

Contents of Glottometrics 6, 2003 (including abstracts)

Hřebíček, L.

Some aspects of the power law

1-8

Abstract. This is a fragmentary attempt at seeking the modeling ideas of structures and their semantic validity on the basis of a certain linguistic experience; at seeking their connections with the approaches of several other sciences, for which brain functions are or may appear objects of analyses. Surpassing the boundary of linguistics is in favor of linguistics. The preliminary character of this reasoning is evident

Best, K.-H.

Spracherwerb, Sprachwandel und Wortschatzwachstum in Texten. Zur Reichweite des Piotrowski-Gesetzes

9-34

Abstract. This paper presents a number of examples proving the fact that language change abides by the so-called Piotrowski Law, which takes, in simple cases, the shape of a sigmoid curve („S-curve“). This law of language change seems to go back to a hypothesis of Osgood & Sebeok (1954); Piotrowskaja & Piotrowskij (1974), Altmann (1983), Altmann, v. Buttler, Rott & Strauss (1983) and others proposed mathematical models of this hypothesis and applied them to language changes successfully. The aim of this paper is to demonstrate how many different kinds of processes abide by the Piotrowski Law.

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Word-length distribution in modern Welsh prose texts

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Abstract. This paper examines the distribution of word lengths in 12 prose texts written in modern Welsh (a P-Celtic language). The texts belong to the genres of new articles and Bible translation. For all texts, the observed frequencies can best be fitted by the 1-displaced Singh-Poisson distribution. This differs from published results on a Q-Celtic language (Scottish Gaelic) and suggests a P-celtic/Q-Celtic difference in word-length distribution. Further work is required to investigate other genres of Welsh as well as the other P- and Q-celtic languages.

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Satztypen und Satztlängen im Funktional- und Autorenstil

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Abstract. Different kinds of texts of three German authors taking into account sentence types and sentence lengths are compared. Using statistical tests different tendencies could be shown.

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Word length in the Baltic languages – are they of the same type as the word lengths in the Slavic languages? 52-60

Abstract: In our present analysis we found that word length in the two living Baltic languages and the majority of the Slavic languages (see 4.0) is controlled by the Extended Positive Binomial distribution (EPB) (with the rest of the Slavic languages being governed by members of the distribution family to which the EPB distribution belongs) which leads to the assumption that Baltic and Slavic languages do not only stem from a common evolutionary branch and are therefore members of a diachronically oriented language family, but it is also possible to find individual phenomena at synchronous level subsuming the languages concerned under one type, in our case the type of <word length>.

Strauss, U., Altmann, G.

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Abstract. The older a group of words all of which came into existence in the same time interval the greater its mean polysemy, i.e. polysemy increases with time. The dependence will be demonstrated on the unique but slightly distorted data set created by D. Wolff (1972) using the English dictionary.

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Abstract. One can count the occurrences of each type of character in a text, and arrive at a text profile. Does such a profile give enough information to separate texts, such as wanted emails from unwanted ones? Multidimensional scaling (MDS) provides a means of visualizing such profile data, so that one can make an informed assessment for a given set of circumstances. By extension, MDS can be applied beyond the problem of text separation.

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Abstract. The present article tries to point out the advantages offered by the programming language Python in solving simple computational and quantitative linguistic problems. Several examples illustrate the features of Python and show its simplicity.

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Abstract. The Lavalette's law is further promoted with empirical arguments from its original area of impact factors of scientific journals. Alike its famous precursory Zipf's and Mandelbrot's rank-frequency laws, the Lavalette's law offers the promise of various applications also beyond its original meaning. Thus,

an alternate reduced rank-frequency distribution is introduced by assigning equal ranks to the words with the same frequency. Also the fractal behavior of self-similarity of actual rank-frequency curves belonging to different scales is revealed.

Project report: Kelih, E., Grzybek, P., Stadlober, E.

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