



On the Reflexes of the Ancient Root “*But*” [Foot] in Nostratic Languages

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Abstract

The origin of the name of the foot was not the subject of special consideration in comparative-historical linguistics and etymological dictionaries of Nostratic languages. It is known that the nominees of parts of the human body belong to the basic vocabulary of the language and, having signs of origin and stability, are not borrowed; they are modified within the framework of general phonetic processes and expand their semantics according to the rules of metaphorization of the word. Therefore, the importance of the research lies in the need for a lingua-ethno-genetic analysis of the origin, modification, and branching of the root with the meaning of “foot” and the importance of its results for Nostratics. The research aims to bring together all the diversity of reflexes of the ancient root to a common prototype based on their formal and semantic community. The authors reconstructed the root “*but*” [foot] and demonstrated its transformations within the framework of phonological rules and processes—alternation (*byt, bot, pod, pat* ...), vowel lengthening (*būt, fōt*, ...), epitheses (*buta, podu, feta* ...), epentheses (*bekt, pint, pant* ...), apocopes (*pu, fu, be* ...), metatheses (*tup, tuf, dab* ...), etc. The authors identified semantic modifications of the root: leg > paw, foot, heel ... , boots, shoes, socks ... , base, support, root ... ; bottom, under, soil, path, ... ; walk, kick, etc. Moreover, the authors established common, close, and distant reflexes of the discussed root in the compared languages. These results are important for the theory and practice of Nostratics as a branch of comparative-historical linguistics.

Keywords

Etymology · Comparative linguistics · Nostratics · Names of body parts · Root · Prototype · Root reflexes · Semantic expansion · Transformation

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1 Introduction

The relevance of the research topic lies in the fact that contemporary reflexes of the ancient root with the meaning “foot” have not been the subject of special study from the point of view of Nostratics and comparative-historical linguistics. Etymological studies and dictionaries of Eurasian languages have already accumulated solid factual material, which is sufficient for a convincing reconstruction of the prototype name of “foot” based on the semantic and sonorous commonality of its derivatives and transforms. These studies include the works of Abramovich et al. (1988), Asimov (n. d.), Dolgopolsky (1967), Gamkrelidze and Ivanov (1984), Gartsevskaya et al. (1975), Khaidakov (1973), Kurkina (1971), Kuznetsova and Efremova (1986), Levina (2012), Meillet (1938), Nadeliev et al. (1969), Reformatsky (1960), Sevortyan (1978, 2003), Shansky (1965), Starostin et al. (2016), Starostin (1991), Syromyatnikov (1977), Toporov (1978), Usatov et al. (1952), Vasmer (1986), Yakhontov (1965), Yudakhin (1965), Zulpukarov (2016), Zulpukarov and Amiraliev (2019), Zulpukarov et al. (2021a, b).

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2 Methodology

The collected factual material allows us to present the ancestral root in the form “*but*” [foot] and the ways of its modification in Figs. 1 and 2. We believe that the transformation of the prototype in ancient and contemporary languages took place within the framework of active phonetic processes (epentheses, metatheses, alternations, and others) and semantic changes, i.e., in accordance with the phonological-semantic regularities of the language.

3 Materials

The research is based on the achievements of comparative-historical linguistics and is carried out using the methods of comparison, correlation, description, and reconstruction.

It is known that the names of body parts belong to the basic vocabulary of the language. Having the signs of origin and stability, they are not borrowed, do not go out of use, and, only expanding their semantics, are subjected to a variety of phonetic and semantic modifications. The reconstructed root “*but*” [foot] belongs to the basic vocabulary of the language. During its development, the discussed root received transforms *but*, *put*, *bet*, *ped*, etc. with various semantic modifications: foot, heel, thigh; bottom, under, soil; way, path, trace; step, branch, arm (of a river); walk, move; boot (Figs. 1 and 2).

One of the first comparativists to study the notion of foot in the Nostratic languages was A. B. Dolgopolsky. In his article “In search of a distant kinship,” he provides some data on the

etymology of words with the meaning of “foot” in the Eurasian languages. According to his hypothesis, the root morphemes in the Russian word *pedal* (from Latin *pedalis*—foot), *football* (from English football), *podagra* [gout] (from Greek *pod*—foot), and *peshekhod* [pedestrian] go back to the Indo-European hypothetical root *ped/pod* [foot, leg] (Asimov, n.d.).

Not only the examples presented in Fig. 2 but also many other word roots are derived from the ancestral root *ped/pod*, which we reconstruct somewhat differently—as *but* [foot], considering the new data found in various Eurasian language families.

We regroup the research material and present it under several items.

4 Results

4.1 *But* > *but/bet/begt/bech* . . . [Foot, Thigh, Haunch . . . ; Leg (of an Object), Stand, Base . . .] in the Altai and Indo-European Languages

Reflexes of the root *but* are widely represented in the Turkic languages:

- Altai, Balkar, Gagauz, Kazakh, Karaite, Kyrgyz, Kuman, Kumyk, Crimean-Tatar, Lobnor, Nogai, Turkish, Uzbek, and Uighur dialects—*ɔ̄ym* [but];
- Altai, Karakalpak, Lobnor, Teleut, Uzbek, Uighur, Saryg-Yugur, and Shorie dialects—*nȳm* [put];
- Tatar and Uzbek dialects—*ɔ̄ym*, *nȳm* [büt, pyt];

Fig. 1 Transforms of the root *but* [foot]. Source: Developed by the authors

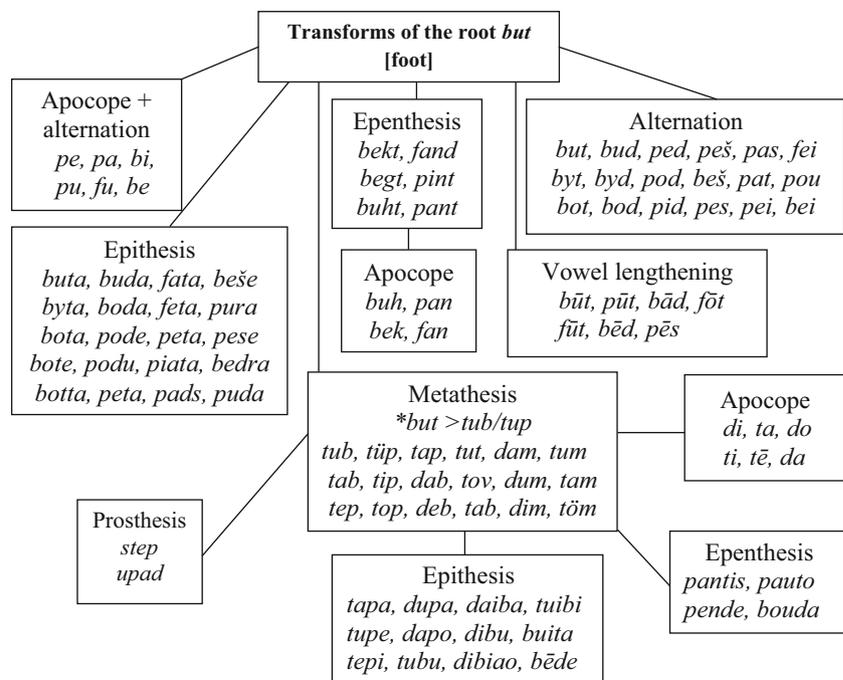
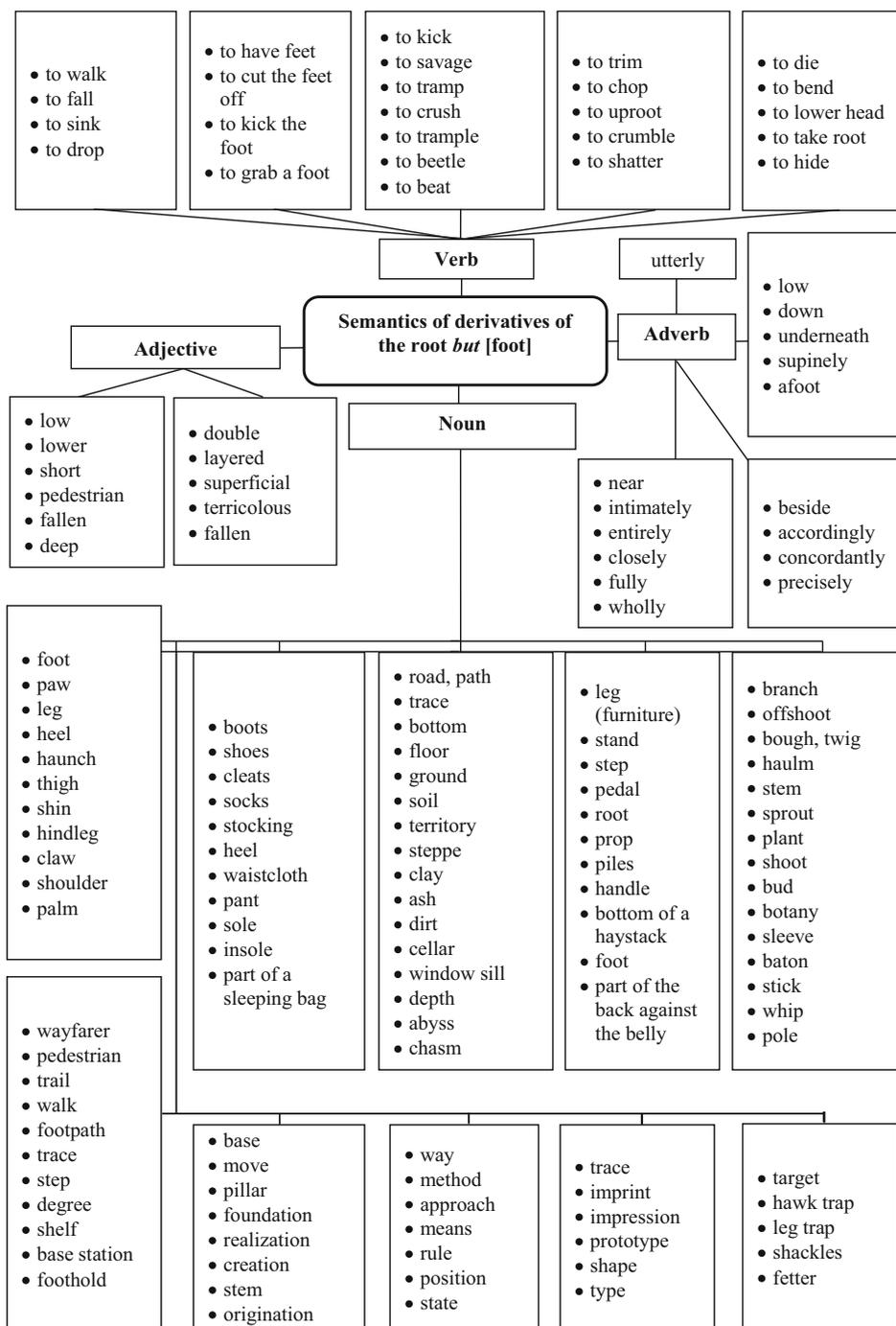


Fig. 2 Semantics of derivatives of the root *but* [foot]. Source: Developed by the authors



- Azeri and Turkish—*бyд* [bud];
- Turkmen and Uzbek dialects, Khorasan, and Yakur—*бyym* [buut];
- Chuvash—*něsě/něs*.

They represent the following meanings:

1. Leg, human foot (Altai, Balkar, Karakalpak, Kyrgyz, Kumyk, Lobnor, Tuvan, Tofalar, Uzbek dialects, Uighur,

- Saryg-Yugur, and Yakut), the whole leg of a man (Altai dialects, Chagatai, and Turkish), all lower limb (Balkar);
2. Leg (of furniture, appliance) (Tuvan); handle (of scissors) (Yakut); stand, leg (of a thing) (Altai); support, prop (Kazakh dialects); base (Tuvan, Old Turkic); pant (Chuvash);
3. Hip (Bashkir, Koybali, Sagai, Tatar, Turkmen, Shorian, Khakassian, Chuvash, and Yakut);

4. Thigh (Balkarian, Gagauz, Karaites, Lobnor, Nogai, Tatar, Turkish, etc.); shin or thigh and shin (Kazakh); hindleg (Altai, Kyrgyz, Tuvan, etc.); ham (Azeri); hind of an animal (Yakut).

Turkic scholars reconstruct the archetype of the notion of the foot in the form of *буум/нуум* [*buut/puut*] (M. Rasenenen, J. Clawson, A. M. Scherbak, et al.). Kh. Pedersen attributes the Chuvash form to the archetype *būqtak* from *būtqak* as a result of metathesis. We present the transformation of the form in a simpler way: *but* > *бум/нум/буд/нум/буум/нџ* [*but/put/bud/pyr/buut/něs*]. The alternation of *-d*, *-t*, and *-s* in the final part of the identifiable roots is a productive phonetic phenomenon in the compared languages.

A. B. Dolgopolsky compares the common Turkic *ajak* [*ajaq*] [foot] with the Nostratic primordial root *pad* [foot], assuming the disappearance of the initial *p*- in the word and the alternation *j/d* in its final part and accepting the identity of the suffix *-ak* in the Korean word *padak* [foot] and the common Turkic *ajak*.

4.2 *But > bot/but/put/pus/puc/peš/puž/bont/bunt/punt . . . “Way, Path, Trace, Footstep, Heel, Step, Walk, Root, Bottom, Down, Depth”

We can also derive the names of ways and paths to the Indo-European root *pod* derived from *but*:

- Vedic *panthāh*, Avestan *panta* [path] (ablative case, plural *pathi-bhih*, genitive-ablative case, singular *path-ah*), Old Slavonic *pъtь*, *pons* (genitive case, plural *pontium*), Old Prussian *pintis* [path], Greek *patos* [step, path];
- Russian and Ukrainian *путь*, Belgian *нуць*, Bulgarian *път*, Serbo-Croatian *путь*, Slovenian *pot*, Czech *pout*, Slovak *puť*, Polish *pac*, Upper Sorbian *puc*, Polabian *pōt*, Old Indian *panthās* [path, road, way] (ablative case *pathā*), Avestan *panta*, Ossetian *fandag* [path], Old Persian *pintis* [way, road], Latin *pons* (genitive case *pontis*) [bridge, way], Greek *pontos* [sea, way by the sea], *patos* [path], New High German *finden* [to find], Old High German *fandon* [to punish, to test]; Russian *путь* [the way of a hunter, checking his traps], *путь* [a fishing campaign];
- Russian *пята*, *пятака*, *пятаки*, Ukrainian *пята*, Bulgarian *nema*, Serbo-Croatian *nema*, Slovenian *peta*, Czech *pata*, Slovak *päta*, Polish *pięta*, Upper Sorbian *pjata*, Old Prussian *pintis* [heel], *pintis* [road], etc. In a number of examples, we see the epenthetic [n], which arose during the divergence of the ancient nasal vowel.

4.3 Formula *but* [Foot] > Branch, Bough, Offshoot, Stem, Sprout, Plant

The closest base to the root *but* [foot] is the base *but* [branch, shoot], which gave rise to the meaning “something divided” in the Indo-European and Altaic languages and served as the outcome of the substantive derivative *butak/butyk* [branch, twig, bough] (G. Dörfer, M. Ryasenen, M. A. Khabichev, and other comparativist linguists). The model *but* [foot, thigh] > *buta-* [to cut branches] > *butak* [branch] convincingly and clearly represents the constructive-semantic transformation of the primary root *but*. This understanding of the development of the primordial root *but* identifies the roots of two distantly related languages—Russian “вет- (ветвь, ветка)” [branch, twig] and Kyrgyz “бум- (бумак)” [branch, twig, bough].

Indo-European languages provide the following examples: Greek *botavi* [plant], Latin *botanika*, German *Botanik*, Russian *ботаника* etc. [the science of plants]; Russian *ботва*, Ukrainian *ботва*, *ботвина* [beet greens], *бум* [green onions], *бумвиння* [leaf vegetables: parsley, onions, dill, etc.], Belgian *ботва* [plant—beet, greens of indigenous vegetables], Serbo-Croatian *batvo* [branch, twig, sprout, shoot] etc.

4.4 But [Foot] > but/būt/byt/byht/bokt . . . “To Beat, To Hit/A Hit, To Split/A Split, To To Swish/A Swish, To Stamp/Stamp, and To Kick/A Kick”

The manifestation of this formula can be traced in many languages and language families of Eurasia and, above all, in the Altaic languages:

- Turkic: Old Turkic *butat* [to strip, punch (the base of the cloth on a loom)], *butta* [kick a foot, grab a foot]; Kyrgyz *buta* [to chop branches, clear (a tree) of branches], *бытыра* [shoot (hunting)], *бытра* [to scatter, be in disorder; to be broken up or split up], *бума* [target; bush]; cf. the last example with French *but* [target];
- Mongolian: Mongolian *бум/бума* [to smash to pieces, utterly], *бумара* [to break, to crush], *бумрах* [to smash, to scatter]; Buryat *бума/бумара* [to smash to pieces];
- Manchu-Tungus: Evenki *бумэктэ* [to smash, to dig up], *буум* [to break, beat, stab (something fragile), smash to pieces], etc. The meaning of “smash to pieces” is adverbial and is related to the meanings of “target” and “shot” in the Turkic languages.

4.5 **But [Foot] > tub/tup/tob/top/teb/tep . . . “Bottom, Under, Base; To Stomp, To Kick . . .”**

The Eurasian languages are marked with metathesis of *but/tub*, resulting from the rearrangement of consonantal sounds [metathesis is described in (Starostin, 1991; Toporov, 1978; Zulpukarov, 2016)]. Therefore, we compare a number of other words of these languages to these examples based on their etymological commonalities:

1. Turkic languages: Old Turkic *tep* [to kick, to savage; beat grain of ears, thresh]; Kyrgyz *темин* [a group of animals, mainly oxen and horses, which thresh grain with their feet in the threshing floor], *темин* [(of the horseman) to strike feet against the horse’s flanks; to spur the horse]; Old Turkic *tepek* [a kick], *tepin/tipin* [to kick, to savage], *taban* [sole, shoe sole], *tabanla* [to savage (of a camel)], *tamga* [a sleeve, a tributary of a river, a small river, a stream], *toprag* [land], *tiip* [lower part, bottom], *töpin* [bottom], etc.;
2. Slavic languages: Russian *meny/menmu* [to beat], *ymenmu* [to kill]; Ukrainian *meny*, *menmu*; Bulgarian *менам* [to roll, trample, beat]; Slovenian *tepti* [to beat, batter]; Russian *монот*, *монтать*, *мончу* [stomp, to stomp]; Bulgarian *тънтя*, *тънча* [to trample, swing]; Upper Sorbian *teptac*; Lower Sorbian *teptas*; Czech *deptati*, etc.;
3. Other Indo-European languages: Baltic: Latvian *teptu*, *tept* [to smear]; Lithuanian *tapyti*, *tapai* [to mould], *tepu/tepti* [to smear], *tap(š)noti* [to pat with the palm]; Old-Indian *topati/pa-stumpati* [pushes], Latvian *staipe* [hoof tracks]; Greek *tupe* [hit, imprint, impression]; Latin *typus*; French *type* [imprint, prototype, type];
4. Uralic languages: Mordovian *tapa*, Finnish *tappa*, Hungarian *tap*, *top* [топтать], Nenets *tapa* [to push, beat];
5. Dagestani languages: Lezgin *дабан*, Kyrgyz *даббан* [heel].

The presented examples show that the metathesis *but > tub/tup* preserved and developed many meanings of the archetype in a new way.

4.6 **But [Foot] > *but/pet/fez/pend/bot/böt/bāt/pot/put/tob/top/tut/teb/tem/tim/tom . . . “Shoes, Boots, Stockings, Tether, Pants, Wrap”**

The English-Russian word *boots* [cleats], “soccer boots with hard toes and counter, without heels, with studs and cross bars on the soles,” is exceptional etymologically. It is more likely to be derived from the root *but* [foot], as are many other similar examples.

Indo-European languages provide the following examples:

- Roman: French *bottes fortes* [high boots with hard cuffs with a wide sleeve], *botta* [boot], *bottina* [shoe]; Ukrainian *ботинок/бутинок* [slipper] (metathesis to *fut*); Bulgarian *ботини/ботинки* [children’s/women’s shoes], *ботинки* [knee-high boots]; Czech *botinka* (diminutive), *bota* [boot]; Slovak *botinka/botka* [boot];
- Baltic-Slavic: Lithuanian *bātas* [boot]; Belgian, Russian, Ukrainian *бом* [boot]; Czech *bot* [boot]; Slovak *bota* [type of leather shoes].

4.7 **Reflexes of the Root But in the Chinese Language Compared with the Facts of Other Eurasian Languages**

The root *but* has many different transforms *but/bet/put/pet . . .*, among which the metathetic variants *tup/tep/dup/dep . . .* stand out. In today’s Chinese, there are no words with final *-t* and *-p* because, under the influence of the open syllable law, this language was deprived of final consonants, except for *-n* and *-ng*, already in the first millennium B.C. Therefore, our register of Chinese words with the most ancient meanings “foot” and “bottom” contains only the words with open syllables, i.e., without final *-t* and *-p*.

It should be noted that reflexes of the root without final *-t* are also found in the written records of the ancient Indo-European languages of Eastern Turkestan, called Tocharian A and Tocharian B: Tocharian A *pe* [foot] and Tocharian B *pai* [foot]. The disappearance of the final *-t* can be found in some forms of the declension paradigm in Latin and Greek: Latin *pēs* [foot] (genitive case *pedis*), Greek *pous* [foot] (genitive case *pados*). As we see, the “relic” of the final *-t* is preserved in the genitive form and is absent in the nominative.

The absence of final *-t* and *-p* is also characteristic of some reflexes of the root *but/tup* in the Altaic languages:

1. Formula *tup > doo/dou/dog . . .* is reflected in Mongolian languages: written Mongolian *доура* [below, down, lower; worse], *догзур/догуур/доузур* [low, below, under]; Mongolian *догзур* [below, low; under], *дооу* [down, below], etc. The alternation of a long vowel with a sound combination is a characteristic phonetic process for the Turkic-Mongolian languages: cf. Kyrgyz *моо*—Uzbek *маз* [mountain]; Kyrgyz *суу*—Uzbek *сув* [water]; Kyrgyz *мыу* [to give birth; to be born, to lay eggs, to graze, to rise (about Sun, Moon)]—Uzbek *мыз* [to give birth]; Kyrgyz *мыуду*—Uzbek *мызду* [gave birth to];
2. Formula *tup > tu/tuu/tee/tüg/teg . . .* has reflexes in Turkic languages: Kyrgyz *тээ* in the example “тээн жиберди”

[hit (with a foot)], where *-n* is not a residue of the root but a sign of the participle: *mən* [(lit.) kicking, hitting (with foot, hindlegs), savaging]; Kyrgyz dialect *мык/мыз* [bottom, root, under], *тек/так* (in dialects) [base, source, basis, origin], *мәк* [plate (horn) connecting stirrup leathers of a hunting bird; bridge (of a musical instrument); help]; cf. the derivatives: *мекөөр* [spurs (of a rooster)], etc. In the latter examples, the final *-k* is the result of the divergence of the ancient long vowel: *yy > yk/yz, əə > ək/əz*; cf. Kyrgyz *чоо/чак* [healthy], *моо/мак* [mountain], etc.

The Chinese language contains a great number of reflexes of the Nostratic primordial roots *but > tup*, which are in metathetic relations with each other and are realized in two types of variants and variations.

5 Conclusion

The authors investigated the ways of transformation and semantic enrichment of the primordial root *but* [foot] in the Nostratic languages and came to the following conclusions:

- In the process of historical development and branching of the proto-language, distancing its dialects from each other and transforming them into languages and language families, the ancestral root *but* [foot] was subjected to various formal-semantic changes.
- The root *but* [foot] produced a metathesis in a distant prehistoric period of language development. The form *tup* [foot] is secondary to it and arose later, retaining the original meaning and acquiring new semes.
- The facts of today's languages indicate that the transposition of consonants in the root (*but/tup*) occurred even before the distance of Sino-Tibetan languages (so far, we rely only on the facts from Hanyu Pinyin) from other Nostratic languages because reflexes of the metathesis *but/tup* with open syllables are presented in a number of root words of the Chinese language.
- The transformation of the root went in two directions:
 - but > but/bud/bat/bad/vut/vud/vat/vad/put/pud/pat/pad/bu/ba/vu/va/pu/pa ...*;
 - but > tup > tub/tup/tab/tap/dub/dab/tu/ta/du/da ...*; each of these variants within itself, probably highlighting sub-variants, opened up a position for the emergence of new variants, e.g., *put > pūt > punt* or *dap > dao/dai/da ...*
- Semantic enrichment of the lexicon of the proto-language occurs in the process of development of cognitive-nominative, thought-cumulative, and communicative-informative activity of its speakers. In prehistory, the root *but* probably had a specific meaning, naming only the lower limbs of humans and animals (foot, legs). During the development of linguistic thinking and the character of people's life activity, the root reflexes acquired new meanings and became nominatives of objects, phenomena, and qualities connected with the lower limbs in different ways.

- Functional and semantic modification of the meaning of "foot" is presented in the following semes: (1) "leg," "heel," "paw," etc.; (2) "step," "go," "move," "walk," etc.; (3) "shoes," "boots," "slippers," etc.; (4) "bottom," "under," "base," etc.; (5) "path," "road," "route," etc.; (6) "soil," "land," "steppe," etc.; (7) "plant," "stem," "sprout," etc.; (8) "stick," "baton," "blow," etc.; (9) "prune," "chop (branches)," "cut soots," etc.; (10) "beat," "kill," "smash/crush," "stomp," etc.; (11) "sleeve," "sect," "bay," etc.; (12) "depth," "bottomless," "lowland," etc.

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