

Genetic unity of the Niger-Congo family

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Since the early twentieth century, numerous classifications of African languages have been established (Koelle, 1954; Westermann, 1911; Meinhof, 1912; Greenberg, 1963) for African languages. In recent years the classification mostly used by historical linguists are Greenberg's classification with four main families: Niger-Congo, Nilo-Saharan, Afro-Asiatic and Khoisan. Of these, the Niger-Congo family constitutes the largest African language family in terms of geographical area (the Niger-Congo languages cover the greater part of Sub-Saharan Africa), the number of speakers (more than 300 million of speakers) and the number of distinct languages (approximately 1400 languages spoken). This also makes the Niger-Congo family one of the world's largest languages families.

Several classifications of Niger-Congo languages have been proposed (Greenberg, 1963; Bennett and Sterk, 1977; Williamson, 1989; Bendor-Samuel, 1989 and Williamson and Blench, 2000) from lexicostatistical and mass comparison analyses, but no comprehensive phylogenetic classification has yet been established for the phylum using modern phylogenetic statistical methods. The most recent classification of Niger-Congo languages known is the one established by Williamson and Blench in 2000.

The main objective of this study is to propose the first phylogenetic classification of the Niger-Congo languages. We have created a database of 1046 Niger-Congo languages, from data collected fieldwork and dictionaries and including each Niger-Congo subgroup: Atlantic, Mande, Gur, Kru, Kwa, Dogon, Ijoid, Kainji, Nupoid, Plateau, Idomoid, Akokoid, Defoid, Igboid, Edoid, Ukaan, Cross, Ubangi, Mambiloid, Dakoid, Ekoid, Tivoid, Beboid, Jukunoid, Grassfields, Jarawan and Bantu languages. Our primary data consist of wordlists of 100 words belonging to the basic vocabulary and for each word, we have identified cognate sets. We then infer the tree, using a likelihood model of lexical evolution that allows different rates of evolution for the words studied and Bayesian inference of phylogeny using Markov chain Monte Carlo methods. We employ 'relaxed clock' dating methods, which produce a topology and date estimates for all nodes of the tree.

The results reveal that the Niger-Congo family forms a genetic unity. We find that the Ijoid languages, whose placement in the Niger-Congo tree is controversial, are placed in the tree near to Delta Cross languages. Our phylogeny does not support the East/West Volta-Congo division, neither the West/East Benue-Congo division nor North/South Bantoid division. However, the results have shown strong support for a Bantoid group composed of Ekoid, Bendi, Dakoid, Jukunoid, Tivoid, Mambiloid, Beboid, Mamfe, Tikar, Grassfields and Bantu languages.

References

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