used in tens: Andi -co-, Tabasaran -cu-, Dargwa -ca-li, Lak -ca-l < NCc *-cč- (NCED 245-46) and ST *f[ʔ]Vj "10" > Tib bëču "10", in compounds bëčö; Lolo-Burmese *čaj > Burmese: čaj; Kachin ši; Lepcha kā-ti; PGurung *čfüg; Bodo-Garo: Garo tši-kuŋ, Dimasa dzē; Namsangia i-tši (IST 124, 437; STC 94; CVST IV, 144-45).

30.1. *do'ŋ-pa χɔGa = "3 times 10".

The element -pa forms the multiplicative numerals, cf. Yen *pa "times" > Ket hāš id., hāj / hāš "still", Yugh fã, fas "times", faj / fas "still"; Kott -fa, -pa in ìn-pa, -fa "twice" etc. (Sg 244).

30.2. *do'ŋ tu'kŋ = "3 tens".

40.1. *sika-pa χɔGa = "4 times 10".

40.2. *sija tu'kŋ = "4 tens".

40.3. Old Ket Imbak sōluk (Müller), (Eed-šěš River) soluk-šá (Messerschmidt, Klaproth), South Ket šolš, North Ket šol' "40" < Russian sorok "40" (Dul'zon 1961, 183; Werner II, 208).

50.1. χɔlap ki = "half 100", cf. Yeniseian χɔlab "side, half" > Ket qɔlap, Yugh xɔlap; Kott halap "half"; Arin qbur-/ qbur- in qbur-saj (Müller), qbur-saj (Klaproth)
"midnight"; Pumpokol kõlpav (Müller, Klaproth), kõlpar (Pallas) "back", derivable from *Xol- "cheek" > Ket qšlet, pl. qšlerη, Yugh xolat, pl. xoladin; Kott hol, pl. hōlanet; Assan hōlan (Müller, Pallas, Klaproth) "cheeks"; Arin bi-qolav (Müller, Klaproth) "(my) cheeks", biqolav (Pallas) id. (S95 304, 302; Dul’zon 1961, 183, 189).

50.2. *qāk-pa χGa = "5 times 10".

50.3. *qāj(V)-l(V) tu’kñ = "5 tens".

60.1. *ax-pa χGa = "6 times 10".

60.2. *ax(V)-l(V) tu’kñ = "6 tens".

60.3. *qāj-l(V) χus(a) tu’kñ = "(5 + 1) tens".

70.1. *o’n(V)-pa χGa = "7 times 10".

70.2. *o’n(V) tu’kñ = "7 tens".

70.3. *qāj(V)-l(V) xīn(a) tu’kñ = "(5 + 2) tens".

80.1. *e’k-s wən-sVm ki’ = "20 subtracted from 100".

80.2.1. *xīnam wən-sV(m) χGa ki’ "(2 subtracted from 10) in 100".

80.2.1. *xīnam wən-sV(m) χGa tu’kñ = "(2 subtracted from 10) tens".

80.3. *qāj(V)-l(V) do’ŋ tu’kñ = "(5 + 3) tens".

90.1. *χGa-s wən-sV(m) ki’ = "10 subtracted from 100".

90.2. *χusa wən(-sV) χGa tu’kñ = "(1 subtracted from 10) tens".

100.1. *(uša) ki’ ~ gi’ "(that) 100", cf. Kott uju "he", ujō "that" (S95 238).

It is attractive to see in *ki’ ~ *gi’ the adj. "new": Yen *gi’ > Ket ki’ (attr.), (Kureika) ki:ši (pred.), (Baklanixa) ki:sə (pred.); Kott ki id. (S95 227; Werner I, 429: *ki’), hence *(uša) gi’ "that new [numeral unit?]".

Note: Sedláček (2008, 238) proposed a comparison with Tib brgja, Hsi-Hsia yi "100". But if these forms are derivable from ST *(p-)rjā "100" (CVST II, 84), the relationship with Yen "100" is untenable.
100.2. "al-sin tamsi "one times 100?" (W I, 25), cf. Kott (C) alšin "one times, once", Ket ši-n, Yugh sin id. (W I, 32; W II, 207). Similarly Pumpokol ĭtamsa "100" : xīta "1". The word *tamsi bearing the meaning "100" is perhaps of Tungusic origin, cf. Nanai *tarjyoči, Manchu tarjüči "100th" : Nanai tarjyo-"100", Manchu tarjü "100; quantity", Solon tajgū, Negidal tajgū, Oroch tajgū, Udihe tajgū, Olcha tajjü "100", all derived from the common Tungusic verb *taŋ- "to read, calculate", cf. Negidal tajgün "number" (TMS II, 161-63).

100.3. *jūs < late Turkic *jůz, cf. Oirat jūs, ’diis "100" (Sos 233; Werner I, 308).

Abbreviations

Bur Burushaski; Cc Caucasian; Ch Chinese; E East; N North; ST Sino-Tibetan; Tib Tibetan; W West; Yen Yeniseian.

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<http://www.sussex.ac.uk/linguistics/documents/lxwp23-08_edb.pdf>


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The present study was prepared in cooperation with the Centre for Interdisciplinary Research of Ancient Languages and Older Stages of Modern Languages (MSM 0021622435) and thanks to the grant GAAV, Nr. IAA901640805.

**Václav Blažek**
Masaryk University, Brno
Czech Republic
blazek@phil.muni.cz
Appendix: Phonetic correspondences between Yeniseian languages (Starostin 1982, 145-89)

A. Consonant correspondences

<table>
<thead>
<tr>
<th>Yeniseian</th>
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<th>Pumpokol</th>
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**Notes:**
- T represents the 3rd tone.
- T represents the 3rd tone.
- *h* represents a 3rd tone.
- *h* represents a 3rd tone.
### B. Consonant clusters

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### C. Vowel correspondences

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Map of the Yeniseian Family (Santa Fe Institute)¹

¹ Note that all the languages are extinct, except the first two (Ket, Yugh). The others are shown in their historic locations [Ed.].
The Eight “Blood” Etymologies in Afrasian: And More

Harold C. Fleming

Preface. The condition of the Afrasian (Afroasiatic, Hamito-Semitic) phylum or family of languages is reasonably good in terms of individual language descriptions and the general taxonomic status of the phylum. While details of the internal taxonomy (classification) are still being worked out, this is partly due to the continuing increments to the southern reaches of the family, especially in Chadic and Omotic. Some of the new members force changes in the prevailing taxonomy (e.g., Kujarge in East Chadic, Jiddu and Boni in the Somaloid cluster of East Cushitic) or, accumulating in certain regions, force overall adjustments in Afrasian taxonomy (e.g., Omotic separating from Cushitic and becoming a coordinate to the rest). One new member, Ongota of far southwestern Ethiopia, has forced or encouraged a stronger revision of Afrasian taxonomy which perforce recognizes the increasingly great taxonomic weight of the southern realm of Afrasian, especially East Africa. It is now very difficult to imagine that the prototype of an old Afrasian would be a Levantine farmer or a Babylonian priest; the Asian part of Afrasian is steadily shrinking.¹

As an entity Afrasian has not enjoyed the efforts at reconstruction that Indo-European has benefited from. Not only do far fewer scholars work on Afrasian, but also the partially unsettled membership and description has hindered Afrasian efforts. For reconstructions and external comparisons Afrasian has been distorted by a tremendous overemphasis on the more or less settled areas like Semitic (especially Akkadian, Hebrew and Arabic) and Ancient Egyptian. And for this reason few of the attempted reconstructions of proto-Afrasian have been successful because of the overemphasis on the “solid verities” of the northern languages, including the stress on hoary antiquity which Afrasian has more of than any other phylum in the world. Which languages are taken for examples (possessing the cognates in question) is also involved. Put it another way; the samples of languages used often differ considerably and so do the results. Two recent efforts by a Russian group (Olga Stolbova, et al.), and Christopher Ehret produced such different results that Joseph Greenberg told a colleague that he had never seen two such different reconstructions of the same family!

Therefore I presume nothing about previous reconstructions in this paper. Proto-Afrasian has yet to be reconstructed convincingly and thus we are writing on a blank slate here.

What I attempt in this article is to present a series of etymologies aimed at proto-Afrasian or significant nodes of its descent taxonomy (e.g., proto-Saharan, proto-

¹ The usage of names such as Semito-Hamitic or Hamito-Semitic is becoming less and less apt each year. The first term which is favored by many Russian linguists is doubly inept because (a) Semitic is not even close to being half of the phylum and (b) the usage fails to honor Igor Diakonoff who pioneered the name Afrasian. For similar reasons the second term is inept. As others have suggested why not call the whole family Hamitic, since eight out of nine lineages are found only in Africa?
Cushitic, etc.). The frank and open emphasis will be on the southern realms of Afrasian, but without excluding the northern which remain very important. It is hoped that this article will be useful to others who will attempt the fine overall reconstruction which this remarkable phylum deserves.

The logic of this is simple: were a term to be limited to one branch, it could be considered a local innovation easily. It can be traced no farther than the node it comes from, e.g., proto-Cushitic, proto-Semitic, etc. Were it to be found in two branches and not seem likely as a borrowing then the node it comes from is the one common to the two branches. So something found in Omotic and Semitic can easily be attributed to proto-Afroasiatic, while something common to Chadic and Egyptian, for example, can only be referred to proto-Erythraic. Finally, when a term is found only in one branch, e.g., Omotic, but is also found in an external (non-Afrasian) family, e.g., Elamitic, then the term is inferred for both proto-Afroasiatic and whatever overall taxon that happens to include Afrasian and Elamitic. For example, Nostratic. Holding a term in common does not necessitate incorporating Elamitic in Afrasian, as some have suggested, or Afrasian in Elamitic, or a special relationship for them.

The compact version of the internal taxonomy of Afrasian may be useful for contemplating the prehistory of any given etymology. It is, as follows

A New Afrasian Taxonomy (Fleming 2005), Incorporating Ongota.¹

<table>
<thead>
<tr>
<th>Moiety A: Omotic</th>
<th>Moiety B: Erythraic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phratry A, Somotic</td>
<td>Phratry A, Ongota</td>
</tr>
<tr>
<td>Phratry B, Nomotic</td>
<td>Phratry B, Cushitic</td>
</tr>
<tr>
<td>Lineage A, Dizoid</td>
<td>Lineage A, Agau</td>
</tr>
<tr>
<td>Lineage B, Mao &amp; ta-ne</td>
<td>Lineage B, Eastern</td>
</tr>
<tr>
<td>Clan A, Mao</td>
<td>Lineage C, Southern</td>
</tr>
<tr>
<td>Clan B, ta-ne</td>
<td>Phratry C, North Erythraic</td>
</tr>
<tr>
<td>Family Gongan</td>
<td>Lineage A, Semitic</td>
</tr>
<tr>
<td>Family Gimojan</td>
<td>Lineage B, Ancient Egyptian</td>
</tr>
<tr>
<td>Family Gimojan</td>
<td>Lineage C, Saharan or Libyan</td>
</tr>
<tr>
<td></td>
<td>Clan A, Berber</td>
</tr>
<tr>
<td></td>
<td>Clan B, Chadic</td>
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<tr>
<td></td>
<td>Family A, Eastern</td>
</tr>
<tr>
<td></td>
<td>Family B, Central</td>
</tr>
<tr>
<td></td>
<td>Family C, Western</td>
</tr>
</tbody>
</table>

Note: Beja is located at the interface of Chadic and Cushitic and is either *Phratry D of Erythraic or Lineage D of Cushitic, the latter being its traditional classification. On the Chad-Sudan border Kujargé is a new sub-branch of Chadic or transitional to Beja from East Chadic.

For an example of a kind of problem given to reconstruction by taxonomy we may turn to one of the most conservative meanings that one encounters – “die.” After examining the data from 180 Afrasian languages, with all the nodes represented, we find that one form, something like [*mwt], is totally dominant in three lineages, Semitic, Egyptian, and Saharan (Berber plus Chadic). Only the occasional language lacks this
cognate, the only remotely salient exception being Modern South Arabian (Jibbali, Mehri, and Soqotri). So [*mwt] can easily be assigned to proto-North Erythraic, since it is nearly universal in all three lineages of that Phratry.

But wait a moment! Nearly everyone who tries to reconstruct proto-Afrasian or uses proposed proto-forms has confidently included [*mwt], or its look alike, in their proto-Afrasian. And one might link Afrasian’s [*mwt] to proto-Indo-European’s [*mer] and thus move this form up to the Nostratic node. Still there are reasons for trying to do that. It would justify proposing this common North Erythraic form for the proto-Afrasian node. But derivatives of [*mwt] are *quite lacking* in (a) the rest of Erythraic and (b) Omotic. Its not being found in Ongota could simply be due to a lack of data but its absence from Cushitic is a much more serious matter. In the Somaloid branch of East Cushitic are two forms which might be cognate with [*mwt]. One is found in Rendile as [a-muut] and in Garree as [umaw], while the other form [d'im-t] is found in Somali proper and Jiddu, also in Rahanwein as [d'im] and Benadir as [d'im-at] and Baardheere as [dimoj]. Two intriguing exceptions are Boni with [awad] where the [w] could be from [*m] and Yibir [midi] which would fit into [*mwt] but changed semantically to ‘lie down, sleep’. Strictly speaking, Yibir is not a member of the Somaloid cluster but either a jargon or a survival of pre-Somaloid languages in the Horn.

While the Somali form [d'im-t] can be rejected as an unlikely cognate, and the Boni [awad] as interesting but not decisive, the Rendile form cannot. Nor is it a likely borrowing from Arabic since Rendile stands to the west of the areas of Arabic and Islamic influences in East Africa; and it is south of the Semitic Amhara of Ethiopia; it has few Semitic borrowings and a native ‘pagan’ religion.

When we look into associated meanings, like ‘sleep’, ‘kill’, ‘lie down’, something like the [*mwt] does not show up in most Afrasian languages, including most of those in North Erythraic. Of the few that do perhaps the most striking is Old Epigraphic South Arabian or Sabean where we get [*mt] for ‘lie down, have intercourse’. This along with Yibir’s [midi] for ‘lie down’ and Rendile’s [a-muut] give us a basis for concluding that this cognate can reach the Erythraic node. And that seems to be the limit, i.e., [*mwt] is an *innovation* in Erythraic, unless we can find a semantically plausible counterpart in Omotic or in some outside phylum.

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2 I have not searched the literature to see if someone has actually done this.

3 But Ongotan data as published already exceeds 1000 items, with more coming in from the research of Sava and his colleagues. Most Afrasian languages fail to reach that standard, although some, of course, far exceed it.

4 It may seem illogical or unseemly to ‘elevate’ Omotic or Ongota to the role of potentially decisive factor in taxonomic decisions. After all that has been the traditional role of Semitic in Afrasian! Yet the logic of our taxonomy clearly dictates that Omotic and Ongota have such roles in their respective levels; both are moieties or major phratries with respect to their next of kin. One may reject the taxonomy itself and return to the Greenberg classification of 1963 with its five equal branches, akin to Indo-Germanic with its ten or more equal branches. But since that date five out of seven scholarly attempts at internal taxonomy, including Greenberg’s second effort, have discarded the five equal branches and proposed secondary nodes. And the two others of the seven added Omotic as a sixth branch. See the summary on pages 145-148 of Fleming. 2006. Ehret’s classification of 1995 is virtually identical.
Getting Down to Cases

We begin with a series of etymologies involving “blood”.

1) **BLOOD-1** This is found in Greenberg 1963 and embraces Chadic (four branches) and Cushitic (three branches). The ancestor was clearly either *b-r-* or *b-l-*, all in the meaning of ‘blood’. Furthermore Paul Newman proposed this etymology for proto-Chadic. In the associated meaning of ‘red’ it is found at least in the Galaboid or Arboroid group of East Cushitic as *bur-*, the Dullay group as an archaism (Warazi *poore* < *boore* ‘red brown skin’), and the Shinasha group of Gongan of Nomotic as *bir-* and *biira* ‘red’, right next to Awngi of Agau’s *bri* or *biri* ‘blood’. In closely related Kafa of Gongan it is found as *bura* ‘blood price’ or ‘wergild’, making it less likely to be borrowed from Cushitic. As ‘red’ it occurs sporadically in Chadic also but no one proposes it as ‘red’ for proto-Chadic.

BLOOD-1 finds itself in the middle Afrasian distribution and was probably a very old Erythraic innovation. It also counts, of course, as an Afrasian etymology, being found in at least two sub-phyla, albeit very weakly in Omotic.

2) **BLOOD-2** This has about as good a distribution but is troubled by the borrowing problem – from Semitic, as well as an unbelievable presence in Somotic. The ancestor in Semitic was no doubt *d-mm* and it would be the same in Berber, if it was not borrowed from Arabic or Punic. Since this form is universal in Berber, it does not have to be a borrowing from Arabic. The *d-mm* form has been replaced in Modern South Arabian by *dor*. In Chadic forms like *dom/tom/rom/zom* for ‘blood’ are found in West Chadic; it is hard to explain from Arabic influence. Double final [-mm] is infrequent or rare, except for an isolated Central Chadic form, Bachama’s *zambe*, Bata *jambe* / *yambe* which is very interesting from an Omotic standpoint. While both Cushitic and Nomotic lack the *d-mm* cognate, Somotic has two contrasting words for ‘blood’. One is *mak’as*, while the other is *zomp’* - or *zumb’*- , alternating with *zum’i*. Dime, however, has *dzum-u / zum-u* in an archaic form for blood from the neck of cattle. Both the first and second Somotic forms can be traced to proto-Somotic. But not to proto-Omotic. If the Semotic forms and the Bachama are cognate with each other, they argue that proto-Afrasian would not have been *d-mm* but rather something like *dz-mb’* which became *d-mm* in Semitic. . . . Bits and pieces of BLOOD-2 are found as ‘red’ in Agau (Awngi *dimmi*), Highland East Cushitic (Sidamo *dume*), Oromoid (Oromo *dima*, Konso *tim*), and South Cushitic (Qwadza *dimayi*). It appears also as ‘pulse’ in Agau (Quara *deja*) which is known to be from *dema*. A probable survival is found in Middle Egyptian 1dm1 “red linen” which was probably heard as *‘adma’*.

BLOOD-2 has a wide distribution all over Afrasian, but in bits and pieces. This seems to be consistent with an ancestor in proto-Afrasian itself, rather than a later one. Not everyone agrees that proto-Semitic had *d-mm* for ‘blood’. It is often cited as *d-m*.

One offshoot of the search for this etymology is the remarkable discovery or coincidence of Semitic’s hoary Akkadian tant-m ‘blood-pl’ and Nomotic’s newly known Mao in tant- ‘red’ (Sezo, Hozo and Madegi). Is this a coincidence or cognition?
3) **BLOOD-3** This has a limited distribution but, if it is true, quite enough for it to be linked to proto-Afrasian. For it reaches from Ancient Egyptian *snf* and Coptic *snop-ti* to Somotic *zump*- (as listed above). This connection has been suggested by others besides myself but I forget who they were. Of course, Chadic’s Bachama *zambe* would also be included. Jungraithmayr mentions the Bachama connection too. Again isolated within its group in Nomotic we have Grottanelli’s Gebsi of Mao with *šeembi* ‘red’, although we do have Ari [*zomp’i*] “blood” as well as Dizoid [sub-/sum-] also meaning ‘red’. If the link Egyptian to Omotic is real, then the Somotic membership in the *d-mm* etymology above is no longer valid.

4) **BLOOD-4** This is nearly universal in East Cushitic, being absent only in the far north (Saho, Afar) and the far south (Dasenech). It is difficult not to see *d’iig’* as an innovation which comes close to defining East Cushitic. Its absence from both Agau and South Cushitic is nearly absolute, as far as I can tell, except for Dahalo where it seems most likely to be a borrowing from Somali or Oromo. The East Cushitic distribution of *d’iig’* ‘blood’ is surrounded by an old root for ‘red’ which has come to mean ‘blood’ in the Rift sub-group of South Cushitic. We will call it **BLOOD-5**.

5) **BLOOD-5** As ‘blood’ this is confined to Iraqw, Gorowa, Alagwa and Burunge. All other members of South Cushitic, except Dahalo, have **BLOOD-8** instead of this form. As ‘red’ **BLOOD-5** is nearly universal in Agau, as follows: (Awngi lacks it), Dembea *ttsara-* , Qemant *sara-* , Khamir *ts’ir / zir*, Khampa *sàro*, Bilen *sara-ux*. (Glottalized [ts’] has become rare in Agau).

In Dahalo recorded several times by highly competent field workers, we have ‘red’ as *ts’irara*’. It is absent in Mbugu, Asa and Qwadza, changing then to ‘blood’, as follows: Iraqw *tts’eere*, Gorowa *ts’eere*, Alagwa *čeere*, Burunge *čeede*.

As has happened a number of times, Ehret and I discovered this independently of each other; he was the first to publish it, however. It is likely that the “red” meaning is earlier than the “blood” in this case.

6) **BLOOD-6** This is the third Chadic root to be linked elsewhere. Jungraithmayr gives it as *b₂z* or just *bz*, while Newman does not list it. It is associated primarily with Central Chadic, i.e., the Biu-Mandara and Masa branches, but is also found in East Chadic. I have not found it in other branches of Afrasian, except for a very few cases in Omotic. In Ari of Jinka, as recorded by Tully, *bisa* means ‘menstrual blood’. This is rather special because it is the only case of such a word in the Ari group (Somotic) where a taboo is in force against the topic of menstruating females; euphemisms such as ‘she broke her leg’ are used, often because the female occupies a menstrual hut for a time. In Hamar there is the ‘red color of sky’ or simply ‘sun rise, sun set’ *beezi* which might be focused more on the color of the sky than on the time of day.

7) **BLOOD-7** This is associated with the non-conformist Modern South Arabian *dor / * devour ‘blood’. Besides being linked to an outside super-phylum, represented by Burushaski’s /del/ ‘yolk of egg’ and Basque’s /odol/, it is probably cognate with one or more Omotic words, such as Somotic: Galila: *šoor*- ‘bleed from the nose, nose bleed’.
Galila’s [§] is clearly from [*s] as a regular rule. The main reason for including this etymology is its potential. Being connected to an outside phylum and with possible linkage of Somotic and South Arabian may lead to more links. Well, we can add another potential cognate, viz. Afar [durù] ‘dissanguato, bloodless, bled out, exhausted’, as recorded by Arpino.

8) BLOOD-8 This is associated with three major descent lines, including both moieties of Afrasian, has been borrowed in one Nilo-Saharan branch, and is present outside of Afrasian as a cognate, not a borrowing, in Eurasian. Its evidence is, as follows:

- **Ongotan: Ongota**
  - ŝoxo ‘blood’
  - sogo/sog’o ‘blood’ Yaaku
- **East Cushitic: Yaakuan**
  - sako / saxó ‘blood’ Ma’a (Mbugu)
  - -sakó ‘to bleed’ Ma’a (Mbugu)
- **South Cushitic: Mbuguan + Rift**
  - sa’u < *sak’u ‘blood’ Qwadza
- **Nomotic: Ta/Ne group: Gimojan**
  - sugu-ts ‘blood’ Male
  - suu-ts ‘blood’ Basketo
  - suu-ts ‘blood’ Oyda
  - suu-tna ‘blood’ Malo
  - su-č < *su-ts ‘blood’ Dorze
  - su-tna ‘blood’ Koyra
  - suu-ta ‘blood’ Chara
  - sut (‘glued on’ /t/) Gimira
- **Perhaps irregular: Mao: Sezo-Hozo group ši’i blood, sweat Hozo < *sik’i**
  - šiik’i ‘sweat’ Sezo (SLLE)
- **Gimojan:** še’ ‘red’ Yemsa (Janjero)

but Nilo-Saharan: East Sudanic: Kuliak

- se ‘blood’ Nyangeya
- se’ ‘blood’ Tepeth
- sea ‘blood’ Ik
- *seh ‘blood’ proto-Kuliak, which in turn is a likely borrowing from early Afrasian, most likely Omotic.

But see also Nostratic (Starostin 1984)

- *s-x- / *-sx- (including) *sag ‘blood’ proto-Altaic;
- and also in Karl Bouda (1960:403)

- **Gilyak**
  - tsox / tsux ‘blood, sap, juice’

Before he died a few years ago, Karl-Heinrich Menges expanded greatly on this etymology in the Eurasian part of ‘Nostratic’. ⁵

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⁵ Both Yemsa and the Mao group lack the nominal suffix /-tsV/ or /-tV/ which I separate from the base in the Gimojan forms cited. Whether the suffixes are singulatives or noun formants from verbs is not yet clearly known, partly because they are glued on in many cases, but the probability of their being suffixes can be shown from the following examples:
The Two “Bone” Etymologies in Afrasian

9) BONE-1 This was established in 1963 in Greenberg’s Afroasiatic, as follows: Egyptian k’s, Berber i-xs, Chadic: Hausa k’ası, Karbo kaaso. Newman later found this root to be widespread in Chadic and proposed it for proto-Chadic, as did Jungraithmayr and his colleagues in k’sj who also showed many examples of initial loss of [k’-] resulting in numerous forms with initial glottal stop, usually not recorded by field workers, resulting in forms like Jegu aso, i.e., ’aso. Dolgopolsky and others, as reported by Jungraithmayr, proposed links with Semitic *aum- ‘bone’ and an alleged Cushitic form *k’Ač’ or *k’Ač’c’ or *mA-k’k’Ač’c’ ‘bone’. Dolgopolsky et al.’s forms are herewith rejected as arbitrary and tortured surmises and reconstructions. The proper cognates of the initial *k’s set above are indeed found in former West Cushitic, now Omotic, but in simple forms much like those of Chadic. I do not believe that the etymology can be extended to Semitic at all, nor to Cushitic with one small but interesting exception. The misbegotten final form seen above with prefixed [mA-] is actually a butchered version of BONE-2 (see below).

The initial *k’s set of Greenberg showed up in Omotic during field work in Ethiopia by Herbert Lewis and myself in 1959, although it took a while for this particular fact to be noticed. Then I found it again in two different places in 1972, and again in 1990 in other languages.

Its Nomotic presence is clearer; in the Dizoid moiety of Nomotic we find: Na’o k’us ‘bone’, Shako ‘us-us ‘bone’, Dizi (Maji proper) ‘us ‘bone’, Dizi of Jeba úús-u / ús ‘bone, skull’. It should also be in Dizi of Adikas but the data are missing for the moment.

Across the Omo river and valley, in Somotic, this cognate is found in Dime as k’ús ‘bone’, North Dime as k’oss, and South Dime as k’oss. Now the status of this in the rest of Somotic is particularly problematic because the Ari group and the Hamar group have replaced whatever their original word for ‘bone’ was, with an East Cushitic loan word *lef-. So Dime is almost the only evidence of the original state of things. However, Hamar has k’óssí ‘elbow’, a bony thing in itself.

But the most striking piece of evidence is the likely presence of this cognate in Galab (Dasenech) as g’ās ‘foot’. Miyawaki also recorded guus-ko for ‘bone of leg’ in Tsamai but with a question as to its meaning. So far our data do not show this root elsewhere but it does not derive from old East Cushitic *gaas ‘horn’ which is very common throughout the area and takes the same form in Dasenech. However, a search in

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‘breast’ with base form (Chara) t’am- / d’am- vs (Ometo) d’an-tsV ; ’name’ Dizoid Na’o sum vs Ometo sun-tsa, sun-t, sun-; ’claw’ Gimojan Chara s’uag a vs Ometo Malo s’ugun-tsa ; ’lick / tongue’ Ometo: Oyda la’ane / i’lan-ts. Or in one language: Oyda of Ometo: d’an-ts, mēk’ē-ts, ts’ugun-ts or ’breast, bone, claw’. The [-ts] acts like a bound form as suffix. The use of the suffix is more common and still productive in Kafa and its sister Gongan languages, albeit less productive in Ometo. Thus Kafa: ari- ’know’, ari-anu ’ignorant, stupid’ (knows-not), ari-čē ’knowing, sage’ (either noun or adjective); baato / baat-čē ’leg, lower leg / pedone, fante, infantry’; šikko / šık-čē ’knife, the king’s sword / king’s chief carver’; t’ofo / t’o-čē ’horn cup / cup bearer. Kafa [č] and [čē] regularly corresponds to [ts] in other Gongan (like Shishasha) and throughout Gimojan, except where others like Dorze have also changed ancestral [ts] to [č] or to [t] like Wallamo (Wollaita).
Arbore and El Molo may reveal a derivative of the old ‘bone’ root. Or perhaps in the Konsoid cluster of Oromoid.

10) **BONE-2** This form is found in both Omotic and various Cushitic lines, probably also in Beja, and perhaps in a related form in Ongota and as borrowed into northern Khoisan, i.e., Hadza.

Note: There is a fair probability that the forms (here below) have a special palatalized variant, itself fairly widespread: It is also possible that the East Cushitic forms were borrowed later than proto-East Cushitic by early daughter languages proto-Highland East Cushitic and proto-Yaakuan from contacts with Nomotic. Somotic and the Dizoid moiety of Nomotic still retain proto-Afrasian */k*-s/. Take note of:

**East Cushitic: Yaakuan:** Dullay
- *mik’a* ‘bone’ Harso (Warazi) (Amborn)
- *meq’a-te* ‘bone’ Gobeze (Bender)
- *maR-te / māqqe* ‘bone’ Gawwata I (Black)
- *miq’e / mig’e* Gobeze (Black)
- *meeq-te* Tsamai (Hayward)

**East Cushitic: Lowland**
- *mēk’ē-ta* ‘bone’ Bussa (isolated, loan?)

**East Cushitic: Highland**
- *mik’e* ‘bone’ proto-HEC (Hudson)
- *mik’a* ‘bone’ Alaba
- *mik’i-ččo* ‘bone’ Sidamo
- *mik’a* ‘bone’ Kambatta (Fleming)
- *mik’ee* ‘bone’ Hadiya
- *mīč’ā* ‘bone’ Burji (Fleming)

**Somotic:**
- *muRu* <*muk’u* ‘knuckle’ Dime

**North Cushitic: Beja**
- *miikwa* ‘femur, humerus, tibia’ (Hadareb)
- *miikw-’ol* ‘radius, ulna, fibula, bones of the hand or foot’ (Hadareb)

**South Cushitic: Dahaloan**
- *mik’o* ‘collar bone’ Dahalo (Sanye). It may be suspect as an early recording (Dammann 1950) but by a good field worker. It has not been confirmed but no one else has elicited ‘collar bone’ from informants.

**Nomotic:** Gimojan (but not in Chara or Gimira)
- *mega* ‘bone’ Yemsa (Janjero) (Lewis, HF)
- *māk’ē-ti* ‘bone’ E.Ometo: Koyra (HF)
- *mek’e-te* ‘bone’ E. Ometo: Gatsambe (CR)
- *mek’e-* ‘bone’ C. Ometo: Dorze (Olmstead)
The two varieties in Highland East Cushitic appear to be due to phonetic change in Burji alone. What is either a separate cognate or a palatalized version of this is found in Ongota and South Cushitic, including the 'regular' Dahalo form. Separate cognation is argued here for two reasons: (a) a form with a velar and another with the palatal co-exist in a few languages, and (b) the sound correspondences between Ongota and Dahalo discourage one from seeing an initial velar, but rather a glottalized palatal affricate. This is confirmed by the loan word in Khoisan Hadza which might instead be the source!

Based as follows: Nine Agau languages show \[ nj \] which corresponds usually to \[ m \] elsewhere in Cushitic or Afrasian; this is well-known. The \[ m \] is ancestral. About half of the Agau languages have \[ š \] corresponding to \[ ts \] and \[ ts' \] in the others. On comparative grounds the \[ ts' \] is probably ancestral. The common Agau forms are / nats', nats, nat, nas/. Bilen has \[ naž \], a voiced version of \[ š \], suggesting the ancestor differs a bit, i.e. might have been *maj'.

Perhaps North Cushitic:

\begin{itemize}
  \item mita / ti-mita ‘bone’ Bisharin
  \item mitaat ‘bone’ Beja of Imera. Since it is a feminine noun, the root should be /miita/. Since Beja lacks glottalic consonants, except in a few Ethiopic borrowings, its plain consonants often have glottalic mates elsewhere.
  \item South Cushitic: Dahaloan
    \item mitl'tl'-o ‘bone’ Dahalo which maybe borrowed from Hadza (Khoisan) /mitl'a/ ‘bone’ and/or Hadza /mutl'u/ ‘rib’ or vice versa, since both are isolated. However, Ongota and Dahalo show the /č'/ vs /tl'/ correspondence discussed later, making it more likely that Hadza borrowed its form from an early South Cushitic.
\end{itemize}

Final note: The conclusion probably is that the two forms are independent, since both varieties exist in Beja, Yaakuan and Dahalo at great distances from each other in space and time.
Dominant ‘Four’ and a Somewhat Lesser One

11) **FOUR-1** This form was proposed by Greenberg in 1963; it united only Chadic, Egyptian, and Cushitic. In Chadic it is present in scores of languages from east to west, exemplified by Hausa *fud’u*, Musgu *podu*, and Mubi *fad’a*. More importantly, we note the Chadic forms such as Sura *feér*, Yiwom *prô*, Lele *poorii*, and Wandala *ufade*. In Cushitic FOUR-1 is found in only two parts of that very diverse sub-phylum, as faDig in Beja and as *ferei* in East Cushitic Afar and as *afar*/*afur* in the Somaloid and Oromoid clusters of East Cushitic. It is absent in Agau, Yaakuan, HEC, and South Cushitic.

Although Berber and Semitic clearly lack this cognate, despite heroic efforts by Dolgopolsky to stuff Semitic *arba’a* into it, there is true uncertainty about the situation in Omotic. Some have tried with only partial success to encorporate a common but variable form in Nomotic. It requires us to believe that an initial *[b-]* or *[w-]* corresponds to the *[f]* and occasional *[p]* of Chadic and the others. But that is, after all, not a very long stretch. The examples range from *oydd-* in Ometo to *awdd-* in Gongan and culminate in Chara’s *obda*. Some of the Omoto forms are also found in Somotic, possibly as loan words, but Dime at least has *uddu* which seems more independent.⁶

Without deciding about the Nomotic forms – for a spell --, we have recently discovered that several forms exist in the meaning of ‘1/4’ or ‘a quarter’ and look to fit FOUR-1 rather better. They are limited in number for a simple reason; these ordinals and fractions are less commonly recorded by field workers than the other numbers. Take a look at these Gongan and Gimojan forms!

Mocha *bêc’o*/*pêc’o/ ‘quarter, fourth’ (Leslau), alongside regular Gongan ‘4’ *awuddo*. In Kafa the initial consonant has changed to *[h-]*. Oddly enough, Cecchi reported in 1887 that ‘4’ was *baodo*, while ‘fourth’ was *bod-ino*. It is not clear where Cecchi’s forms lead us!

Yemsa (Janjero) has *hâc’ê* for ‘four’ but no glottalized consonants save an occasional velar. It is tempting to relate that to Chara *becc’a* ‘quarter’ (fraction). Yet neither of these have changed original *[f]* to *[h]*.

Furthermore, in another source of reflexes of ‘four’, it is very common in Omotic to form ‘9’ out of ‘5’ + ‘4’. Then usually to drop ‘5’. Chara has *bija* which compares closely to *obda* ‘four’.

The Mocha form has the best fit with FOUR-1 of all, with the south Gongan *[ê’]* corresponding to proto-Gongan *[ts’]* and Chadic *[d’]*. Yet the ordinary Mao words for ‘four’ are not far behind. Between the two moities of Mao we have *bets’e* versus *mets’e* with most of them allowing the first form as an alternative to the second, but not the other way round.

These forms give us a basis for supposing that Omotic also contains Blood-1 but with phonetic troubles adhering to the reconstruction. In this the most conservative

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⁶ These forms are almost as unlikely as Dolgopolsky’s attempt to encorporate Semitic *arba’a* in *ufad’ig*. Besides having to postulate metathesis of *[r]* and *[d’]*, while linking *[b]* with *[f]*, one must link the pharyngeal with the velar. But *[g]* = *[f]* is not at all well supported in Afrasian. Then to reconstruct the probable ancestral form requires an heroic imagination.
Afrasian number Omotic is quite distinct from both Ongota and Cushitic, which differ also from each other except for the strange matter of FOUR-2.

12) FOUR-2 This has a limited distribution in the southeastern realm of Afrasian but has an excellent claim to be an early Cushitic innovation which seems to be cognate with Ongota’s form which is not easily brushed aside as a borrowing from Dullay. Consider these striking sound correspondences.

Dahalo ‘4’ /səˈæle/. It is probably very close to proto-East Cushitic, the main associates being Dullay /salaH/ and Highland East Cushitic /*soole/. The form is missing in South Cushitic and cannot be derived from Lowland East Cushitic /saga/ ‘9’. Ongota has talaHa which is obviously related but not easy to treat as a loan.

In FOUR-1 in Beja the [D] or delta stands in for a retroflex [d] which is not glottalized. It is usually written as [d] with a dot under it which is a typical error made by Semiticists imposing the letters for ‘emphatic’ sounds on the glottalized or merely retroflex sounds of Cushitic and most of Ethiopic Semitic too, for that matter. Afar [d’] and that of Somali are much more lenis than that of, say, Oromo and are frequently missed by field workers.

STONE, SAND, and sometimes MOUNTAIN

13) STONE-1 There is no entry for ‘stone’ in Greenberg’s 1963 summation, nor are there any generally accepted Afrasian etymologies that I know of. What we are dealing with here are ‘stone’ etymologies which show something else, to wit, either the separateness of one group from another or the connectedness of two or more groups such as to show fairly clear sound correspondences.

Assuming for the moment that the semantic range of ‘stone’ cognates often embraces ‘mountain’, ‘hill’, ‘breast’ (by extension from mountain), ‘sand’ (small stones), and other concepts, our search can be a bit broader semantically than it has been.

There are three bilateral connections which must have appreciable age but not great age. First is between Chadic and Beja, as follows:

East Chadic: Jegu ʾōyè ‘rock, Fels’ (large stone)
Mubi wii ‘stone’

West Chadic: Daffo hayi ‘stone’
Sha ʾaya ‘stone’
Kulere ʾaayi ‘stone’
Geji ʾye ‘stone’

and Beja: Bisharin ʾawē ‘stone’
Hadendiwa ʾawē ‘stone’ (including Imera, Hadareb)

In an earlier work Newman gives two etymologies for ‘stone’, the one *p-r- and the other (N)d-G-. In a later work Jungraithmayr gives no ‘stone’ cognate for proto-Chadic.

14) The second is between Berber and Chadic, with both parties being quite isolated. Berber: Ait Izdeg t-aggunt ‘stone’ and Central Chadic: Musgoi gugun ‘stone’, Daba gugun ‘stone’
The third is between Chadic and Agau, again with comparative isolation. Central Chadic: Musgu *kiri* ‘stone’ as opposed to Agau: Awngi *karn* ‘stone’, Bilen *kri* ‘stone’, Khamir *kri-a* ‘stone’, Khamta *ker-a* ‘stone’. Of course proto-Eythraic could be the common source of all three of these etymologies with proto-Saharan underlying the first one.

15) The true probable proto-Afrasian etymon for ‘stone’ is shared only by Egyptian and Omotic. That distribution is the strongest yet, crossing the moiety division as it does and involving Afrasian’s oldest written records. Our candidate for **STONE-1** is found, as follows:

<table>
<thead>
<tr>
<th>Language</th>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle Egyptian</td>
<td>šy</td>
<td>‘sand’ (Faulkner)</td>
</tr>
<tr>
<td>Coptic</td>
<td>šoo-pi</td>
<td>‘sand’</td>
</tr>
<tr>
<td>Nomotic: Dizoid</td>
<td>ša/i</td>
<td>‘sand, stone’, Shako</td>
</tr>
<tr>
<td></td>
<td>še/i</td>
<td>‘stone’, Shako: Aklilu / HF</td>
</tr>
<tr>
<td>Gimojan</td>
<td>šu’a</td>
<td>‘stone’, Yemsa (Janjero)</td>
</tr>
<tr>
<td>Mao</td>
<td>šoa / šoo fe</td>
<td>‘stone’, Bambeshi</td>
</tr>
<tr>
<td></td>
<td>šoo-fe-le</td>
<td>‘mountain’, Bambeshi</td>
</tr>
<tr>
<td></td>
<td>šaawa</td>
<td>‘sand’, Bambeshi</td>
</tr>
<tr>
<td></td>
<td>šóówé</td>
<td>‘stone, rock, mt.peak’</td>
</tr>
<tr>
<td>Diddesa Mao</td>
<td>šawi</td>
<td>‘stone’, Sezo</td>
</tr>
<tr>
<td></td>
<td>šakwó</td>
<td>‘sand’, Madegi (M.L.Bender)</td>
</tr>
<tr>
<td>(Dubious)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gongan</td>
<td>šaawi</td>
<td>‘stone’, Madegi (M.L.Bender)</td>
</tr>
<tr>
<td></td>
<td>šiyya</td>
<td>‘sand’, Shinasha Dangela</td>
</tr>
<tr>
<td></td>
<td>šiyya</td>
<td>‘sand’, Shinasha Wombera</td>
</tr>
<tr>
<td>Somotic</td>
<td>šay / šayy</td>
<td>‘sand’, Dime (HF)</td>
</tr>
<tr>
<td></td>
<td>šávé</td>
<td>‘sand’, North Dime (SLLE)</td>
</tr>
<tr>
<td></td>
<td>šaayo</td>
<td>‘sand’, South Dime (MLBender)</td>
</tr>
</tbody>
</table>

There are many other similar Nomotic forms but with problematic final syllables or suffixes perhaps, such as Basketto *šučč* ‘stone’, which do not fit the suffixing pattern found above in ‘blood’ or ‘bone’. As in the case of proto-Nomotic *čuguče* ‘louse’, the final segment is part of the root. One isolated Semitic form, [asāwa] “sand” in Amharic and Chaha, and [Hašāwa] in Tigrinya, might be related. That Ethiopic form may itself be of Cushitic origin with those possibly members of this etymon. See. Hadareb-A Beja [t-isse] and [ašč] both meaning ‘sand’, and Imera Hadendawa [asse] ‘sand’. Forms similar to Amharic abound in Agau, although Dembea’s [ašo] may be independent and hence indicative of Agau origin. Yet the Tigrinya form remains unexplained in that case.

16) **STONE-2** This is more localized, but also a necessary proposal in order to appreciate **STONE-3** which follows below. We begin with lamented but not late Paul Black, whose job-seeking led him to Australia and, alas, removed his great talents from Afrasian. When he came to the set of very similar forms for ‘stone’ in Cushitic, he realized that there were actually two different sets of cognates. One which was associated
with well-known Somali and Oromo threatened to conceal the second set. The first set is largely East Cushitic and is, as follows:

- **East Cushitic:**
  - **Somaloid:** d'agaH ‘stone’ standard Somali
dagaH ‘stone’ Rendile
d’akáá ‘stone’ Boni (Aweera)
- **Oromoid:** d’agaH ‘stone’ Gidole
dáaka ‘stone’ Konso

The second set is partly East Cushitic but reaches outside as well. Its primary sets are, as follows:

- **East Cushitic:**
  - **Northern Lowland group:**
d’aay ‘stone’ Saho
dháa = d’aa ‘stone’ Assaorta Saho (Banti and Vergari)
d’aa / da / dahi ‘stone’ Afar (HF, d’Arpino)
  - **Highland group:** daha ‘stone’ Burji

- **South Cushitic:**
  - **Rift group:**
tl’a'^a-nu / tl’a'^e ‘stone/pl’ Iraqw
tl’a’u / tl’e’e ‘stone/pl’ Bumuge
tl’a’a’u / tl’a’e ‘stone/pl’ Alagwa

What has been added to the second set more recently (Fleming, 2006) is even more interesting and carries it outside of Cushitic and back into Southern Lowland, i.e., Somali. The new data add these:

- **South Cushitic:**
  - **Rift group:**
tl’ayi-ko ‘stone’ Qwadza (Ehret)
tl’a’i-ko ‘stone’ Qwadza (Ngomvia)
d’e'o-k ‘stone, mountain’ Asa (Aramanik)
- **Ongotan:** Ongota c’a'^a ‘stone’
- **East Cushitic:**
  - **Lowland:**
d’a’an ‘hearth stone’ Somali
d’a'a ‘falling of a stone, the act of a stone falling’
  Ogaden Somali (Abdi Sheikh-Abdi, personal communication 1994)

Note: a rare piece of evidence showing correspondent sounds among South Cushitic /tl'/, East Cushitic /d'/ and Ongota / c'/; this goes a long way towards showing the separateness of Ongota from the others. The correspondents of this in Omotic would normally be from /*ts'/. In Semitic they would be either /t/ or from /*tl'/.

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7 The Asa form is irregular in the sense that it does not fit the phonetic correspondences in South Cushitic in this etymology. However, Asa has not been reported to have the glottalized lateral affricate [tl’] which it must have changed to [d] in the past or Asa does not participate in this etymology.
TOOTH and sometimes BITE & CHEW

17) TOOTH-1 This was proposed by Greenberg 1963, linking Chadic, Berber and Semitic, represented here by Central Chadic Klesem saani, Mandala tsaree, East Chadic Mubi sinaju, Kera sando; Berber Siwa a-sen; and Arabic sin, Hebrew šen. As such it was a bono fide candidate for proto-Afrasian, in terms of Greenberg’s 1963 taxonomy or Erythraic in our present taxonomy. Since Berber Tuareg had it as e-sin ‘incisor tooth’, it was possibly a special kind of tooth in origin.

Further research located it in West Chadic as well, where it is nearly universal in the South Bauchi group. In the other two branches of Chadic it occurs numerous times and is listed for proto-Chadic by Jungraithmayr.

Not only is it absent from Egyptian and all of Cushitic, including Beja, it is absent from both branches of Omotic, except in the very exceptional case of Nomotic Gimojan She san, for ‘canine tooth’, a special meaning as in Tuareg. Given the fact that words for special teeth are usually recorded much less commonly than generic ones, and canines least of all, there is little to compare the She with. However, the most recent field research done by Klaus Wedekind has found it as one of two words for ‘tooth’ in Bencho, i.e., san opposite gaš. Bender also found it in Hozo and Sezo Mao as sandi. In both cases as ‘molar tooth’.

18) TOOTH-2 This has a large distribution as the virtually universal term for ‘tooth’ in all major branches of Cushitic from Bilen in the north to Qwadza in the south. The basic modern form of its reconstructed ancestor is probably derived best by combining South Cushitic forms with Dullay to get *ihlig’w. The lateral fricative becomes [r] in Agau and [l] in East Cushitic. No dialect of Beja has it, nor anyone else outside of Cushitic, especially no Omotic language, nor Ongota. It seems clearly enough a very old innovation characterizing the Cushitic group.

Dolgopolsky recently tried to give this a Nostratic etymology by first tying it to a proposed proto-Semitic * ikk-at- ‘thorn, pin, nail’ and then to Altaic et al. There is nothing inherently unlikely about this proposal, although the semantics could be a bit more plausible and some correspondence between [-kk-] and [-g’] could be established. Dolgopolsky ignored the glottalization of the velar even though he cited the Dullay forms. He was mistaken to do that because his ancestral form is now mistaken. Forms like Somali ilig for example cannot be derived from a voiceless velar without comment. Moreover Semitic [q], the emphatic, is the true correspondent to Cushitic [k’].

19) TOOTH-3 This is based on a very striking match up between Omotic, both branches, and South Cushitic. That in itself would be enough to propose a viable proto-Afrasian form because the moiety line was crossed and remote Tanzanian cognates obtained. However, cognates in Semitic seem also to be involved. And Chadic. Possibly Berber too. And East Cushitic, where a regular correspondence of SC [t’], EC [d’], Ongota [č’] and Nomotic [ts’] is almost realized.

We begin with the South Cushitic cognate:

Rift cluster atl’-imo / atl’-o ‘tooth/pl’ Burunge
By the expectations listed above we are not discomfited to find the Omotic cousins grounded in [-ts'], the probable ancestral form at least would have that in it. In Nomotic the glottalization is not universal but a marked piece of evidence in Yemsa suggests that it is ancestral, not the unglottalized forms. Thus in the major clusters of Nomotic we find:

all meaning ‘tooth’

<table>
<thead>
<tr>
<th>Language</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mao</td>
<td>aats'ê</td>
</tr>
<tr>
<td>Diddlesa Aga</td>
<td>ââts'ê (HF)</td>
</tr>
<tr>
<td>Sezo Mao</td>
<td>haats'i</td>
</tr>
<tr>
<td>Hozo Mao</td>
<td>âts'i</td>
</tr>
<tr>
<td>Gimojan</td>
<td>aČ'a</td>
</tr>
<tr>
<td>Basketto</td>
<td>aČČ-i</td>
</tr>
<tr>
<td>Kullo</td>
<td>aČČ-a</td>
</tr>
<tr>
<td>Malo</td>
<td>aČČ-a</td>
</tr>
<tr>
<td>Dorze</td>
<td>aČ (Olmstead)</td>
</tr>
<tr>
<td>Oyda</td>
<td>aČČ-i (HF), aČ'i (Bender)</td>
</tr>
<tr>
<td>Male</td>
<td>aČ'i / aČ'i / aČi (three sources)</td>
</tr>
<tr>
<td>Yemsa</td>
<td>ha'a (Cerulli), ay'a (HF), a'ya (Wedekind)</td>
</tr>
<tr>
<td>Dizoid</td>
<td>aj-u (Muldrow)</td>
</tr>
<tr>
<td>Maji</td>
<td>ać-u (HF)</td>
</tr>
<tr>
<td>Dizi-Adikas</td>
<td>aĆ-u (HF)</td>
</tr>
<tr>
<td>Dizi-Jeba</td>
<td>aĆ-u (HF) (glottalized and retroflex)</td>
</tr>
<tr>
<td>Shako</td>
<td>aĆ-i</td>
</tr>
<tr>
<td>Nao</td>
<td>aČ-u (HF; dubious older recording)</td>
</tr>
</tbody>
</table>

In Somotic it is universal, while in Nomotic it is lacking in Gongan, Gimira, and East Ometo. The Somotic forms are: (all meaning ‘tooth’)

<table>
<thead>
<tr>
<th>Language</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dime</td>
<td>its-u (HF)</td>
</tr>
<tr>
<td>South Dime</td>
<td>ēts-o (Bender)</td>
</tr>
<tr>
<td>North Dime</td>
<td>hats-in “to bite” (SLLE)</td>
</tr>
<tr>
<td>Galila (Ari)</td>
<td>aČi (HF) &lt; *atsi, by regular phonetic rules</td>
</tr>
<tr>
<td>Jinka (Ari)</td>
<td>aČi (Tully)</td>
</tr>
<tr>
<td>Ubamer (Ari)</td>
<td>aČi (HF)</td>
</tr>
<tr>
<td>Hamar-Banna</td>
<td>aČi / asi</td>
</tr>
<tr>
<td>Kara</td>
<td>aČ' (Hieda)</td>
</tr>
</tbody>
</table>

Relatively hard to find in other Cushitic, it is found in three distinct groups of East Cushitic, viz., Saho ad'a ‘back tooth’ (Welmers) and Wallega Oromo a’oo ‘molar’ (Gragg) where the retroflex stop portion of [d'] has been lost. See closely related Oromoid Konso ad’o ‘cheek’ and Gidole ad’d’a ‘cheek’. Also Dullay Gollango ‘ad’o ‘cheek, jaw’. It is probably also found in North Cushitic Beja as ‘molar’, as in Hadendiwa’s Da’ / Da-a-b (pl) and Hadareb’s e-Dae / e-fDae where f is written to indicate retroflexness. The underlying form is probably [Ŷ] or [d] with a dot under it, as in Indic tradition.

What is involved in Semitic is the verb ‘to grab with the teeth, to bite’ in modern Arabic ‘add (Syrian, Egyptian, Modern Written Arabic) and Moroccan Arabic ‘edd; it also
shows up in Berber (Tuareg added) where it can be suspected of being borrowed from Arabic but also in Senhayi 'atš ‘to bite’, less likely to be borrowed. Wargla also has d:d ‘to bite’ which is unclear both phonetically and historically. Interestingly enough, were the word to be present in Ethiopic, it would be *ačč*- in Amharic and *as’s*- in northern Ethiopic. This by the rules given by Leslau for ‘reap, mow’ in his Geez dictionary.

In a new development (February 2002) this root has been found in Chadic under the label of ‘(to) eat (hard things)’ as opposed to eating soft things. The list is taken from Jungraithmayr and Ibriszimiw (Vol.11, 1994, 118-9).

(Chadic)Hausa had’iyaa ‘swallow’; Tangale had’e , Dera ad’, Karekare had’; Kirfi ad’d’-wo ; (East Chadic)Kera herd’e ; Mokulu ’ad’i’ ; Birgit ’ad’d’i . (Tones present in the original are not shown herein.)

We thus establish correspondences between Arabic [dd], Chadic [d’], South Cushitic [t’], East Cushitic [d’], and Omotic [č’] and [ts’].

In a wonderful anomaly both TOOTH-2 and TOOTH-3 were borrowed into a set of Nilo-Saharan languages in northern Uganda. Those called Kuliak by the researcher, Bernd Heine of Cologne, have TOOTH-2 in something very close to its proto-Cushitic form which is virtually identical to its South Cushitic form. The evidence is, as follows:

Kuliak: Nyangeya ehlegw / ehlegwad ‘tooth / pl’
Tepeth or So ilog / ilgwe ‘tooth / pl’
Ik (absent)
proto-Kuliak (absent, probably because of Ik)

But for TOOTH-3 the evidence is stronger, as follows:

Kuliak: Nyangeya aj ‘to chew, eat’
Tepeth or So ajaj ‘to chew’ (reduplicated form)
Ik ats’ ‘to chew’
proto-Kuliak *a č’ ‘to chew’

It is very reasonable to submit that the Nyangeya and So consonants had earlier been [*j’] the implosive counterpart of [č’].

TONGUE AND ITS ACTIONS, especially LICK

20) TONGUE-1 This was established by Greenberg in 1963. It was found in four of the five branches he then proposed; only Cushitic lacked it. The exemplary citations would be: Chadic: West: Hausa ha-ršē / ha-lšē ⁸, Chadic: Central: Musgu alesi, and Chadic: East : Mubi lisi; Berber ils; Egyptian ns; and Semitic Arabic lisaan, Hebrew lōšon. This was one of his best Afrasian etymologies, straightforward and phonetically simple.

⁸ Note that Greenberg did not specify the segmentation of the Hausa form into ha- + ršē. I do it because some other Hausa forms cannot be properly understood without such segmentation. A Nomotic language, Chara, presents a remarkable coincidence of forms.
More recent research has fortified TONGUE-1 in Chadic where both Newman and Jungraithmayr propose it for proto-Chadic. It has also been found in former Cushitic, albeit the Omotic sub-phylum and as a verb rather than a noun. Finally, in a piece of luck it has been found in Ongota in a very specialized meaning which normally would not have been discovered until advanced dictionary type work was being done. The evidences are, as follows:

**Chadic: Western**
- (ha)-lēs / -rēs ‘tongue’ Hausa
- līs ‘tongue’ Sura
- lusū- ‘tongue’ Karekare
- līs ‘tongue’ Daffo
- laši ‘tongue’ Guruntum

**Chadic: Central**
- elesi ‘tongue’ Musgu
- nhli < *nši ‘tongue’ Logone

**Chadic: Eastern**
- lees-o ‘tongue’ Jegu
- ūlēz ‘tongue’ Mokilko
- lisi ‘tongue’ Mubi

**Berber:**
- i-lās ‘tongue’ Siwa
- eči < *elsi ‘tongue’ Zenaga
- i-ls ‘tongue’ other Berber

**Egyptian: Middle**
- ns ‘tongue’

**Egyptian: Coptic**
- las-pi ‘tongue’ Sahidic, Bohairic.

**Semitic: Northwest**
- lēn ‘tongue’ Ugaritic
- lēšana ‘tongue’ Neo-Aramaic

**Semitic: Eastern**
- lēšaana ‘tongue’ Akkadian

**Semitic: Central**
- lēšen ‘tongue’ Iraqi Arabic

**Semitic: Modern South Arabian**
- lešin ‘tongue’ Soqotri

**Ongotan: Ongota**
- ūlēsa ‘make up or work up saliva’

While the verb for such an action is probably unrecorded in most languages, cognates do exist for ‘saliva’ (the substance involved) and ‘tongue’ (the instrument of the action). For a non-cognate but semantically similar pair, see Dizi of Adikas /ˈeabil/ ‘tongue’ and /ˈealbo/ ‘spit up on tongue, gather saliva on tongue’.
Chadic: (branches disregarded)
elêê ‘saliva’ Pero, where [ê] is clearly from [*s]
ilis ‘saliva’ Tangale
yilik ‘saliva’ Dera
Nomotic: Gimojan
hals ‘to lick’ Chara
ays ‘lick’ < {als} Bencho (Breeze)

Probably a different group:
Nomotic: Gimojan
ey’s ‘tongue’ Bencho (W edekind)
from {els’}. See ‘lick’ above.
láčé ‘to lick’ Gofa of Bulki (HF)
Nomotic: Gongan
ilac’ ‘salivate’ Shinasha (Boro)
eec’-iyo ‘tongue’ Kafa (archaic) (Cerulli)
(This may be doubted;)
Nomotic: Dizoid
lyas’ ‘to lick’ Dizi
Somotic:
les’ ‘to lick’ Dime
East Cushitic: Lowland
leë ‘to lick’ Arbore
South Cushitic: Rift
nas’ ‘to lick’ Iraqw

21) TONGUE-2 As the Cushitic realm was mostly untouched by TONGUE-1, as expected we find several localisms. Also Ongotan was represented only by a very specialized form above, so that more could be expected there. What is more interesting is the glimmerings of a very old linkage between Cushitic and Ongotan in TONGUE-2.
The evidence for said linkage is, as follows:

Ongotan: Ongota
c’ada ‘to lick’
c’adaba ‘tongue’ Clearly derived from ‘to lick’.

South Cushitic: Dahaloan
c’ééna ‘tongue’ Dahalo
c’anÇ- ‘ants’- ‘to lick’ Dahalo where the [Ç] represents a dental click

9 While Manjo of the Gojjeb has eë’io ‘tongue’, the evidence of Mocha heë’a-wo tongue does not suggest a lost [-t-] as in the Bencho case (see above). Shinasha ‘salivate’ does support it though. Most Gongan languages tend towards the borrowed Amharic word for ‘tongue’.
10 The odd interrelationship between the dental click, normally symbolized by [Ç], and the glottalized dental fricative [S] or affricate [ts] makes immediate sense in terms of tongue position. The linkage also helps establish cognations between and among Khoisan languages of Tanzania and southern Africa. Dahalo
(Tosco), usually represented by [ / ]

`aČa , `ats’a ‘to lick’ Dahalo (Damman)

South Cushitic: Mbuguan
lu-`anda ‘tongue’ Ma’a (Mbugu)

South Cushitic: Rift
ondalimo ‘tongue’ Qwadza

Ehret (1980) reconstructs proto-South Cushitic `/^anda/ for ‘tongue’ which looks cognate with Ongota `/^ada/ ‘to lick’. The more developed form for Ongota ‘tongue’ or `/^ada/ + /ba/ finds its mates in Omotic and, via borrowing, in Kuliak.

Somotic:
attāp’ / ātāp ‘tongue’ Kara
adīm / atāp ‘tongue’ Hamar
adāb ‘tongue’ Banna
adīm ‘tongue’ south Ari
admi ‘tongue’ north Ari
îdīm ‘tongue’ north Dime
ceedīn ‘tongue’ south Dime

Somotic:

Some people have tried to make the South Cushitic forms fit into East Cushitic `/^arrab/ ‘tongue’, sometimes reconstructed as `/^arrab`, but these efforts have not been accepted. The Ongota forms argue quite strongly for independence from East Cushitic, but distant cognation with Omotic and South Cushitic. However, the proto-East Cushitic ‘tongue’ `/^arrab/ may also be cognate, needing only a few more correspondences to be convincing.

Perhaps the possible etymology of ‘heavy’ can contribute.

Here is the evidence for ‘heavy’:

Ongotan: Ongota
`addisi / `adiši be heavy

East Cushitic: Yaakuan
irriṭisha ‘heavy’ Gawwada
riši’a ‘heavy’ Warazi (Harso)
riš-ad’ ‘become heavy’ 

Note: Some authorities do not reckon the Dullay forms (above) as derived from a proto-East Cushitic `/^ulus/ ‘heavy’. It is mostly found in Lowland East Cushitic. Two related forms in Omotic are Somotic Dime `ins and Nomotic Dizi `/ints-/ which might be borrowed one from the other or from an Arboroid form like `/ils-/ still found in El Molo.

also has at least one clear correspondence between its dental click and Agau's old dental affricate [ts] or [ts'] in 'star'.
Dime and Dizi (Maji) are on the east and west banks of the Omo respectively. Somotic is in contact with two Arboroid languages (Dasenech and Arbore). In any case the correspondence between Ongota and Dullay is striking and borrowing is most unlikely. If this cognation is true, then it supports the /d/ = /rr/ correspondence found in ‘tongue’, above. At least for Dullay. However, the correspondences between Ongota and Lowland East Cushitic would involve both [*r] and [*l] which is somewhat more difficult to accept.

BONUS ETYMOLOGY:
LIGHTNING or BRIGHT, SHINY or FLASH, RAY

22) LIGHTNING-1 There is only one etymology which can reach to proto-Afrasian in this set of meanings. That listed as #45 in Greenberg’s 1963 Afrasian. This a well-known, nay famous, word, usually cited as the b-r-q root. It has long been known to exist outside of Afrasian, not only in Nostratic but elsewhere in Africa and even in Amerind. It has been proposed as a ‘global etymology’. And there is nothing particularly sound symbolic (onomatopoeic) about it, unlike the newly invented ZAP or KABOOM or SSSHIIIZZZ of American comic strips. It is an arbitrary representation of a natural phenomenon.

It has also been used and abused by comparativists of Afrasian, of Nostratics, and of global etymologies, most of whom insist on giving shape to the ancestral form. In this respect recent comparativists, such as Bomhard or Dolgopolsky, have stipulated *b- as its initial consonant, usually followed by -r- or sometimes -l-, and finishing in *-q or *-k’. Even though it has been known for some time now that several southern languages had a different initial consonant than a plain bilabial stop, and some scholars had pointed this out publicly, the basic form found in Semitic and most of Afrasian has not been altered.

Consider the evidence given in Greenberg 1963 and Bennett 1998.

<table>
<thead>
<tr>
<th>Language</th>
<th>Word(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Chadic</td>
<td>amâlajî ‘to lighten’ Logone</td>
</tr>
<tr>
<td>East Chadic (?)</td>
<td>barâtja ‘lightning’ Batta Garua</td>
</tr>
<tr>
<td>Cushitic: Agau</td>
<td>birqa ‘lightning’ Kamir (sic) Khamir</td>
</tr>
<tr>
<td></td>
<td>biličy ‘to lighten, to glitter’ Bilen</td>
</tr>
<tr>
<td></td>
<td>barh “to become light” Bilen</td>
</tr>
<tr>
<td>Egyptian</td>
<td>brq ‘to shine’</td>
</tr>
<tr>
<td>Northwest Semitic</td>
<td>bóraq ‘lightning’ Hebrew</td>
</tr>
<tr>
<td>Aramaic Mandaic</td>
<td>birqa ‘lightning’ (Bennett)</td>
</tr>
<tr>
<td>Urmî</td>
<td>birqâ ‘lightning’</td>
</tr>
<tr>
<td>Ma’lula</td>
<td>barqa ‘lightning’</td>
</tr>
<tr>
<td>East Semitic</td>
<td>baraqaq ‘to lighten’ Akkadian</td>
</tr>
</tbody>
</table>

Although the Chadic evidence is not really so strong, it is typical for Chadic; neither Jungraithmayr nor Newman include ‘lightning’ or its associates in their proto-Chadics or that of a major branch. The b-r-q cognate may exist in Chadic outside of Greenberg’s evidence but I cannot find it in my limited data base. Nor do I find it in Berber, again for about the same reason. But then I found it as “brightness” in Central Chadic: Glavda paraka and possibly in West Chadic: Hausa “lightning” walk'-iya, and Central Chadic: Bura “lightning” wurrka. Moreover less likely are Central Chadic: Fali Bwagira
"lightning” pid’iŋa vunun, Nzangi “lightning” pipidi’, Zagvana “lightning” wud’uge, Lame “lightning” wud’i

But LIGHTNING-1 abounds in Cushitic and Omotic – but not in Ongota. Some of that evidence is, as follows:

East Cushitic: Lowland balak’-isa ‘to flash, of lightning’
   balak’-saa ‘bright, flashing’
   (bakakka) (‘lightning’)
   bilik’ee ‘fire-fly’
   (All from Oromo of Wallega) (Gragg)
Lowland ib’irg’a ‘lightning’ El Molo
Highland *bank’o ‘lightning’ proto-HEC (GH)
Dullay (b’ak’-) (‘lighten, flash’) Gollango

South Cushitic: Dahaloan b’irik’ina ‘lightning’ Dahalo

Nomotic: Gongan p’ark’a ‘lightning, flash of light’ Shinasha of Dangela
   p’arik’- ‘to lighten’ Mocha (Leslau)
   pérék’e / bérk’e ‘lightning’ Bambeshi (SLLE)
   p’yark’â ‘lightning, flash not thunder’ Diddesa (HF)

Dizoid
   b’algumo ‘heat lightning’ Adikas
   b’algumo ‘heat lightning’ Jeba
   k’algumo ‘heat lightning, quick flash of light’ Maji

Somotic:
   b’élxân ‘bright, shiny’ Dime (HF)
   bělXant ‘lightning’ North Dime (SLLE)
   b’alak’ ‘flash of light, lightning, small flash’ - Hamar-Banna (HF)
   b’alak’-at ‘flash of light’, same only a big flash’ Hamar-Banna (HF)

Some Discussion

It would seem too much to demand that all of these glottalized consonants, implosive and explosive, be crammed under the rubric of an ancestral plain bilabial stop – *b. By the ordinary rules of sound correspondence (cf Anttila 1972) if there are cases where Semitic b corresponds to Omotic b’ – just these two for examples – then the ancestor is likely to be b. Given that fact, however, when Semitic b corresponds to Omotic b’, then the ancestor is likely to be something else – most likely *b’ or *p’. (Normally in Omotic and some Cushitic languages, the ingressive and egressive forms may alternate with one informant. The basic reason often is to ‘make everything clearer’ to the investigator who is usually interrogating in Amharic with its /p’/ and the same is

11 There is an odd parallelism between ‘lightning’ and ‘fire-fly’ in much of the Omotic realm, at least.
true for $g'$ and $k'$ or $d'$ and $t'$. The two glottalized bilabials are also often missed by field workers. What shows this often is a report of variants beginning with b and p. This occurs a lot in the reports of SLLE and of Cerulli on Kafa.

Are there cases of Semitic b and Omotic b? Yes, at least for now consider a masculine suffix or large animal marker -b, the verb for going and/or coming ba′- and probably the verb for building or making in b-n. I'm sure many more could be found between Omotic, Dahalo, Yaakuan and most of the northern branches of Afrasian which today also lack [b′] or [p′]. Indeed South Cushitic outside of Dahalo lacks or virtually lacks a bilabial ingressive or egressive.

Might we explain the strange bilabials of southern Afrasian by simple process or transformation from 'underlying' combinations of glottal stops and bilabial stops? Initially, the notion of these being composed of [$\tilde{\text{f}}$] and [b], for example, was advanced by Hayward from obvious hearings. Yet this will not explain the phenomena in initial position. However, there are cases of glottalized stops generated by morphological processes, as in the clear utterances of my chief informant for Diddlesa Mao, Mr. Sanbata Aga. I don't mean that this is the first time someone has heard these things or reported them. I only mean that Sanbata Aga was a first rate informant who helped me realize these things.

Some examples from Diddlesa Mao are, as follows:

- **hoyb′a** ‘go! (plural)’. Composed of hoy′ and -pa ‘go’ + imperative pl.
- **han hoyd′a** ‘let us go!, ‘let’s both go!’ . Same verb plus jussive suffix -ta or -da
- **makínáš a-hoyt′iya** ‘the car has gone’. Same verb + -tiya tense marker.

And in Sezo Mao aab′ams′è ‘tear of eye / eye tear’. Composed of aab- ‘eye’ + ′ams′e ‘tear’, both regularly attested elsewhere.

Indubitably these morphological connections produce some ingresses (glottalized implosive) from time to time. Theoretically, they might occur in initial position when a verb or noun root begins with a glottal stop or a pharyngeal and a prefix attached to that becomes glottalic. This is basically an empirical question and let us search for examples. Otherwise I argue that the initial implosives shown above are parts of the bases, roots or stems and not derived from morphological processes.

Proto-Afrasian had at least two bilabials, [*b ] and [*b′ ] or conceivably [ p′ ]

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23) Post QED

It is tempting to propose – with insufficient evidence – that Afrasian *b′ is cognate with Indo-European [bh]. Since our ‘lightning’ etymology usually is extended to Nostratic or at least Eurasian, we can easily obtain at least one match-up between (my proposed) proto-AA

*b′-r-k′ and PIE bhleg “to shine, flash, burn” (“extended form” of *bhel-“to shine, flash, burn”). That PIE extended form shows up among other places in Latin fulg-ere “to flash, to shine” and fulg-ur “lightning”; all this according to Cal Watkins. C.D.Buck proposes *bhelg for PIE and derives many Germanic words, like Swedish blixt, Old...
English *blic-an* ‘to shine’, Old High German *blic* ‘lightning’, and modern German *Blitz* ‘lightning’ from it “ultimately.” Watkins also lists *bhereg* ‘bright, shiny, white’ from which English ‘bright’ is derived. Buck seems to agree but does not list a protoform, instead relating ‘bright’ to other similar Germanic forms and to Celtic: Welsh *berth* ‘fair, fine’, Sanskrit *bhrāj-,* Avestan *brāz-* ‘shine’, and (best of all) Hittite *parkwis* ‘pure’. The Hittite is most like the Nomotic form!

Two things seem evident. The two PIE etyma are not necessarily the same, yet they both resemble the Afrasian closely. Moreover, while the Indoeuropeanists sometimes (Watkins) derive one or more of these forms from a more basic verb root meaning ‘to shine’ or ‘be bright’ (or the like), yet in the other case he does not. Buck also derives one from a verb root, but not the other. So it is not clear by PIE rules that ‘lightning’ in IE is necessarily derived from a verb root. What Watkins calls an ‘extended form’ seems pretty arbitrary to me. Is there a bound form [-g] which makes nouns from verb roots?

Anyway the mass of Afrasian evidence does not demand that those forms be derived from some verb roots, usually Semitic, that have been suggested in various publications. I suggest that the phenomenon of lightning is so powerful that it stands by itself!

Additional IE data add to the puzzle. Eastern Armenian which does have glottalization itself has [pʼaytsʼarr] for “bright” and [pʼaylel] for “shine”. Thunder is [vorot]. The [pʼ] and [tsʼ] in “bright” could also be unaspirated according to the author. According to Watson, Armenian [p] is derived from or corresponds to PIE [*b*], Old Greek [b], Latin [b] and Germanic [*p*]; while Armenian [b] goes with PIE [*bh*], Greek [ph], Latin [f] and Germanic [b]. No apparent cognate was found in Albanian in a small dictionary.

Buck lists some more possible cognates or what I see as possible cognates, as follows:

**Slavic:** ChSl *blištati* “bright”; Lithuanian *blizgeti* “glitter, flash” and *blikści* “turn pale” and *brekšti* “to dawn”; Polish *brzask* “dawn” and o-*brzasknac* “become light”; Bohemian *blesk* “lightning”; Polish *błyskawica* “lightning” and *błysk* “flash”; Russian *blesk* “luster”

**Germanic:** Gothic *bairhts* “bright”; Old Norse *bjartr* “bright”; Old High German *beraht* “bright”; Old English *beorht* “bright”; Dutch *blicksen* “lightning”, Middle High German *blickeze* or *blitze* “lightning”

**Celtic:** Welsh *berth* “fair, fine”

Buck drives these lightning forms from *bhleig*, meaning flash or lightning. This includes Greek *phlégo* Φλέγω which apparently means to flash.

24)  New etymologies found after the publication of *Ongota: A Decisive Language for African Prehistory.*
25) d’ufi / dufi ‘to gush, flow, flood (exact meaning unsure)’

Egyptian: Middle: ddff ‘to drip’, ddff ‘drop of liquid < *d’uf (Faulkner)

Nomotic: Gongan: Kafa (Cerulli) t’up- / dup ‘to gush (of spring) and Kafa (Cerulli) t’upp-ite ‘(it) gush-ed’, Mocha (Leslau) t’up’p’i-ye ‘to gush out, bolt, jump up’ and t’úúp’p’o ‘spring (of water)’, Shinasha (Rottland) t’úúba ‘to gush, as in a spring’, Amuru (Beke) t’úpppo ‘spring’ (of water, presumably). There is also Kafa (Cerulli) uf ‘be spread, overflow, brim over’ which may be more accurately *’uf.

Another candidate is Kafa (Fleming) opp-e in opp-e-d’i aac’o ‘well (water). Cf Cerulli’s opp-o ‘ditch’.

Nomotic: Mao: Ganza (Reidhead) wupi ‘to pour’ aligns itself with Kafa *’uf

Nomotic: Gimojan: Gimira: Bencho (Breeze) t’up’ / t’up’-k ‘to burst’ and t’ip’- ‘to fill in’ and t’uk’al ‘to gush’, Ometo: Male (SLLE) du’ ‘to pour’, as in du’-e-ni ‘pour-s’, Male (Donham) toho ‘well (water), Zaisse (Hayward) d’liu’ ‘burst’

Somotic: Kara (Hieda 1991) dúbá ‘to overflow, flow over’ and dub- ‘to foam (in cooking)’ and dub- ‘to babble’ and dúbó ‘coagulated milk film which develops on the surface when heated’. Dime (Fleming) tuu‘tu ‘spring (water)’. Through neighborly contact and borrowing it shows up in N.S.

(Nilo-Saharan: East Sudanic: Surma: Kwegu (Hieda 1991) dobo (same meaning as Kara) and dub ‘to babble’ and dúbuk-é ‘foam on the surface of water’. There is another set of proposed cognates which differ in one consonant from expected coreespondences or may be a different etymology)

However the presence of Dime t’ip’ “drop” suggests that these above are in another cognate set.

Cushitic: Proto-East Cushitic (Arvanites): *d’ak’k’ / *d’uk’k’ ‘flow’ and t’ok’ ‘to spill’ (the idea of pouring and flowing liquid). Phonetically doubtful.

Cushitic: East: Oromoid: Wallega Oromo (Gragg) č’op’a ‘to drip, make sound of dripping rain’, and č’uup’a ‘dip, baptize’ and č’ač’ač’ač ‘swampy place where too much water has accumulated’. Also č’op’ god’a ‘to drop (something) into (like water)’. Transitive verb, said to be a variant of č’op’a. Also Oromo of Kenya (Stroomer) č’oč’oč’a ‘to drip down’ and Waata Oromo (Stroomer) č’oč’op’a ‘to drip down, rain’. The Oromo form was borrowed into Bantu Pokomo as č’omp’a. Yet Boran of Black has d’imp’u ‘drop of water and d’imp’is ‘to drip” (Note: Konso and Gidole have not been searched yet.)

Cushitic: North: Beja: Imera (Roper) t’au ‘to burst, leak, be foundered’.

Semitic: Ethiopic: Geez (Leslau) s’fs’f ‘ooze, drip, drop, pour out in drops, distill’. He thinks it is a reduplication of Semitic swf which shows up in Hebrew šáp ‘flow’, Syriac šappi ‘distill’, and Arabic šaffa ‘distill,
flow, filter'. Also in Ethiopic: Tigre s’âfs’âfa ‘to drip’, Tigrinya s’âfâff bâla ‘to drip’, and čâffâfâ ‘have tears, water (eyes), Hararî č’tf bâyâ ‘ooze’, Amharic (tân) t’afâff t’âfâ ‘drip’. But the question is this: does Semitic [s’] correspond to Ongota [d’] and Omotic [t’]? But there is another reduplicated root, meaning ‘drip, fall drop by drop’ which is very similar, but closer to the Ongota phonetically: Geez t’bt’b / (‘an) t’âbt’aba, Tigrinya t’ubb (bala) ‘drip’, Tigre t’âbb (bela), Amharic / Argobba t’âbb (ale), and Amharic (tân) t’âbat’tâbâ, again Tigre t’âfft’âfâ ‘alternative de pluie et de beau temps’. Leslau also cites Hebrew tptp “drip”.

Cushitic: Agau: Bilen t’ibby ‘trickle’and East Cushitic: Lowland: Saho t’obbya

26) b’ak’ ‘(to) open’
  Cushitic: South: Dahalo b’ook- ‘hole’
  Chadic: proto-Chadic: *bk ‘mouth, hole’ (Jungraithmayr)
  Nomotic: Gimojan: Ometo: Basketo book ‘to dig’, Dorze bok ‘to dig’
  (Olmstead), Male bok ‘to dig’
  Egyptian: Middle: b3b3w ‘hole’. (Note: Egyptian [3] does not necessarily or always equal the glottal stop.) There is also pg3 ‘to open, entrance of building, bowl, mouth of valley, arena, honest, to reveal.’
  g’issa ‘doorway’
  Cushitic: East: Dullay: Tsamai q’aaš ‘(to) open’ and Galaboid: El Molo óóg’usa ‘(to) open’

28) rimárimó “termite”. In addition to the Cushitic cognates cited before add these from South Nilotic (which may have been borrowed from earlier East Cushitic or from Ongota itself. These forms appear isolated in Nilotic.)
  South Nilotic: Nandi ririmo / rim “other sp. ant / pl”, Akie ririm-yante / ririm-ik “sp. ant, eats hides / pl”

29) Inner Core Evidence: Ongota not included

Long, deep, far, thin, tall
  South Cushitic: Iraqw tl’eer / tl’en-am / tl’et ‘long / long / plural’, Gorowa tl’eer / tl’et ‘long / plural’, Burunge tl’eedu ‘long’. Possibly in Ma’a (Mbugu) hle ‘long’. (Ma’a lacks the [tl’] phoneme)
  Semitic: Arabic tawil ‘long’, several dialects. Otherwise not found in Semitic.
  Somotic: Hamar s’eeri ‘long’, Galîla č’erî ‘long’ from *s’eerî, by local rules.
  Nomotic: Gimojan: Ometo: Basketo s’eela ‘deep (of water)’; Mao: Hozo šallá ‘thin’ (SLLE), Diddesa-Aga šaal-îf ‘thin it is’ (HF)
  East Cushitic: Highland: Sidamo dirir-s ‘to lengthen’;

Agau: Bilen šer ‘long’, Quara cer ‘long’, Quara-Falasha cerè ‘tall’. Old sources. Thus unsure if [c] = [ts] or [ç]. Probably all descended from [*ts’]. North Cushitic or Beja: Hadendiwa salaala ‘long, thin, tall, but also saraara ‘long and fairly thick’. (Same source, same linguist, E.M.Roper)

30) Dark, evening, night, black


Gongan: Kafa d’umi “night, evening”, t’um “become dark, be dark, become night”, Bosa / Garo t’um-ete “gets dark”, Mocha t’umo “night”, t’uma-yé “be evening”. Shinasha t’uma “night” (d’Abbadie in 19th century) but t’uwa “night” (3 modern sources from 3 dialects).

[m] = [w] is a regular Gongan correspondence.

Mao: Diddesa Aga dūūmè “really dark, blackest of night”, siāp dūūmè “really dark”.

Questionable Nomotic: Ometo: Ganjule d’uma / d’umá “cloud”, Haruro-Gatame d’uma “cloud”.

Somotic: Galila t’um “be dark”, Dime d’uum “night” and t’um “darkness”


Cushitic: Agau: Waag (Hamara: Bruce 1770 / Beke 1850) temo / tāmmā “darkness”.

Falasha (B / B) temo / tīm “darkness”

Chadic: Pero d’umd’um “complete darkness”, Bule dum “darkness”, Geji dīmśāl “darkness” (questionable), Burma tubm “darkness” (also questionable), Dira dimuni (again questionable), Tangale rim; Central: Logone tu “darkness”

Questionable Cushitic: Asa-Aramanik demog dadi “pre-dawn, still dark”, Mbugu (Ma’a) ama “night”; Tsamai uuunto “soot”

Semitic: Modern South Arabian: Mehri admeem “to grope for something”, Jibbali edmīm “to search for something in the dark, to put one’s hand here and there in the dark”

Old Egyptian: Questionable: d št / d št “coal black, soot, charcoal”, although it may connect up with Galila [ťtať] “to feel around in the dark by hand”.

Nilo-Saharan: East Sudanic: Kwegu dīm en ka kera “darkness”; it depends on [dim]

31) Place, at, by, in, house, sit, live, dwell

**South Cushitic:** Iraqw do “house, place”, Iraqw di “place”, Burunge da “spot, place”, daqa “place”, Mbugu di “territory”, Dahalo ða “place, spot”, da- “Locative prefix, in, at”.

**East Cushitic:** Boran Oromo taa “sit”, Dasenech dik “sit”. (Questionable)  
Assasorta difi “sit”

**Agaw: Central Cushitic:** Quara tanku “sit”, Qemant tikwas “sit”, Wag of Fleming tuk “sit”. All three questionable.

Gongan: Kafa tâo / tâw “place”, Mocha t’à “place”.


**Ongota:** noun suffix, locative, -tu, -to.


**Semitic:** Aramaic: Arbel ‘itiwa “sitting, dwelling”, Targum ytw “sit”, Urmî tyîvî “sit”, Old Aramaic ytb “sit”, Syriac itib “sit”, Ahiqar 7tr “Ori”

**Semitic:** Canaanite: Ugaritic ypb “sit”,

And perhaps? Semitic: Ethiopic: Silte, Walani et “place”

**Middle Egyptian:** t3 “earth, land, ground” and as a prefix in names of locations, e.g., t3-mr “Egypt” or t3-1hw “Farafra Oasis” or t3-st “Nubia”. It is probable that this joins

**Nomotic Janjero** da / da’a “earth” and also the others above here.

But

**Nilo-Saharan:** East Sudanic: Nubian: Kenuz, Dongola teeg, Mahas tiig, Old Nubian tik, Midob tek-er. All equal “sit, stay, live, exist, reside, begin”. Possible borrowing from Afrasian has been proposed by Murray.

**Nilo-Saharan: Saharan:** Kanuri dega, dang. Same meaning as the Nubian.
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Book Review


Reviewed by Václav Blažek
Masaryk University

This book by two authors, Lyle Campbell, Professor of Linguistics at the University of Utah, and William J. Poser, Adjunct Professor of Linguistics at the University of British Columbia, consists of the Introduction (1), 11 chapters (2-12), Conclusion (13), and Appendix, where all hypothesized distant relationships known to the authors are summarized. Finally there is a copious list of References (pp. 416-507; c. 1500 titles). Poser is the author of the chapter 5 and partially of the chapters 3 and 4 and Campbell has written all other chapters and sections.

In the Introduction (pp. 1-12) the central aim of their book is formulated: to contribute to language classification, and to aid research in distant genetic relationship generally by: (1) showing how the methods have been employed, (2) revealing which methods, techniques, strategies, rules of thumb and the like have proven successful and which ones have proven ineffective, (3) finding out how particular language families were established – that is, what methods were utilized and proved successful, (4) evaluating a number of the most prominent and more controversial proposals of distant genetic relationship in the light of the methods which prove most adequate, and (5) making recommendations for practice in future research.

In Chapter 2 “The beginning of comparative linguistics” (pp. 13-31) the early period of comparative linguistics is described. As the first founding fathers of comparative linguistics Giraldus Cambrensis (1146-1220?) and Dante Alighieri (1265-1321) are named. But the following authorities preceded them and for this reason they should not be omitted:

Plato (428/427 BCE - 348/347 BCE) was probably the first scholar to mention similarity of some words between two different languages, namely Greek and Phrygian [Cratylus 410α]:

Σωκράτης: ὃς τοῦν καὶ τοῦτο τὸ ὅνομα τὸ “πῦρ” μὴ τι βαρβαρικὸν ἐστὶν Ἐλληνικὴ φωνῇ, φανεροὶ τ’ εἶσιν οὕτως αὐτὸ καλοῦντες Φρύγες σμικρὸν τι παρακλίνοντες: καὶ τὸ γε “ὕδωρ” καὶ τὰς “κύνας” καὶ ἄλλα πολλά.
Socrates: “Well, this word ιρΩ is probably foreign; for it is difficult to connect it with the Greek language, and besides, the Phrygians have the same word, only slightly altered. The same is the case with άδωρ (water), κόων (dog), and many other words.”


Walafrid Strabo (808-849), a Benedictine monk, theologian and poet, preceptor of the young Prince Charles the Bald at the court of Louis the Pious, mentioned: Gothi, qui et Getae, eo tempore quo ad fidem Christi, licet non recto itinere, perducti sunt, in Graecorum provinciis commerentes, nostrum, id est Theotiscum sermonem habuerunt “The Goths, who were also called Getae, being in the provinces of the Greek empire at the time they were brought to the Christian faith, though not by the right way, had our language, that is the Tudesque” (Budil 2010, 19).

Yehudah ibn Qurayš living in Tahort, contemporary Algeria, in the 10th cent. wrote the book Risūlah “Treatise, Epistle” where he compared Biblical Hebrew, Mishnaic Hebrew, Aramaic, Arabic and even Berber. Ibn Baruna, living c. 1100 in Saragossa (Zaragoza), was the author of the Kitāb al-muwāzanan bayn al-luyah al-‘ibrāniyyah wa-l-arabiyyah “Book of comparison between the Hebrew and the Arabic language”, containing sections devoted to the comparative grammar and lexicology of Arabic and Hebrew (Schippers 1998, 60, 63). Ibn Qurayš’s contribution in the field of comparative grammar and lexicon of Semitic languages is comparable with the role of Gottfried Wilhelm Leibniz (1646-1716) for constitution of Indo-European.

Rodericus Toletanus (1170-1247), in 1208-1247 Archbishop of Toledo, the author of books De rebus Hispaniae and Historia Arabum and initiator of the translation of the Qur’an into Latin (Marcus Toledanus, 1209-1210). He defined the territories where North and West Germanic languages were spoken in his time quite exactly: Teutonia, Dacia, Norvegia, Suecia, Flandria, et Anglia, unicam habent linguam, licet idiomatibus distinguantur “Germany, Denmark, Norway, Sweden, Flanders, and England, have all one speech, though distinguished by their idioms” (see Budil 2010, 19).

Sigismundus Gelenius (1497-1554; in Czech Zikmund Hruby z Jeleni) is mentioned on p. 15. The missing information is that he was probably the first scholar to include Slavic material in comparative studies of his time – in his Lexicum symphonum quo quattuor linguarum Europae familiarum, Graece scilicet, Latinae, Germanicae ac Slavonicae concordia consonantium [not consonantiae] indicatur (Basel 1537), cited in bibliography. Gelenius compared Czech (and partially Croatian) with German, Latin and Greek. He concluded that among these four languages there is almost the same number of similarities in lexicon.

But the linguistic unity of the Slavs was explicitly formulated by the authors of the Russian Primary Chronicle written already at the end of the 11th century:

Wo mnogih x je vremeni. celi su ti Slov'yi po Dunaevi, gd' est' nyne Ougor'ska zemla, i Bolgar'ska. [i] v tekh x Slov'yi razidiasa po zemle, i prozhivasja imeni svoimi, gd' sjede na kotorom mest', yako pritezhide sjadoza, na r'che iman'ye Marava, i prozhivasja Morava, a drugi Chesi naprekoas, a se ti же Slov'yi Xrovate B'lini, i Serb'yi, i Xorutane. Volkhomь bo nasedhemь na
Over a long period the Slavs settled beside the Danube, where the Hungarian and Bulgarian lands now lie. From among these Slavs, parties scattered throughout the country and were known by appropriate names, according to the places where they settled. Thus some came and settled by the river Morava, and were named Moravians, while others were called Czechs. Among these same Slavs are included the White Croats, the Serbs, and the Carinthians. For when the Vlakhs attacked the Danubian Slavs, settled among them, and did them violence, the latter came and made their homes by the Vistula, and were then called Lyakhs. Of these same Lyakhs some were called Polyanians, some Lutichians, some Mazovians, and still others Pomorians. Certain Slavs settled also on the Dnipro, and were likewise called Polyanians. Still others were named Derevlians, because they lived in the forests. Some also lived between the Pripef and the Dvina, and were known as Dregovichians. Other tribes resided along the Dvina and were called Polotians on account of a small stream called the Polota, which flows into the Dvina. It was from this same stream that they were named Polotians. The Slavs also dwelt about Lake Il'men', and were known there by their characteristic name. They built a city which they called Novgorod. Still others had their homes along the Desna, the Sem', and the Sula, and were called Severians. Thus the Slavic race was divided, and its language was known as Slavic.

—The Russian Primary Chronicle, Laurentian Text.
Translated and edited by Samuel Hazzard Cross and Olgerd P. Sherbowitz-Wetzor.

The first attempt at an etymological dictionary of a Slavic language (Czech) in the context of other Slavic languages (Church Slavonic/Croatian, Polish, 'Russian', i.e. in reality Ukrainian & Belorussian, 'Muscovite', i.e. in reality Russian), is Knížka slov českých vyložených, odkud svůj počátek mají, totiž jaký jejich jest rozum, Praha 1587 ['The book of explained Czech words, where they their beginning have, namely what is their sense'] by Matouš Benešovský-Philonomus (1550?–159?). Also missing is Michalo Lithuanus (1490–1560), the first scholar to include Baltic in the circle of the compared languages, later called Indo-European. In his book De moribus Tartarorum, Lithuanorum et Moschorum fragminax” (published posthumously in Basileae 1615) first recognized the Lithuanian-Latin relationship. We can note his words (p. 23):
Literas Moscovitas, nihil antiquitatis complectentes, nullam ad virtutem efficaciam habentes, ediscimus, cum idiomia Ruthenum alienum sit a nobis Lituanis, hoc est Italianis, Italico sanguine oriundis. Quod ita esse liquet ex sermone nostro semilatino et ex ritibus Romanorum vetustis, qui non ita pridem desidere apud nos, videlicet ex crematis humanis cadaveribus, auguris, auspicis aliisque superstitionibus, adhuc in quibusdam locis durantibus, maxime cultu Aesculapii, qui sub eadem, qua olim Romam commigraverat, serpens specie colitur et in veneratione habetur; coluntur et sacri penates, m[an]es, lares, lemures, montes, specus, lacus, luci... [quoted after Pisani 1968, 7].

In the subsequent text Michalo Lithuanus cited more than 60 lexical parallels between Latin and Lithuanian, mostly correct (according to current IE scholarship). Philipp Ruhig (Pilypas Ruigys, 1675 - 1749) continued in Baltic studies. He was a translator of the Bible into Lithuanian, collector of Lithuanian folk songs and author of Littauisch-deutsches und deutsch-littauisches Lexikon und Grammatik (Koenigsberg: Hartung 1747) where he compared Lithuanian with Latvian and Old Prussian. He mentioned Mathias de Mechow (Maciej z Miechowa, 1457-1523), the author of Chronica Polonorum (Cracoviae, 1519/21) who had recognized four Baltic ‘dialects’, Lithuanian (Samogitian = Žemaitic dialect), Latvian, Prussian and Yatwingian - see Panzer 1998, 222.

In the detailed section devoted to Dutch linguists of the 16-18th cent. Franciscus Junius (1589-1671) should be named. In 1665 he published Codex argentus (Quatuor Domini Nostri Iesu Christi Evangeliorum Versiones perantiquae duae, Gothica scilicet et Anglo-Saxonica), the most important manuscript of the Gothic translation of the New Testament. It is only thanks to this edition that the Gothic language was accessible for comparison with other Germanic languages. Junius also mentioned that Greek κ frequently corresponds to h in Germanic languages. His manuscript Etymologicum anglicanum, an attempt at an etymological dictionary of English, was not published until 1743.

In the section devoted to Gottfried Wilhelm Leibniz (1646-1716) it should be mentioned that he introduced Albanian and Armenian into ‘Scythian’, i.e. Indo-European, languages – see the letter CCXXV to M. La Croze published in Viri illustris Godefridi Guilielmi Leibniti Epistolae ad diversos, theologici, juridici, medici, philosophici, mathematici, historici et philologici argumenti, ed. by Christian Koltholt, Leipzig: Breitkopf 1734, 408 (<http://www.archive.org/stream/viriillvstratis00vongoog#page/n430/mode/2up>): ...

MASSA est viande chez les Esclavons, ainsi cela se rapporteroit à MIX des Albanois, et MIS des Armeniens, qui signifie chair chez les uns et chez les autres (in modern transcription Russian mjaso, Albanian mish, Armenian mis - all from IE *mēmso-). The main source of Leibniz’s knowledge of Albanian was the dictionary by Frangu Bardhi: Dictionarum Latino-Epiroticum (1635; see <http://shqiptarorthodoks.com/tekste/albanologji/Bardhi_1635.pdf>).

In the 3rd chapter “Asiatic Jones, Oriental Jones: Sir William Jones’ role in the raise of comparative linguistics” (pp. 32-47) the contribution of Jones to the field of comparative linguistics is evaluated in detail. The following 4th chapter “Consolidation of comparative linguistics” (pp. 48-73) is devoted to the comparative linguistics of the 19th century. In their sharp criticism of Franz Bopp (pp. 61-65) for his unsuccessful attempts to compare Indo-European with Malayo-Polynesian (1841) and with Georgian
(1846) the authors ignore the contribution by Bopp to the comparative grammar of Kartvelian (cf. Fähnrich & Sardshweladse 1995, 8). One might also mention that the relationship of Kartvelian languages was recognized by Gülデンstädt (1787), while Brosset (1849) was the first to formulate regular phonetic correspondences between Kartvelian languages: see Fähnrich & Sardshweladse 1995, 6-8.

In a book on history and method of language classification, and in a section devoted to August Schleicher (pp. 67-68), one might expect that the main information would be about tree diagrams and proto-language reconstructions introduced by Schleicher into Indo-European comparative linguistics. But the authors inform us only about his stress on sound correspondences, while in the longest part of this section they reproach him for using the term Uralo-Altaic, though this was quite usual in Schleicher’s time. Still stranger is the absence of Ferdinand de Saussure (1857-1913), although his explanation of Indo-European ablaut with help of a virtual coefficient sonantique, later identified with the sound ḫ in Hittite (independently by Kellogg, Kuryłowicz and Cuny), becomes a base of the laryngeal theory and represents the best example of strength of the comparative method.

In chapter 5 with a promising title “How some languages were shown to belong to Indo-European” (pp. 74-86) only three illustrative examples are demonstrated: Hittite, Armenian and Venetic. The idea of this chapter is very provocative, and one must ask why Lycian (included in Indo-European by Pedersen 1890), Tocharian (Sieg & Siegling 1908), Lepontic (Rhys 1914), Mycenaean (Ventris & Chadwick 1952) and other ancient Indo-European languages were not also included in this survey? The histories of the proofs of their Indo-European affiliation is even more fascinating.

Chapter 6 (pp. 87-161) describes histories of the constitution of well-established language families of Eurasia, namely Finno-Ugric/Uralic, Semitic, Austro-Asiatic, Dravidian, Sino-Tibetan, and of America: Askimo-Aleut, Algonquian, Athabaskan, Uto-Aztecan, Mayan, but also more problematic taxonomic units of Africa and Australia. Expressing doubts about the validity of such taxonomic units as Afroasiatic only on the basis of differences in opinion of some scholars, without analysis of concrete material, is not very scientific. The authors correctly stress the role of comparative historical phonology, but they do not mention the most convincing studies in this field, namely the works of Gábor Takács (1999-2001-2008, 2011), representing a first-class synthesis of partial results and detailed discussion of alternative models.

The same may be said about their criticism concerning Khoisan languages. They accept the negative conclusion about absence of regular sound correspondences among these languages formulated by B. Sands and ignore the series of studies by George Starostin (2003, 2005, 2007, 2008) in which regular sound correspondences are established, based on abundant material, including clicks. Concerning Australian languages, it is possible only to agree with authors that the comparative method is applicable to these languages in the same way as to languages from other areas. I would add a reference to an article by Peiros (2005), unknown to the authors, where application of the classical comparative method is excellently demonstrated. Peiros also supports the skepticism of Dixon, followed by Campbell, concerning the validity of the Pama-Nyungan (macro-)family. Applying the recalibrated glottochronology developed by
Starostin, Peiros (2009, p.c.) has demonstrated that some branches of ‘Pama-Nyungan’ are closer to various non-‘Pama-Nyungan’ families than one to another:

Peiros included in his comparison 36 well-described languages of three non-Pama-Nyungan families, representing Tangkic, Maningrida and Gunwinyguan, five Pama-Nyungan groups of the Cape York, namely North, South-East, West, Kuku-Yalanji, Cairns, further the Yolngu group, and four subgroups of the South-West group of ‘Pama-Nyungan’, namely North Desert, West Desert, Mangunj, Gascoyne River-Pilbara. The quantitative results by Peiros indicate closer relations of the ‘Pama-Nyungan’ Yolngu and South-West groups with the non-‘Pama-Nyungan’ Gunwinyguan family, and the Cape York ‘Pama-Nyungan’ groups with the non-‘Pama-Nyungan’ Tangkic family. Another
result is that the chronological depth of disintegration of the families compared, even across the ‘Pama-Nyungan’ vs. non-‘Pama-Nyungan’ border, is relatively recent.

In chapter 7 “How to show languages are related: the methods” (pp. 162-223) the method of glottochronology is sharply criticized without any concrete arguments, only with the claim that it is rejected by most linguists. There are at least two attempts at revision of the ‘classical’ glottochronology developed by Morris Swadesh in the 1950s (in analogy with radiocarbon dating), which are in significantly better agreement with historical data, namely those of Sheila Embleton (1986) and Sergei Starostin (1989, in English 1999/2000). The main differences between the method of Starostin (‘recalibrated’ glottochronology) and that of Swadesh (‘classical’ glottochronology) are: slower speed of replacement 5% per millennium vs. 14% by Swadesh, transcendent function of decrease vs. exponential function mechanically transferred by Swadesh, borrowings eliminated before any calculation vs. borrowings calculated as replacements by Swadesh. The procedure for identification and elimination of loans, and likewise the procedure for identification of cognates, are based on regular sound correspondences. Simply put, all these procedures are in agreement with the principles of comparative-historical linguistics, as accepted by the authors.

Chapter 8 “The philosophical-psychological-typological-evolutionary approach to language relationship” (pp. 224-233) discusses the ‘ideological’ questions of development of languages.

In chapter 9 “Assessment of proposed distant genetic relationship” (pp. 234-296) the following ‘macro-families’ are evaluated: Altaic, Ural-Altaic, Nostratic, Eurasian, American, Na-Dene, Dravidian-Elamite, Dravidian-Uralic, and Indo-Pacific. All are declared unconvincing (p. 296). One of the favorite arguments of Campbell is that proponents of distant relationship are not uniform in their comparisons, sound laws, reconstructions, e.g. the Muscovite school vs. Allan Bomhard in the case of the Nostratic theory (p. 244).

The same argument is used by Angela Marcantonio (2002) to express her doubts about Indo-European and Uralic. In actuality there are certain differences in reconstruction of Indo-European vocalism and laryngeals between, e.g., the Leiden school (Beekes, Kortlandt, Lubotsky and their pupils), Erlangen school (Oettinger, Eichner, Tichy), Copenhagen school (Rasmussen, Olsen), Chicago school (Hamp), California school (Puhvel, Huld), and Oswald Szemerényi (who used ‘Brugmannian’ reconstructions without laryngeals). And if the glottalic theory (Gamkrelidze, Ivanov, Hopper, Knobloch) or Brugmannian spirants (Witczak) are added, the reconstruction of the Indo-European protolanguage is still more difficult to unify.

The same can be said about differences in reconstruction of Turkic by the anti-altaicist Ščerbak and the ‘semi-anti-altaicist’ Doerfer, both apparently preferred by Campbell. Ščerbak (1970, 173-74) reconstructs only voiceless consonants in proto-Turkish, and Chuvash / (~ Common Turkic *$s$) and Chuvash r (~ Common Turkic *$z$) derive from proto-Turkish *$s$ and *$s$ respectively (similarly Campbell & Poser, p. 238), while Doerfer (1975-76, 34-38) reconstructs proto-Turkish */$\cdot$ - and */$r$ - , respectively, here. Doerfer also accepts the correspondence of Khaladj $h$- ~ Common Turkic $o$ vs. Mongolic *$\varphi$-, deriving them from *$p$- (ibid. 7). According to Campbell’s logic the unity
of Turkic languages cannot exist. Even more surprising for Campbell could be Doerfer’s (1975-76, 3-4) words:

I must confess that in most points I enjoy agreeing with the classical [Altaic] view of such men as Ramstedt and Poppe. It is useful that new ideas have arisen and that the old views thus have been tested again and again, but I think in a quite overwhelming majority of cases the classical theory has turned out to be correct. The author of these lines has turned back to classical [Altaic] theory in many cases, e.g., in the question of Tu[rkic] h- < PTu[turkic] *p- or in the question of rhotacism / lambdacism. In other cases he has always thought the classical [Altaic] theory to be correct.

On the other hand, rather quaint is the confession of Gerhard Clauson (1962, xii), on why he rejects the Altaic relationship:

As a young man I had always accepted the theory that the Turkish and Mongolian languages were genetically related. It seemed prima facie probable, but I was not greatly moved by the subject; it was Turkish and not Mongolian, that interested me. But I did accept it, and so when a Romanized text of the Secret History of Mongols, a work that did expect to interest me, became available, I tried to read it. I did not begin to understand it, and I could find nothing Turkish about the language in which it was written. And so I came to the conclusion that the theory that the Turkish and Mongolian languages were genetically related - the Altaic theory - was almost certainly wrong.

In this perspective the fact that a knowledge of Homeric epics does not imply understanding e.g. the Avesta or Rgveda may be comparably frustrating. But does it exclude the relationship of Greek with Avestan or Sanskrit?

In his criticism of variances between Nostratic reconstructions Campbell mentions e.g. IE *h²endʰ- and AA *b-n- “to bind, tie”, where IE *i would actually be expected according to the sound correspondences formulated by Illič-Svityč (1968). If Campbell really knew the Nostratic dictionary of Illič-Svityč, and not only the fragments of it translated into English, he could be informed about the explanation: the expected IE root of the type *bʰent- was impossible (Illič-Svityč 1971, 194). In agreement with the rules of Indo-European phonotactics, in the protolanguage the roots of the type *Dʰ-(N)T- / *T-(N)Dʰ- and *D-(N)D- were excluded (N = sonants) – see Szemerényi 1996, 99.

The same explanation is applicable to the apparent non-correspondence between IE *er- “heart” vs. Karvelian *m-kerd- “breast” (p. 253), where Kartvelian *d- indicates IE *-dʰ-, but the expected form *er- was impossible. The Chadic addition, Hausa kirji, pl. kiraaza “chest” (it is possible to add Gwandara giriji id.: see Skinner 1996, 172), was supplemented by Dolgopolskij, Dybo & Zaliznjak 1973, 88 (they also added North Omotic: Koyra kirta “breast”), not by Kaiser & Shevoroshkin.

Campbell is right concerning the unconvincing comparison of IE *d· oH₁ “2” with Balto-Fennic *to-nieńce “other” (p. 252), which is of pronominal origin (Majtinskaja
1979, 182). But there are more promising cognates in Altaic *tówi ~ *tiwi: Türkic *düür “equal”, *ʤut “pair”; Mongolian *ʒi(w)rin “2” (female); Tungusic ḟwi(-ə) “2”; Middle Korean ṭui “2”; Old Japanese ṭure “companion”, and maybe in Semitic *taw’am- “one of twins” /taw’am- “twins” with an extension in -m- corresponding to -μ- in Greek δίδυμοι “twins” (see Blažek 1997, 176-77).

The Nostratic designation of “name” is not limited to Indo-European and Uralic (p. 253), but is also known in Yukaghir (nim recorded already in 1692 by Witsen in the Lord’s Prayer - see Nikolaeva 2006, 312) and South Omotic; Hamer nam-, Banna na(a)bi, Ari nam, Ubamer namni, Galila la-mi “name” (Blažek 2008a, 82-83; Dolgopol’skij, Dybo, Zaliznjak 1973, 88).

The Dravidian-Altaic isogloss “tooth” (p. 253) can be supplemented by East Cushitic data: Somali fool “incisor, front tooth, forehead, face, brow”, Boni fooled, Rendille føl “face” (Heine 1978, 81).

Rather foreboding are Campbell’s doubts about the Nostratic comparison of Fenno-Ugric *kive “stone” with Chadic *kWvW and ‘Dravidian’ *kw-a id., because in reality the latter family should be Kartvelian and not Dravidian (Ilić-Svityč 1971, 298). Once again we are reminded of the importance of using primary sources.

An especially strange ‘argument’ against distant relationship is the impeachment of ‘short forms’ (pp. 249, 252), usually grammatical words including pronouns and grammatical morphemes, e.g. case endings and exponents of person. But the same ‘short forms’ are typical of language families whose existence is accepted by Campbell, e.g. Indo-European, Uralic, Semitic.

Concerning the external relations of Elamite (p. 286), I would advise the authors that Elamite has many more cognates with Afroasiatic (in both grammatical morphemes and lexicon, some with promising correspondences in Dravidian) than with Dravidian, and they are based on regular sound correspondences, though quite naturally limited by the cuneiform orthography of Elamite (see Blažek 1999b). In the section devoted to Indo-Pacific Campbell again squares accounts with Greenberg (as in all of the preceding chapters), while the most recent results of Timothy Usher (2002, 2005, 2006) in this field are omitted.

Especially methodological questions are discussed in the following chapters: 10 “Beyond the comparative method?” (pp. 297-329), 11 “Why and how do languages diversify and spread?” (pp. 330-363), 12 “What can we learn about the earliest human language by comparing languages known today?” (pp. 364-403).

The Appendix: “Hypothesized distant genetic relationships” (pp. 404-415) would be very useful, were it more complete. Unfortunately this is not the case. At least the following studies, frequently preceding those which were cited, or the most recent ones, should be added:

Ainu + Austric (quite missing): Gjerdm 1926, 1960; Murayama 1992a,b, 1993;
Ainu + Indo-European: Naert 1958 stimulated interest in this comparison, although he was preceded by Koppelmann 1928; Van Windekens 1961.
Chukcho-Kamčatkan + Uralic: Blažek 2008b.
Elamite + Afroasiatic: Blažek 1999b.
Eurasian: Koppelman 1933 (Shafer 1963 & 1965 uses the term ‘Eurasian’ for Indo-European & Sino-Tibetan).
Indo-Uralic: Kronasser 1948.
Japanese + Austro: Matsumoto 1928.
Yukaghir-Uralic: Nikolaeva 2006 with older literature.

In the book there are several misprints. The authors, who reproach e.g. Greenberg for every incorrect accent, should be more careful.

pp. 53, 94 - Dobrovsky, but pp. 62, 514 correctly Dobrovský.
p. 65 - Adriadne, correctly Ariadne.
p. 83 - Greek *el*, correctly *egō* [εγώ]?
p. 166 - Greek *khara* "head" does not exist, only *kárā* [kár̥].
pp. 239, 404, 494, 531 - Shcherbak, correctly Slicherbak [Sčerbak].
pp. 407, 502 - Vacek, correctly Vacek (p. 532).
p. 438 - drevnejsego, correctly drevnejshego.
p. 444 - Hrubyê, correctly Hruby.
p. 457 - vneshnego, correctly vneshnego.
p. 496 - drevnejshaja, correctly drevnejshaja.

Judging this book only by the titles of chapters, one could be impressed, since its conception is quite provocative. The survey of history of comparative linguistics presented in chapters 2, 3 and 4 is fascinating, in spite of some omitted scholars. Chapter 5 is also informative, although rather brief.

But chapters 6-12, all written by Campbell, are biased against everyone who entertains so-called ‘distant relationship’, although many of these scholars are or were counted among the best specialists in their disciplines (e.g. Burrow: Dravidian, Indo-Aryan; Collinder: Uralic; Dolgopolsky: Afroasiatic; A. Dybo: Turkic; V. Dybo: Balto-Slavic; Fortescue: Eskaleutian, Chukcho-Kamchatkan; Hodge: Afroasiatic; Illič-Sviťč: Balto-Slavic; Kortlandt: Indo-European; Kronasser: Anatolian; Menges: Turkic, Tungusic; Mudrak: Eskaleutian, Chukcho-Kamchatkan, Turkic; Pedersen: Indo-European; Peiros: Austric, Sino-Tibetan; Räšānê: Turkic; Shevoroshkin: Anatolian; G. Starostin: Dravidian, Khoisan; S. Starostin: Yeniseian, Sino-Tibetan, North Caucasian; Zvelebil: Dravidian).
It is especially alarming that Campbell does not know the works which he criticizes, e.g. those of Ilić-Svityč on Nostratic or of Starostin on the ‘recalibrated’ glottochronology, but also the ideas of the scholars who are acceptable for him, e.g. of Doerfer. Campbell’s criteria of validity and applicability of the comparative method are not universal, the absence of a uniform reconstruction may be ascribed not only to Nostratic or Afroasiatic, but also to Indo-European or Turkic. Finally it seems that the only arbiter of validity of any hypothetical relationship between languages or language groups is Campbell himself. Summing up, this book which is full of prejudiced judgments represents a wasted opportunity.

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blazek@phil.muni.cz
Association for the Study of Language In Prehistory: Notices

ASLIP Council of Fellows

Due to the passing of Dell Hymes and Daniel McCall there are some openings for distinguished scholars on the ASLIP Council of Fellows. (See inside front cover for the current list of Fellows.) Council nominees should have made significant contributions to the study of language in prehistory. This is an honorary position, with no prescribed duties or obligations, though Fellows are encouraged to contribute articles, reviews, or notes to Mother Tongue.

ASLIP members are free to nominate people for positions on the Council. Nominations should be sent to the Secretary-Treasurer. At the 2010 Annual Meeting ASLIP member F. “Bert” Seto of Kami-Mizo, Japan was nominated to the Council of Fellows by Hal Fleming.

Bombard Prize

The “Bombard Prize” is a sum of money, in honor of Allan R. Bomhard, that may be awarded to a scholar or scientist whose work contributes most to unveiling human prehistory. Nominations should be sent to the Secretary-Treasurer. As of the annual meeting last October the monetary amount of the prize was $761.00.

Annual Meeting

The annual meeting of the Association for the Study of Language in Prehistory is held each year in the fall in Cambridge, Massachusetts, and all members who are able are encouraged to attend. Specific and accurate details will be provided in late summer. Contact any of the officers (see inside front cover) for information.

ASLIP Dues

ASLIP membership dues are USD 35 ($35) per annum. For any who are interested, a lifetime membership is now available for USD 500 ($500). Checks, money orders, or transfers may be made payable to ASLIP and sent to:

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For members outside of the U.S., you may pay your dues with a check in the currency that is local to you. ASLIP’s bank will cash checks, money orders, and bank checks in all of your currencies. We do not accept credit cards since that would require us to pay a monthly fee. As we are a small non-profit organization, that is not advisable.

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Email: lewismtc@rcn.com for comments and questions about membership dues.

ASLIP Annual Meeting 2010

The Annual Meeting of the Association for the Study of Language in Prehistory (ASLIP) was held on October 10, 2010 at the Department of Sanskrit and Indian Studies, Harvard University, 1 Bow Street, Cambridge, Mass., U.S.A.

Present at the meeting: Michael Witzel (President), John D. Bengtson (Vice-President), Michael Lewis (Secretary-Treasurer); Václav Blažek, Nicholas Davidson, Harold C. Fleming, G.R. Foote, Boris Oguibenine, Stephen Sherry.

Caley Smith and Natalia Yanchevskaya of Harvard University assisted with arrangements and refreshments.

The following officers were re-elected for the year 2011:

Michael Witzel: President
John D. Bengtson: Vice President
Michael T. Lewis: Secretary-Treasurer
John D. Bengtson: Editor of Mother Tongue

Václav Blažek, Harold C. Fleming, and Stephen Zegura were elected to the Board of Directors, along with the already existing Directors.

$500 was set as the amount required for lifetime membership in ASLIP.

A Committee for Electronic Publishing was formed, with Michael Lewis as chairman, and Allan R. Bomhard, G.R. Foote, and Stephen Sherry. The Committee will explore the possibilities for electronic publishing of the journal Mother Tongue.
Book Notice

The Origins of the World's Mythologies
by E. J. Michael Witzel

In this comprehensive book Michael Witzel persuasively demonstrates the prehistoric origins of most of the mythologies of Eurasia and the Americas ('Laurasia'). By comparing these myths with others indigenous to sub-Saharan Africa, Melanesia, and Australia ('Gondwana Land') Witzel is able to access some of the earliest myths told by humans. The Laurasian mythologies share a common story line that dates the world’s creation to a mythic time and recounts the fortunes of generations of deities across four or five ages and human beings’ creation and fall, culminating in the end of the universe and, occasionally, hope for a new world. These stories are contrasted with the ‘southern’ mythologies, which lack most of these features.

Witzel’s investigations are buttressed by archaeological data, as well as by comparative linguistics, and human population genetics. All suggest the African origins of anatomically modern humans and their subsequent journey along Indian Ocean shores, up to Australia and southern China, around 60,000 BCE. These itinerants’ early mythology survives partly in sub-Saharan Africa and points along the path - the Andaman Islands, Melansia, and Australia. Laurasian mythology, Witzel shows, developed along this vast trail, probably in southwest Asia, around 40,000 BCE. Identifying features shared by virtually all mythologies of the globe, Witzel suggests that these features probably informed myths recounted by the communities of the ‘African Eve.’ As such, they are the earliest substantiation of our ultimate ancestors’ spirituality. Moreover the Laurasian myths’ key features, Witzel shows, survive today in all major religions and their multiple ideological offshoots.

- Demonstrates the prehistoric origins of most of the Eurasian and Laurasian mythologies.
- Establishes a basis for much of our ancestral spirituality.

E.J. Michael Witzel is Wales Professor of Sanskrit at Harvard University (1987), a Fellow of the American Academy of Arts and Sciences (2003), Honorary member of the German Oriental Society (2009), and President of the Association for the Study of Language in Prehistory (ASLIP, since 1995).

Publisher: Oxford University Press, U.S.A.

At this printing the book was not yet available for purchase. Availability is projected for September 2011.


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Instructions for submission of articles.

We encourage the submission of articles on historical linguistics, paleolinguistics, archeology, paleoanthropology, human biology, genetics, ethnology, or any field of study that illumines the prehistory of humanity.

Articles should be sent to the Editor, John D. Bengtson:

John D. Bengtson
5108 Credit River Drive
Savage, MN 55378 U.S.A.

E-mail: jdbenpt@softhome.net

Telephone: 952-440-5538

It is preferred that articles be sent by e-mail, or by floppy disc or compact disc. Articles should be submitted in Microsoft Word (.doc) and Adobe Acrobat (.pdf) formats. If non-standard fonts are used to render special symbols, they should be attached as well.