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Commentary on Zwarts - A Multitude of Approaches to Make Semantic Maps

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A Multitude of Approaches to Make Semantic Maps

Comment on 'Semantic Map Geometry: Two Approaches' by Joost Zwarts (2010)

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The opposition between the matrix-driven and the space-driven approach to establishing semantic maps, as proposed by Zwarts (2010), is unnecessarily confronting. I agree completely that there are different techniques for arriving at semantic maps, and I wholeheartedly subscribe to Zwarts' plea for an alliance between these. However, I would like to sketch a different typology of approaches to semantic maps, based on the kinds of evidence for the relations between the points in semantic space.

Before I get to this typology, I would like to stress that there are two independent aspects of semantic maps: the 'points' in semantic space (viz. the functions/meanings investigated) and the relations between these points. Ultimately, I think that the reason for selecting particular points in semantic space is independent of the approach for establishing the relations between them. In practice, a particular investigation will often choose the points in connection with the method used to establish the relations between them (so it appears that points and method are related). However, in principle, fixing the points is a separate (and difficult) issue. The typology of semantic maps that I will propose only deals with establishing the relations, not with selecting the points.

In section 2.2, Zwarts mentions three different examples in which the conceptual space is defined independently of the cross-linguistic data (his "space-driven approach"): the color term case, with reference to Regier et al. (2007), the reciprocal example from Dalrymple et al. (1998), and the *over* example from Tyler and Evans (2001). However, I do not see much coherence in these examples, except for the fact that they do *not* use cross-linguistic evidence. Taking these three examples of making semantic maps, and adding the cross-linguistic approach as exemplified by Haspelmath (2003), I would like to propose the following classification.

Relations between functions/meanings can be based on linguistic evidence or on non-linguistic evidence, and they can be based on evidence from one language or from multiple languages. This classification results in three different possibilities because the parameter "one vs. multiple languages" only makes sense when using linguistic evidence. The analysis of over by Tyler and Evans (2001) presents an example of using linguistic evidence from just one language, while Haspelmath (2003) uses linguistic evidence from multiple languages. By contrast, semantic maps can also be based on non-linguistic evidence. One possibility is exemplified by Dalrymple et al. (1998), who establish the relations purely on the basis of the logical structure of the definitions of the "points" in semantic space. Another non-linguistic approach is exemplified by Regier et al. (2007), who base the relations between their color chips on the physical characteristics of the colors. I do not find Zwarts' opposition between approaches "using multiple languages" and approaches "not using multiple languages" very helpful, because the more crucial point of these different approaches seems to be whether linguistic information is used or not.

Finally, I would like to make a short comment on Zwarts' distinction between "graph-based" and "scale-based" semantic maps. He discusses some weaknesses of both of these approaches,

and I completely agree that neither of these approaches is ideal. However, I would want to add that the pictures produced by such methods are not the real semantic map. As I argue in this issue (Cysouw 2010), both the graph-based and the scale-based visualizations should not be interpreted as the empirically observed structure of geometrical space. Visualizations are useful for human beings to make sense of the underlying metric, which is the real result of the investigation of semantic relations. Any visualization (necessarily) abstracts away from many details in the underlying geometrical space. This implies, for example, that calculations (e.g. correlations between different data sets, or significance testing) should not be done on the basis of the visualization, but on the basis of the underlying original figures.

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