A dynamic systems approach to morphological irregularity

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The study of stability of linguistic structures is confronted with two seemingly contradictory tendencies, namely:

- The persistence of “marked” (= low type frequency) inflectional types, such as irregular plurals or strong and irregular verbs;
- the continuous analogical pressure of morphological patterns with high type frequency, leading to regularization.

In the traditional interpretation of structuralism, irregularity and diachronic change are always a disturbance of a given state, which, ideally, should be in balance. Irregularity is considered to be a burden to the system, its emergence counter-intuitive and its only temporary “stability” unexplained. Rather than looking for explanations of the deviations from the stable, regular system, one should aim for a model of language that explains both regularities and apparent “irregularities” by means of the same set of underlying mechanisms. The two mentioned contradictions become logical and can be explained in a dynamic systems approach to language (Beckner et al. 2009). In such systems, regularities and (temporary) stability are products of dynamic self-organisation.

In this paper we will present such a model using the data from English and Frisian nominal morphology. The controlling factors in this model are absolute and relative frequencies of the plural form, as well as its salience. These three factors interact with each other and sometimes show sometimes a non-linear feedback pattern, which is a typical prerequisite for dynamic systems behaviour.