

Lack of linguistic support for Proto-Uto-Aztecan at 8900 BP

Merrill et al. (1) propose 8900 BP as the latest date Proto-Uto-Aztecan (PUA) was spoken. Based on negative reconstructive evidence, they argue for a PUA homeland in the US Great Basin, observing that “a significant decrease in effective moisture” beginning in 6900 BC motivated bands to leave the region, leading to the language’s breakup. Given a Great Basin homeland, such a very early date is a prerequisite to their proposal of a Southern Uto-Aztecan group-to-group diffusion of maize from Mesoamerica to the US Southwest.

Their highly speculative date is discordant with linguistic materials of Table 1. The first column of the table lists 12 New World language families regarded as well-established phylogenetic groups by Campbell (2), a scholar known for conservative evaluation. The second column presents an average lexical similarity score for each language family. Calculation of similarity scores entails a computerized procedure codeveloped by me and other members of the ASJP Consortium (<http://email.eva.mpg.de/~wichmann/ASJPHomePage.htm>). Similarity indices are determined through automated judgment of lexical resemblance between pairs of languages. These indices are averaged to produce mean similarity scores. Indices averaged are those generated for pairs of languages, each from a different highest-level coordinate subgroup of a family. The next two columns present glottochronology dates (terminal years BP), based on cognate percentages, respectively cited by Campbell and by Swadesh (3). The last column gives dates calculated by the ASJP method from average similarity scores. Families are rank-ordered by similarity score

from larger (more similarity) to smaller (less similarity). Among all of the New World families recognized by Campbell, Otomanguean shows the smallest average similarity score, and, thus, is probably the oldest widely acknowledged family in the Americas.

Uto-Aztecan shows the largest similarity score, indicating that its member languages are lexically the most similar to one another. The oldest date for Uto-Aztecan is 5000 BP, nearly 4000 years younger than Merrill et al.’s date. Because similarity scores for the other 11 families are smaller than Uto-Aztecan’s, actual dates for these groups are almost certainly older than that for Uto-Aztecan. The two oldest dates, 7200 BP (Algic) and 7418 BP (Otomanguean), are both more than 2500 years younger than the Merrill et al. date for Uto-Aztecan.

Linguistic evidence, then, provides no support for the extraordinarily old PUA date proposed in ref. 1. This is not surprising, because such an ancient date would make Uto-Aztecan—a relatively homogeneous family recognized without controversy for nearly a century—the oldest unambiguously established language family in the Western Hemisphere, and, for that matter, one of the oldest in the entire world. No reputable historical linguist would accept such a claim.

Cecil H. Brown¹

Department of Anthropology, Northern Illinois University, DeKalb, IL 60115

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¹E-mail: chbrown@niu.edu.

Table 1. Similarity scores and terminal dates (in years before present) for 12 New World language families

Group	Similarity score	Campbell date	Swadesh date	ASJP date
Uto-Aztecan	6.15	5000	4900	4118
Athapaskan-Eyak	5.70	3500		4234
Mixtecan	5.10		4900	4402
Chibchan	4.84	5600	5000	4484
Caddoan	4.08		3500	4743
Eskimo-Aleut	3.31	4000	3700	5059
Algic	2.47		7200	5506
Witotoan	2.15			5717
Iroquoian	1.53		3400	6232
Siouan-Catawba	1.27	4000		6523
Ge	1.02		4600	6856
Otomanguean	0.70	6400		7418