

Complex network approach to study the dynamics of Mazatec dialects

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In the framework of complexity theory, which provides a unified framework for natural and social sciences, we studied the complex and interesting problem of the internal structure, similarities, and differences between the Mazatec dialects [1]. The Mazatec dialects, belonging to the family of Oto-Manguean languages (Mexico) spoken in south-east of Mexico, represent an emblematic example of linguistic diversity. We carried out a complex network analysis of a database of grammatical taxonomy [2], that we analyzed in terms of their mutual Levenshtein distances. The results of these analyses provided an overall picture of the relatedness between the various dialects and were able to recover the known sub-families of Mazatec dialects. The results were interpreted in the light of linguistics as well as statistical considerations, and used to infer the history of the development of the observed pattern of diversity.

References

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