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## **Author's Reply - Towards More Informative Maps**

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# Towards More Informative Maps

## Author's reply to 'The Best of Two Maps' by Sander Lestrade (2010)

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I first wish to thank Lestrade that he has taken interest in the topic of my contribution, and that he invested his time and energy in discussing issues brought up in my paper. And, to state this right at the beginning: I agree with the main point that his comment brings up, namely that representation of diachronic directionality and (synchronic) statistical information are not necessarily mutually exclusive. The simplest combination of these two types of information is probably to represent frequency of co-occurrence of two meanings or functions as the thickness of the arrow connecting them on a 'classical map', as Lestrade also observes. If we are dealing with raw numbers, this does not require much mathematical sophistication. The question would rather be how much importance one assigns to this information, a question depending on the researcher's theoretical biases. On the other hand, "draw[ing] arrows with different lengths on an MDS map" (Lestrade 2010) does not seem to be possible because the distances between points on a MDS map are the result of a statistical calculation, and manipulation of these distances would render the map meaningless (as a statistical map). However, arrows could be inserted between points on an MDS map. The ease with which this is possible will essentially depend on the nature of the data represented in the map. Croft and Toole's (2008:15) map of indefinite pronouns, for example, would allow this as it features single points for each function, and it contains neither clustering nor overlap, but this is rather an exceptional case. In favor of classical maps, van der Auwera (2008) and Malchukov (2010) also point out that a 'classical' map, being the result of 'manual' analysis by the researcher, reflects the diachronic dimension more reliably, since diachronic noise can be excluded, while MDS maps are impartial with respect to the quality of the information on which they were built. As this point is discussed at length in the two papers just mentioned, I will not go into it any further.

One point where I may disagree with Lestrade (2010) is that "diachronic information is only informative when combined with statistical evaluation of the synchronic patterns it should explain", and conversely, that only those relations between meanings or functions are in need of a diachronic explanation which are close to each other on an MDS map, as he argues. These are both very strong claims which, at this point, do not seem to be conclusions based on particular evidence, or on a particular logic (at least as far as I can judge from the comment), but simply on strong evaluative judgments.

Concerning the former claim, many studies in historical linguistics to date have only investigated phenomena in a single language or a very small number of related languages. If a specific change in one language, e.g. English, has been observed, and the resultant state of this change can synchronically be observed only in a very small number of other languages, does this really mean that this change is not interesting (or "informative"), and should it, with respect to semantic maps, not be represented on them? I am not sure that many scholars would agree. One factor in judging the importance or informativeness of a particular change is certainly its theoretical significance. The position that quantity is the ultimate criterion does not appeal to me, but this may ultimately be a question of values.

With respect to the latter claim, it appears to be based on a specific assumption, namely that only meanings which are close to each other on a MDS map are historically related. That assumption still needs to be proven. Another somewhat related issue, not mentioned by Lestrade himself, is whether a diachronic map should represent the number of languages in which the diachronic change presumed to be responsible for a synchronic pattern has actually been historically observed. The number of languages offering hard historical evidence is rather limited, and skewed towards a small number of languages and language families, and some diachronic maps that have been proposed seem to rely almost entirely on internal reconstruction.

In any case, I am glad about this comment, which has shown that there is still much room for exploring the association between semantic maps and diachronic information.

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