Computational Morphology: Practical Mechanisms for the English Lexicon

Graeme D. Ritchie, Graham J. Russell,
Alan W. Black, and Stephen G. Pulman

May, 1991

Previous work on morphology has tended, with few exceptions, either to avoid precise computational details, or to ignore linguistic generality. *"Computational Morphology"* is the first book to present an integrated set of techniques for the rigorous description of morphological phenomena in English and similar languages. By taking account of all facets of morphological analysis, it provides a linguistically general and computationally practical dictionary system for use within an English parsing program,

The authors cover **morphographemics** (variations in spelling as words are built from their component morphemes), **morphotactics** (the ways that different classes of morphemes can combine, and the types of words that result), and **lexical redundancy** (patterns of similarity and regularity among the lexical entries for words). They propose a precise rule-notation for each of these areas of linguistic description, and present algorithms for using these rules computationally to manipulate dictionary information. These mechanisms have been implemented in practical and publicly available software, which the authors describe in some detail, and the appendices contain a large computer-tested set of rules and lexical entries for English,

Graeme Ritchie is a Senior Lecturer in the Department of Artificial Intelligence at the University of Edinburgh, where Alan Black is currently a research student. Graham Russell is a Research Fellow at the Institut Dalle Molle pour les etudes semantiques et cognitives in Geneva, and Stephen Pulman is a Lecturer in the University of Cambridge Computer Laboratory and Director of SRI International's Cambridge Computer Science Research Centre.

ACL-MIT Series in Natural Language Processing. A Bradford Book.