Articulatory phonetic data of living Indo-Iranian languages may be used to verify reconstructed subsystems of Indo-European, Proto-Aryan and Proto-Iranian phonological systems. Analysis of the articulatory aspect of historical changes helps to solve some disputable problems in the history of Indo-Iranian languages.

Using typological evidence to verify or correct data obtained through comparative-historical method allows to reveal systematic relationships between reconstructed units, including phonetic units, and to make the reconstructed system more probable. 

Articulatory phonetic data of living Indo-Iranian languages - Kashmiri, Uzbek, Tajik, Kafir languages - may be used to verify Proto-Iranian subsystems of various Iranian languages.

Typological evidence to verify or correct data obtained through comparative-historical method allows to reveal systematic relationships between reconstructed units, including phonetic units, and to make the reconstructed system more probable. 

Attention to the articulation of the consonants forming these triads in the above-mentioned languages helps to better understand the functioning and evolution of corresponding Indo-European triads.

A trisyllabic word in the language studied may be viewed as having the same phonological structure and articulation of the consonants as the one in the language studied, which is well known from the history of Indo-European.

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two phonological series were merging differently in different dialectal groups. In Western dialects, owing to a strong conclusive component and weak aspirated one, the consonants of the aspirated series quickly lost their aspiration and merged with non-aspirated consonants, tending similar to the latter (*b, *d, *g). Eastern dialects which had a longer contact with Indo-Aryan languages, retained for a longer time the aspirated component in the articulation of voiced consonants (anti/cr their spirant articulation). As a result, when the two series merged into one, the articulation characteristic to the other series prevailed, i.e. that of the series of aspirated (anti/cr spirant) consonants.

Thus, the phonetic - articulatory tendency toward a spmt realization of voiced aspirated consonants, which could have operated already in dialects of late Indo-European, continued to operate also in dialectal zones of Proto-Aryan, remaining for a long time at the phonetic level. Word-initial voiced spirants became phonemic much later - after the two Proto-Aryan series of voiced consonants had merged into one series in Proto-Iranian and after the opposition "stop/syllabic" in the subclass of voiced phonemes become - much later - phonologically relevant, in the period when Iranian languages were already divided into the main groups. Different factors - internal and external - contributed to the phonological independence of these oppositions, which progressed unevenly in different language subgroups and areas, and even within one language system - in different articulatory zones.

Thus, attention to the articulatory phonetics of living Indo-Iranian languages provides a typological background for verification and correction of reconstructed phonetic and phonological systems and their change patterns, whereas attention to the articulation aspect of historical changes sheds light on the character of the main tendency in these changes, possible deviations from it, and relative chronology of a number of processes. This helps to narrow the gap between the comparative-historical postulates and the studies of living languages.

The above-described procedures may also help to solve some specific disputable problems in the history of Indo-Iranian languages. They help to reveal the lack of uniformity of Proto-Iranian in different regions (even with respect to different phonetic presentations of phonemes forming a single phonemic series), and possible areas of substratum and adstratum influences on Indo-Iranian languages. These procedures help to differentiate internal and external factors in the development of this language family, starting from an earliest period.

References
terms of description, the senior terms being semantically-phonological classes.

Classes of lexical etymologies and grammatical classes comprise the temporal parameter — they are spread out ("events — red") in time, the functional load of distinctors in the system being measured in their actual or potential transformations. Distinctors can combine into hypermater — they can disintegrate into hypostructures. This idea was expressed for the first time by the Russian Phonological School. Synthesis (resp. decomposition) of features presupposes absorption (resp. expansion) of information and functional load /f/. The functional load freed from the segmental (phonemic) level, is used in phonetics or prosodic structures. These transformations express an important property of surface distinctors, which are revealed in neutralizations, they interchange, and their mutations are most clear when the distinctors transform from one phonological level to another. We explain this phenomenon in the following way: surface distinctors are "incarnations" or "reincarnations" of deep-structure merismata, the latter are less numerous and quite invariable. Group phonemes, syllabophones and units of word prosody may be treated as transforms of phonemes, and surface distinctors.

The possibility of the model was investigated by G.S. Klychkov and L. Hertzenberg /7/. The model comprises the variables x, y, z, the slots C and V as parts of the applicable CV, stages segmental CV or CV, supra-segmental CV or CV, and connected CV or CV. CV is a syllable with step-like accent, CV = CVH. CVH = CV + H, CVY = CV + Y, CVY = CV + Y, where H represents the segmental laryngeal. It is worth noting that one feature in the binary slot CV can be distributed in the four patterns CV, CVH, CVY, CVT, the model thus presupposes some restrictions.

b). Only one feature is considered, so CV is excluded because it would mean introduction of new binary feature — "CV".

b). The feature can be used only once; CV, CV, CV, CV, CV, CV, CV, CV are all excluded (compare languages of the Indo-European Protolanguage distingu...). The complexity of the model has been developed in order to explain the phonology of the Indo-European Protolanguage distinctive. The transformation of a syllable-phonetic language into a family of what one would call word-phonemes is accepted as the diachronic axe for this model. It comprises two univocal deep-structure merismata — CV ("force") and CV ("laryngality"), which appear as different surface distinctors on three phonological levels: the phonemic level (P), the suprasegmental level (Σ) and the word-prosody level (Λ).

The "experiences" of the series have been investigated by G.S. Klychkov /8/. Those of the series Σ — by V.A. Dybo /9/ and L. Hertzenberg has observed the merismatic changes in the prehistory of Anatolian, Greek, Italic and other branches of European languages. The reconstruction of Indo-European phonological diachrony thus requires a theory with the two kinds of "events":

a) univocal "deep-structure" merismata;

b) surface distinctors being "incarnations" and "reincarnations" of the merismata; their mutual transformations and their transgressions from one phonological level to another are mutations which seem to be determined by typological language change tendencies.

The models introduced above presuppose dynamic realizations of linguistic units with the invariant character of their inner regeneration patterns. The relation "dynamic structure — constant structural pattern" is the main feature of the protolanguage together with the unity of linguistic families. The next step in complicating the model is the introduction of semantic features. Relations between semantic and phonological features are supposed to lead to flexible non-discrete merismatic structures. Linguistic material is represented in the model as large dynamic and semantic sets. Processing of material necessarily becomes computerized. Three classes of Indo-European etymologies: words for "water", natural phenomena and open class of random etymologies were described in terms of 35 semantic features and 35 phonological distinctors. Correlation coefficients between classes on semantic features and phonological distinctors were calculated and the principal components were computerized twice. First it was phonological coefficients that were taken as theoretical data with semantical coefficients as semantical ones, then vice versa. In this experiment lies in the realization of the fact that phonetic and phonological relations all the classes are orthogonal. It becomes evident that the synthesis in speech production and speech perception the principle of multiple movement is an open problem. The focus of actualization moves incessantly between the vocal and consonant, between phonemic, suprasegmental and word-prosodic components, between merismata and "files", between the phonological and semantic spheres.

References