***Kapranov Yan**, Dr. Habil. (Linguistics), DSc (Philology), Prof.*
VIZJA University / Dmytro Motornyi Tavria State Agrotechnological University

PROTO-LANGUAGE STATES ACROSS DIFFERENT CHRONOLOGICAL STRATA AND THE DETERMINATION OF THEIR GENEALOGICAL AFFILIATION: A DIACHRONIC-PANCHRONIC PERSPECTIVE

Introduction

The study of proto-languages—hypothetical reconstructions of ancestral languages—lies at the heart of historical linguistics. These linguistic constructs, which are not attested in written form, are typically reconstructed through comparative methods applied to descendant languages. The notion of a "proto-language" (PL) represents an abstract linguistic state, ideally reflecting a relatively homogeneous speech community that gave rise to a set of related daughter languages. However, proto-languages must not be considered static entities confined to a single chronological point. Instead, they can be understood as evolving states that span across different temporal layers. This necessitates a diachronic-panchronic approach that synthesizes chronological evolution with cross-linguistic structural patterns to determine genealogical affiliations.

This article aims to examine proto-language states across distinct chronological strata and explore the methodological challenges in assigning their genealogical status. Drawing upon comparative-historical linguistics, panchronic typology, and recent developments in phylogenetic modeling, the discussion focuses on reconstructive practices, internal variation, and macro-family hypotheses.

The Nature of Proto-Languages: From Snapshots to Stratified Systems

A proto-language is often conceptualized as the last common ancestor of a set of languages. This traditional view is rooted in the Neogrammarian framework, which emphasizes regular sound correspondences and systematic comparison [5]. However, this view may oversimplify linguistic reality. Languages, like biological species, evolve and exhibit both synchronic variation and diachronic shifts.

Indeed, a single proto-language, such as Proto-Indo-European (PIE), is likely to have existed not as a monolithic code but as a dialect continuum. Within such a continuum, internal variation may reflect different chronological stages. For instance, early PIE, middle PIE, and late PIE can each be reconstructed to varying degrees, with correspondences to archaeological and anthropological findings [9].

The concept of stratification is particularly salient in cases like Proto-Semitic, where early strata may retain archaic features that were lost in later dialects. These strata offer insights into the linguistic evolution of societies before their recorded history [8].

Diachronic vs. Panchronic Analysis

The diachronic method reconstructs change over time and is central to classical comparative linguistics. In contrast, panchronic analysis, as proposed by typologists such as Greenberg and Bybee, focuses on universal tendencies and cross-linguistic stability, irrespective of specific periods [4].

A diachronic-panchronic perspective seeks to combine these insights by asking: Which features of a proto-language are typologically rare, stable, or prone to change? For instance, the presence of a complex system of ablaut in Proto-Indo-European (PIE) or ejective consonants in Proto-Caucasian can be evaluated both historically and typologically [11].

This synthesis is particularly valuable when assessing macro-family hypotheses such as Nostratic, which aims to unify Indo-European, Uralic, Altaic, Afroasiatic, and other families. Critics argue that the evidence for such families is speculative, given the extensive time depths involved (beyond 10,000 years) and the confounding effects of borrowing and convergence [6].

Proto-Language Reconstruction Across Time Depths

Reconstructing proto-languages at various time depths poses significant challenges. Shallow reconstructions, such as Proto-Romance or Proto-Slavic, benefit from relatively rich documentation and well-understood sound laws. In contrast, deeper reconstructions, such as Proto-Eurasiatic or Proto-Afroasiatic, must rely on limited and often ambiguous evidence.

The reliability of reconstruction diminishes exponentially with time depth due to lexical attrition, semantic shift, and contact phenomena [12]. Furthermore, the further back we attempt to reconstruct, the more the reconstructed language resembles an abstract model rather than a reflection of actual historical speech.

Phylogenetic methods from evolutionary biology have been adapted for use in linguistics to address this issue. Bayesian phylogenetics and computational cladistics enable the modeling of language family trees based on shared innovations, albeit with caveats regarding data quality and tree rooting [7].

Determining Genealogical Affiliation

Determining the genealogical affiliation of a proto-language involves distinguishing inherited traits from areal or typological features. The comparative method remains the gold standard, requiring regular correspondences across core vocabulary and grammatical structures.

However, in regions of long-standing contact, such as the Caucasus, Balkans, or ancient Near East, borrowed features may masquerade as genealogical evidence. This complicates the classification of languages like Etruscan or Sumerian, whose affiliations remain disputed [1].

One of the more controversial issues is the classification of so-called "language isolates" (e.g., Basque, Burushaski, or Ainu). Some macro-comparative approaches suggest remote affiliations for these languages, often through the lens of hypothesized proto-languages that existed many millennia ago [3]. While intriguing, such approaches must strike a balance between bold hypotheses and empirical rigor.

Case Studies

1. Proto-Indo-European

PIE exemplifies a well-developed reconstruction across multiple chronological strata. Scholars have proposed pre-PIE and post-PIE stages, with varying phonological and morphological profiles. The laryngeal theory, for instance, emerged from both internal reconstruction and typological parallels with Semitic and Caucasian languages [2].

2. Proto-Afroasiatic

Proto-Afroasiatic, with its enormous time depth (estimated 11,000–13,000 years), illustrates the challenges of deep reconstruction. The distribution of root structures, consonantal templates, and grammatical gender is widely cited in support of Afroasiatic unity. Yet, the internal classification of branches (e.g., Omotic vs. Cushitic) remains a topic of debate [10].

3. Proto-Nostratic and Beyond

The Nostratic hypothesis seeks to trace linguistic connections across Eurasia and Northern Africa. Though comparative lists show intriguing similarities in pronouns, numerals, and basic lexicon, critics question the robustness of such evidence across vast temporal and geographical gaps [13]. Still, the hypothesis fuels discussion about long-range comparison and the plausibility of proto-macro-languages.

Toward a Diachronic-Panchronic Methodology

To reconcile diachronic precision with panchronic generalizability, we advocate for a comprehensive methodological framework that integrates multiple strands of linguistic analysis. This approach begins with the chronological stratification of proto-languages, which involves identifying internal developmental stages based on observable phonological, morphological, and lexical patterns. By distinguishing early, middle, and late phases within a proto-language, scholars can better account for the internal evolution of the linguistic system over time.

The second component of the framework focuses on typological benchmarking. This entails comparing reconstructed linguistic features against a broad array of cross-linguistic data to evaluate the relative stability, rarity, or universality of structures. Such a typological evaluation helps to determine whether specific traits are likely to have persisted over long periods or are more susceptible to diachronic change.

In the third stage, phylogenetic modeling is employed to visualize genealogical relationships among languages and test branching hypotheses. Computational tools, such as Bayesian inference and cladistic analysis, enable researchers to construct probabilistic language trees, which provide insights into the divergence timelines and hierarchical structures of language families.

Another essential element of the methodology involves analyzing areal influences and contact phenomena. In regions characterized by intense language contact, distinguishing inherited features from borrowed ones is critical to avoiding erroneous genealogical conclusions. Careful examination of convergence zones helps to isolate genuine linguistic inheritance from structural mimicry.

Finally, the framework includes a critical review of cognate sets, prioritizing core vocabulary items that are known to be more resistant to replacement over time. Words referring to basic human experiences—such as kinship terms, body parts, and numerals—are especially valuable in long-range comparisons and offer relatively stable anchors for reconstruction efforts [14].

Taken together, this integrated framework strengthens the empirical foundation of proto-language reconstruction and enhances the reliability of genealogical classifications across both shallow and deep linguistic time scales.

Conclusion

Proto-languages are not fixed points in the past but complex, evolving linguistic systems. Recognizing their stratified nature allows for a more nuanced understanding of language change. A diachronic-panchronic approach—combining historical depth with typological breadth—offers a promising path forward in reconstructing linguistic ancestry and evaluating genealogical affiliations. While long-range comparisons must be approached with caution, they also open the door to broader insights about human prehistory and the evolution of communication.

REFERENCES

1. Baldi, P. (1990). *An Introduction to the Indo-European Languages*. Southern Illinois University Press.
2. Beekes, R. S. P. (2011). *Comparative Indo-European Linguistics: An Introduction* (2nd ed.). John Benjamins.
3. Bomhard, A. R. (2008). *Reconstructing Proto-Nostratic: Comparative Phonology, Morphology, and Vocabulary*. Brill.
4. Bybee, J. (2001). *Phonology and Language Use*. Cambridge University Press.
5. Campbell, L. (2013). *Historical Linguistics: An Introduction* (3rd ed.). Edinburgh University Press.
6. Campbell, L., & Poser, W. J. (2008). *Language Classification: History and Method*. Cambridge University Press.
7. Gray, R. D., & Atkinson, Q. D. (2003). Language-tree divergence times support the Anatolian theory of Indo-European origin. *Nature*, 426(6965), 435–439.
8. Huehnergard, J. (2004). Afro-Asiatic. In R. D. Woodard (Ed.), *The Cambridge Encyclopedia of the World's Ancient Languages* (pp. 225–246). Cambridge University Press.
9. Mallory, J. P., & Adams, D. Q. (2006). *The Oxford Introduction to Proto-Indo-European and the Proto-Indo-European World*. Oxford University Press.
10. Diakonoff, I. M. (1988). *Afrasian Languages*. Nauka.
11. Nichols, J. (1992). *Linguistic Diversity in Space and Time*. University of Chicago Press.
12. Rankin, R. (2003). The Comparative Method. In B. D. Joseph & R. D. Janda (Eds.), *The Handbook of Historical Linguistics* (pp. 183–212). Blackwell.
13. Ringe, D. (1995). "Nostratic" and the Factor of Chance. *Diachronica*, 12(1), 55–74.
14. Swadesh, M. (1952). Lexico-statistic dating of prehistoric ethnic contacts. *Proceedings of the American Philosophical Society*, 96(4), 452–463.