

A cognitive geographic approach to dialectology: Cognitive distance as a predictor for perceptual dialect distance

Hedwig Sekeres & Martijn Wieling

In dialectology, the central relationship under investigation is often that between dialect distance and geographic distance (Heeringa & Nerbonne, 2013). Nevertheless, other approaches may be better suited to represent contact situations, such as (historical) travel distance (Gooskens, 2004) or ‘rice paddy distance’ (Stanford, 2012) and have been successfully used to explain dialect variation.

In this study, we consider a different type of distance that is commonly used in the field of cognitive geography to explain perceptual dialect differences. Cognitive geography is based on the assumption that an individual’s mental representation of their environment has a greater effect on their behaviour than the actual environment (Montello, 2018). A commonly used metric in cognitive geography is the cognitive distance: the geographic distance between two places as estimated by an individual (Montello, 1991). The present study is the first to our knowledge to incorporate the theoretical framework and this distance metric from cognitive geography in dialect research. Although the individual and social aspects of language are an important component of research in dialectology, and recently even quantitative dialectology (e.g., Wieling, 2012; Wieling et al., 2011), the individual aspects of geography have not been widely considered. In this study, the existing parallel between real and perceptual dialect distances that exists in dialectology is extended to the spatial component of dialect research by including both geographic and cognitive distances in the analysis. This study aims to assess whether the use of cognitive distance adds to our understanding of dialect variation.

A total of 850 participants from two provinces in the north of the Netherlands were willing to estimate the geographic distance to seven locations in the same region. They were subsequently asked to rate the similarity of dialect fragments from these locations to the dialect of the location in which they grew up. Participants were not aware that the speakers they rated came from the same locations for which they had to provide distance estimates. Additionally, for each participant, the geographic distance between the location in which they grew up and the seven speaker locations was calculated. A linear mixed-effects regression model was built to predict perceptual dialect distance from both cognitive distance and geographic distance.

The resulting model indicates that geographic distance is more predictive of perceptual dialect distance than cognitive distance, but that there is also a significant interaction between cognitive and geographic distance. Cognitive distance is more predictive of perceptual dialect distance when geographic distance is low than when geographic distance is high. Furthermore, an exploratory analysis revealed that gender and proficiency in the participants’ local dialect were predictive of perceptual dialect distance as well. Our findings indicate that cognitive distance can be used to explain dialect variation when the area under investigation is small, and consequently that the framework of cognitive geography can be usefully employed in dialectological research.

Works cited

- Gooskens, C. (2004). Norwegian dialect distances geographically explained. In B.-L. Gunnarson, L. Bergström, G. Eklund, S. Fridell, L. H. Hansen, A. Karstadt, B. Nordberg, E. Sundgren, & M. Thelander (Eds.), *Language Variation in Europe. Papers from the Second International Conference on Language Variation in Europe, ICLAVE 2* (pp. 195–206).
- Heeringa, W., & Nerbonne, J. (2013). Dialectometry. In F. Hinskens & J. Taeldeman (Eds.), *Language and Space: Dutch*, pp. 624–646). De Gruyter Mouton.
- Montello, D. R. (1991). The measurement of cognitive distance: Methods and construct validity. *Journal of Environmental Psychology*, *11*(2), 101–122.
[https://doi.org/10.1016/S0272-4944\(05\)80071-4](https://doi.org/10.1016/S0272-4944(05)80071-4).
- Montello, D. R. (2018). Behavioral and cognitive geography: introduction and overview. In D. R. Montello (Ed.), *Handbook of behavioral and cognitive geography* (pp. 3–15). Edward Elgar Publishing Limited.
- Stanford, J. N. (2012). One size fits all? Dialectometry in a small clan-based indigenous society. *Language Variation and Change*, *24*(2), 247–278.
<https://doi.org/10.1017/S0954394512000087>.
- Wieling, M. (2012). *A Quantitative Approach to Social and Geographical Dialect Variation*. PhD dissertation. Groningen: University of Groningen.
- Wieling, M., Nerbonne, J., & Baayen, R. H. (2011). Quantitative social dialectology: Explaining linguistic variation geographically and socially. *PLoS ONE*, *6*(9), e23613.
<https://doi.org/10.1371/journal.pone.0023613>.