## Dynamic Phonology: Are Rich Phonology and Discrete Perception incompatible?

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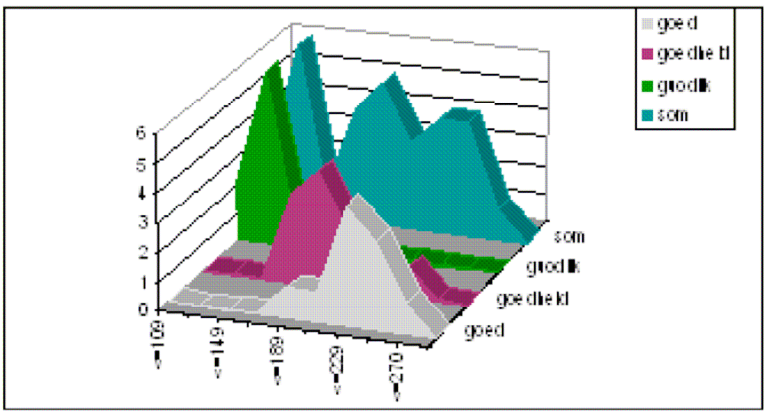
In their article in *Language*, Port and Leary advocate Rich Phonology where features are represented on continuous scales, stored in some form of exemplar-memory. Their article is 'against formal phonology' and does not present a complete alternative model.

It is remarkable to see that their central claim can almost word by word be found in Hermann Paul's 'Prinzipien der Sprachgeschichte' from 1896/1920. Are we simply moving back in time re-entering the circle of scientific paradigms of the 20th century?




Distribution of vowel length of [u.e] in *goed*, *goedheid* and *guodlik*, the last one being categorically reinterpreted as [wo].

In spite of their convincing evidence for a 'Rich Phonology', their (welcome) crusade against (hyper abstract instances of) formalism seems sometimes based on hasty interpretations of existing concepts, e.g. the identification of 'mathematics' and 'categories' with 'discreteness'. They seem to identify 'mathematical' approaches with binary models. It would be useful to make clear distinctions between those concepts.

The identification of 'categorical' with 'discrete' is more problematic. I would like to present some examples from language change in Frisian where both continuous phonetic features and categorical interpretations play a role (e.g. the case of stress shift in originally centralizing diphthongs (cf. the graph). Both approaches seem to be important and to co-exist.

Finally some loose ideas about how concepts of both categorical and continuous representation, memory building and language change could be reconciled, will be presented for further discussion. The call for papers speaks about new 'formalizations' and 'representations'. Perhaps we should not try to draw new patterns and structures again. In the 18th century, scientists were fascinated by the structures of snow crystals: each of them different and each built on the same hexagonal structure and they spent hours drawing and analyzing them. It remained a miracle, until man found the water molecule and fractals-like structures.

If language is a dynamic self-organizing system – and I think it is – we should stop formalizing things actively. The focus should rather be on identifying the mechanisms and algorithms that produce these structures. If we consider (language) structures as the result of dynamic interactions in a self-organizing system, we might find the key to why language is structured and always changing at the same time.