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To Honor G. K. Zipf

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Contents with abstracts

Foreword

Prün, Claudia, Zipf, Robert

Biographical notes on G.K. Zipf

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Harvard philologist George Kingsley Zipf has been underestimated by mainstream linguistics for the past half century. After short consideration of the significance of Zipf's work, this paper presents a personal account of Zipf's family background, career and private life by one of his sons. An extensive Bibliography is added.

Rousseau, Ronald

George Kingsley Zipf: life, ideas, his law and informetrics

11-18

In this article we present a short biography of the linguist George Kingsley Zipf. We recall his work on the frequency of words in Chinese language and briefly discuss Zipf's principle of least effort. We mention his influence in the field of informetrics and end this contribution by highlighting some recent applications of Zipf's law in Internet research, geography and economics.

Altmann, Gabriel

Zipfian linguistics

19-26

Zipf's ideas are the foundation stones of modern quantitative linguistics. Many of them have been developed both mathematically and in content, but his work seems to be inexhaustible. His influence is not restricted to linguistics but incessantly penetrates other sciences.

Hřebíček, Luděk

Zipf's law and text

27-38

Two questions are to be solved: (1) Which is the sense of the immense corpuses? Are they necessary for the deeper investigation of the rank-size relation? The idea of *text* (instead of the predominating idea of *sentence* and the lower units) as a new linguistic paradigm cannot exterminate the importance of the Zipf law. (2) Certainly, rank can be immediately derived from size. However, seeking the linguistic reasons of ranks could be set against the possible objection of tautology in connection with the Zipf law.

Uhlířová, Ludmila

Zipf's notion of „economy“ on the text level

39-60

The role of nominal phrases with the determiner 'this' in text structure is examined and interpreted in terms of Zipf's opposition of the Force of Unification and the Force of Diversification. Their balance is demonstrated on Czech data.

Gumenjuk, A., Kostyshin, A., Simonova, S.

An approach to the analysis of text structure

61-89

The present article presents an approach to the study of specific arrangements of components in a separate linguistic or musical text. Concept and definition of the element order in the text are given and related formal models are described. The formulas for the calculation of integral numerical characteristics of element orders in texts, which take into account not only the structure but also the positional arrangement of the text components, are provided for the detailed description of a text. The distribution of numerical characteristics of element orders in a text is presented; so are the samples of research done on the construction of poems and pieces of music.

Andersen, Simone

Speakers' information content: length-frequency correlation as partial correlation 90-109

A new variable is presented which is demonstrated to be of influence on the correlation between lengths and frequencies of words occurring in texts. The variable is called speaker's information content ("sic").

Majerník, Vladimír

A conceptualization of the configurational and functional organization

110-135

Configurational and functional organizations are distinguished and analyzed. Information theoretical measures are proposed and examples of organization form physics, biogenesis, music and language are presented.

Best, Karl-Heinz

The distribution of rhythmic units in German short prose

136-142

The study of length of rhythmic units was initiated by K. Marbe (1904). In the present article we try to embed the problem in the general theory of length of linguistic units. It is shown that in modern German prose the length of rhythmic units abides by the Hyperpoisson distribution.

Adamic, Lada, A., Huberman, Bernardo

Zipf's law and the Internet

143-150

Zipf's law governs many features of the Internet. Observations of Zipf distributions, while interesting in and of themselves, have strong implications for the design and function of the Internet. The connectivity of Internet routers influences the robustness of the network while the distribution in the number of email contacts affects the spread of email viruses. Even web caching strategies are formulated to account for a Zipf distribution in the number of requests for webpages.