论文

计量语言学的现状、理论与方法

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摘要：

计量语言学以真实语言交际活动中呈现的各种语言现象、语言结构、结构属性以及它们之间的相互关系作为研究对象，通过概率论、随机过程、微分与微分方程、函数论等数学的定量方法对其进行精确的测量、观察、模拟、建模和解释，寻找语言现象背后的数理规律，揭示各种语言现象形成的内在原因，探索语言系统的自适应机制和语言演化的动因。对计量语言学现状、理论与方法进行分析，厘清该学科进一步发展的走向，旨在推动中国语言学的国际化与语言学研究的科学化水平。

关键词： 计量语言学 汉语 语言定律 Zipf 数理语言学

Quantitative Linguistics：State of the Art, Theories and Methods

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Abstract：

Quantitative linguistics concerns itself with the various language phenomena, language structures, structural properties, and their interrelations in real-life communicative activities. Through various quantitative techniques, it conducts accurate measurement, observation, simulation, modeling and explanation of these phenomena in order to discover the mathematical laws underlying the language phenomena, reveal the intrinsic reasons for these phenomena, and explore the self-adaptive mechanisms of the language system and the dynamics of language evolution. Quantitative linguistics is a typical combination of natural and social sciences, with distinct interdisciplinary characteristics. These characteristics distinguish quantitative linguistics as the branch of linguistics with the best adherence to the paradigm of modern science. The language laws it discovers contribute to more accurate description and explanation of relevant language phenomena and are vitally important and necessary for the establishment of a type of linguistic theory in the modern scientific sense. As an empirical discipline based on authentic language data, the mode of thinking and research methodology practiced in quantitative linguistics are generally in line with those in other empirical disciplines. The most representative accomplishments of quantitative linguistics are the various language laws concerning the structure and evolution of human languages, which constitute the basis of relevant theories. Synergetic linguistics, an outcome of the application of synergetics to linguistic studies, marks a more advanced stage of the development of quantitative linguistics. Under the theoretical framework of synergetic linguistics, we can integrate the separated language laws into a linguistic theory with greater explanatory capacity. An attempt to solve the equilibrium between various language-related demands in communication, synergetic linguistics is the instantiation and modernization of Zipf's least effort principle. In the foreseeable future, researchers in quantitative linguistics around the world are expected to conduct in-depth studies along the following lines of research: (1) the mechanisms and laws governing how words form sentences; (2) the search for more universal syntactic formalisms for the sake of cross-linguistic verification of various syntactic rules; (3) the synergetic relations between different levels of human languages, with focus placed on syntax; (4) the application of various new methods to more efficient and systematic exploration of the rules governing the structure and evolution of human languages; (5) attempts at applying quantitative facts of syntax to syntactic analysis based on authentic language data; (6) the relationships between quantitative facts of syntax and cognitive processing of sentences; (7) the search for synergetic linguistic models more compatible with empirical facts of cognitive processing of language; (8) the construction of more explanatorily adequate lexical-syntactic synergetic models; and so forth. These issues not only reflect the gaps in the current body of

quantitative linguistic research but also indicate possible directions for future research.

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