

defect and may occasionally produce an inadequate parse-forest representation.

It is claimed in the book that the algorithm described "is more efficient than any existing general parsing algorithms in terms of recognition time as far as practical natural language grammars are concerned" (p. 73). The crucial point about this statement is, obviously, the notion of "practical natural language grammars". As mentioned before, Tomita's algorithm is intended for a subset of context-free grammars. In particular, it is not able to handle cyclic grammars, e.g.:

$S \rightarrow S$

$S \rightarrow x$

and turns out to be less efficient than Earley's algorithm with "densely" ambiguous grammars, such as:

$S \rightarrow SSSS$

$S \rightarrow SSS$

$S \rightarrow SS$

$S \rightarrow x$

Although it seems unlikely that any natural-language grammar contains cyclic rules or dense ambiguities, the limitations of Tomita's algorithm with regard to natural-language grammars remain somewhat unclear.

The major arguments for the usefulness of the algorithm are, therefore, empirical. Both Tomita's and Earley's algorithms have been implemented and tested against various grammars and sentences. The grammar of English most used in the experiment has about 220 rules, and the set of test sentences is made up of both actual and invented examples, more than 50 in number. The results of the experiment show that Tomita's algorithm is significantly faster than Earley's algorithm in practical applications. Moreover, its parsing time and space remain tractable when the length of an input sentence, the number of parses, or the size of a grammar increases.

The book is composed of 10 chapters and several appendices. Chapters 1 through 6, apart from some introductory remarks, provide an informal description of the algorithm, illustrated with plenty of clear examples; a formal specification (which is not necessary, however, to understand how the algorithm works); a comparison of Tomita's algorithm with other context-free parsing algorithms; and finally a description of the experiment mentioned above. The appendices give, among other things, the correctness proof of the algorithm, as well as programs, grammars, and test sentences used in the experiment.

Chapters 7, 8, and 9 constitute a relatively independent part of the book. They suggest some practical applications of Tomita's algorithm, such as left-to-right on-line parsing, interactive sentence disambiguation by asking the user for the preferred interpretation of the sentence in question, and interactive machine transla-

tion of small documents, letters, etc. To a wide circle of readers involved in computational linguistics, this part of the book may be even more interesting than the others. The core of the book, on the contrary, seems to be of great importance for those who deal in practice with natural-language parsing rather than those who observe the advances in this field from the outside.

## REFERENCES

- Aho, A.V. and Ullman, J.D. 1977. *Principles of Compiler Design*. Addison-Wesley, Reading, MA.  
 Earley, J. 1970. An Efficient Context-free Parsing Algorithm. *Communications of the ACM* 13(2): 94-102.

*Miroslaw Bańko*, who is a lecturer at the Institute of Polish Language, Warsaw University, has MScs in both computer science and linguistics. His recent research has concentrated on the problems of evaluating natural-language parsers, and on parsing Polish. Bańko's address is: Instytut Języka Polskiego, Uniwersytet Warszawski, Krakowski Przedmieście 26/28, 00-325 Warszawa, Poland.

## BRIEFLY NOTED

*Editor's note:* Frequently, the need has been felt for a longer treatment of books that on the one hand do not warrant a full review, but on the other hand merit more than a bare appearance in the list of books received. Often, such books are those that are important in related fields such as theoretical linguistics and will be reviewed in the appropriate journals, but which may have relevance to computational linguistics as well. Sometimes, it is simply the case that a mere listing by title and author does not convey enough information to let the reader know whether the book may be in their area of interest. In addition, popular works or books of oblique interest to the field may merit a brief notice.

This new section will answer this need by giving brief notices of books. Most often, books appearing in this section will not have a review per se; rather, just a summary of the book will usually be given—based on that of the author or publisher, in the case of monographs, or through the table of contents in the case of collections. Such a treatment reflects the book review editor's judgment that the book is worthy of attention, but is not necessarily an endorsement of the content. Short opinions may also be given in some cases, where the nature of the book calls for an evaluation but not a full review.

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### ON THE DEFINITION OF WORD (LINGUISTIC INQUIRY MONOGRAPH 14)

**Anna-Maria Di Scullo and Edwin Williams**

(Université du Québec à Montréal; and University of Massachusetts, Amherst, MA)  
 Cambridge, MA: MIT Press, 1987, vii + 118 pp.  
 ISBN 0-262-04092-3, \$20.00 (hb); ISBN 0-262-54047-9, \$9.95 (sb)

*On the Definition of Word* develops a consistent and coherent approach to central questions about morphology and its relation to syntax. In sorting out the various senses in which the word *word* is used, it asserts that three concepts that have often been identified with each other are in fact distinct and not coextensive: **listemes** (linguistic objects permanently stored by the speaker), **morphological objects** (objects whose shape can be characterized in mor-

phological terms of affixation and compounding), and **syntactic atoms** (objects that are unanalyzable units with respect to syntax).

The first chapter defends the idea that listemes are distinct from the other two notions and that all one can and should say about them is that they exist. A theory of morphological objects is developed in Chapter 2. Chapter 3 defends the claim that morphological objects are a proper subset of the syntactic atoms, presenting the authors' reconstruction of the important and much-debated Lexical Integrity Hypothesis. A final chapter shows that there are syntactic atoms that are not morphological objects.

—From the publisher's announcement

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**NATURAL LANGUAGE PROCESSING IN THE 1980s: A BIBLIOGRAPHY (CSLI LECTURE NOTES 12)**

**Gerald Gazdar; Alex Franz; Karen Osborne; and Roger Evans**

(University of Sussex, Sussex, England)  
Center for the Study of Language and Information, Stanford University, Stanford, CA 1987, vii + 236 pp.  
Distributed by the University of Chicago Press  
ISBN 0-937073-26-1, \$29.95 (hb); ISBN 0-937073-28-8, \$11.95 (sb)

The aim of this book is to make available, in a readily accessible form, bibliographic information about the vast majority of 1980s publications in the field of **natural-language processing** (NLP) and computational linguistics. To this end, it contains 1764 numbered references to papers and books in the field published (or republished) since January 1980. These references are ordered alphabetically by first author, so if you know the identity of the first author of the item that you are trying to chase down, then you can look it up directly. There is, in addition, an index of subsidiary authors that lists, for each such author, the numbers of the papers on which that author appears as a second or subsequent author.

If your concern is to access papers by topic, rather than by author, then this book provides an extensive **keyword-in-context** (KWIC) index based on the titles of all the papers. No bibliography of an active and diverse interdisciplinary research area can lay claim to full comprehensiveness. Our aim has been to exhaustively cover the core sources in the field and to augment the result with as many items from other sources as we could readily lay our hands on. We have excluded from our remit unpublished papers, dissertations, and technical reports containing only papers by authors based at the issuing institution. The core of the bibliography consists of all the papers in the journal *Computational Linguistics*, all the books and papers in books published in the ACL (Association for Computational Linguistics) book series "Studies in Natural Language Processing", all the papers republished in *Readings in Natural Language Processing* (1986, edited by Grosz, Sparck Jones, and Webber), all the papers to be found in the conference proceedings volumes of ACL, European ACL, COLING, TINLAP (Theoretical Issues in Natural Language Processing) and TANLU (Theoretical Aspects of Natural Language Understanding), together with all the papers on natural-language processing to be found in the journals *Artificial Intelligence* and *Computational Intelligence*, and in the conference proceedings volumes of AAAI (American Association for Artificial Intelligence), AISB (Society for the Study of Artificial Intelligence and the Simulation of Behaviour), ECAI (European Confer-

ence on Artificial Intelligence), and IJCAI (International Joint Conference on Artificial Intelligence).

This core has been augmented by individual papers drawn from numerous journals, conference and workshop proceedings, ad hoc publications, the contents of most of the edited collections on NLP, and by the rather few texts and monographs that we know to have been published on the topic. In selecting non-core items for inclusion, . . . we have used the question, "Would the editor of *Computational Linguistics* consider this paper a relevant submission to the journal?" as a very rough guide for deciding whether or not to include details of a paper.

The bibliography source files are now kept on-line at Stanford University and can be accessed by computer mail by people with access to the relevant academic network. Send computer mail to clbib@russell.stanford.edu with the single word "help" in the "Subject:" field in order to receive instructions on searching the bibliography automatically by mail.

Machine-readable copies of the current main 'refer' source file can be obtained on a single 360K DS/DD MS-DOS format floppy disk (the only available format) for \$16, payable with order, from Ms. Sheila Lee (CLBIB), School of Cognitive Sciences, University of Sussex, Brighton BN1 9QN, UK.

This bibliography is an ongoing enterprise—the computer version will be kept up to date, and it is anticipated that there will be subsequent editions of this book.

—From the introduction

Is the literature of computational linguistics now so large that we need guides to help search it? Gazdar et al.'s book shows that it is and we do. Of course, one could wish for more than the guide provides—like the full abstract of each item and a complete index of concepts—but that might be asking a bit too much just yet. This bibliography will be an enormous help to any serious researcher in the field, for, by definition, anyone who doesn't find it useful can't be called a serious researcher in the field.

—G.H.

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**PARALLEL STRUCTURE IN SYNTAX: COORDINATION, CAUSATIVES, AND RESTRUCTURING**  
(CAMBRIDGE STUDIES IN LINGUISTICS 46)

**Grant Goodall**

(Department of Linguistics, University of Texas at El Paso)  
Cambridge, England; Cambridge University Press, 1987, xiii + 194 pp.  
ISBN 0-521-32307-X, \$39.50 (hb)

Research in transformational syntax . . . has assumed, for the most part, that it is reasonably clear what a phrase marker is. During the last five to ten years, as syntactic theory has become noticeably more sophisticated, there has been an increasing number of allusions in the literature to the possibility that it is, in fact, not so clear what a phrase marker is, and that perhaps our usual conception of these objects is wrong. . . .

This book attempts to tackle these issues head-on, by giving a detailed formalization of a revised definition of phrase markers. This revision allows phrase markers to contain "parallel structures" of a type not countenanced in customary definitions.

—From the preface

## SYNTAX AND SEMANTICS 20: DISCONTINUOUS CONSTITUENCY

Geoffrey J. Huck, and Almerindo E. Ojeda (eds.)

(University of Chicago Press; and University of Wisconsin, Madison, WI)

Orlando, FL: Academic Press, 1987, xi + 451 pp.  
ISBN 0-21-613520-7, \$72.00 (hb); ISBN 0-12-606101-7,  
\$24.95 (sb)

The chapters in this volume were developed from material presented at a conference held at The University of Chicago in July 1985. The point of this conference was to provide a forum for the exchange of ideas concerning the role, if any, of discontinuous constituency in grammar. There was no attempt to exclude or promote particular theoretical orientations or to restrict the scope of inquiry. The volume contains contributions . . . from a variety of perspectives, including Government-Binding Theory, Generalized and Head-Driven Phrase Structure Grammar, Discourse Representation Theory, Autolexical Syntax, and Tree Adjoining Grammar. While the volume . . . does not pretend to survey all relevant work in this area, the chapters included clearly suggest both the dimensions of the problem and the sorts of solutions currently available.

—From the preface and the publisher's announcement

The contents of the volume are the following:

- Introduction** by Geoffrey J. Huck and Almerindo E. Ojeda  
**Degree Complements** by Mark R. Batlin  
**Phrase Structure, Grammatical Relations, and Discontinuous Constituents** by Pauline Jacobson  
**Redoing Reduplication: A Preliminary Sketch** by Yoshihisa Kitagawa  
**Analyzing Extraposition in a Tree Adjoining Grammar** by Anthony S. Kroch and Aravind K. Joshi  
**Some Extensions of the Autolexical Approach to Structural Mismatches** by Steven G. Lapointe  
**Some Additional Evidence of Discontinuity** by James D. McCawley  
**Boolean Properties in the Analysis of Gapping** by Richard T. Oehrle  
**Discontinuous Constituents in a Free Word Order Language** by William O'Grady  
**Discontinuity, Multidominance, and Unbounded Dependency in Generalized Phrase Structure Grammar: Some Preliminaries** by Almerindo E. Ojeda  
**Discontinuity in Autolexical and Autosemantic Syntax** by Jerrold M. Sadock  
**Grammatical Hierarchy and Linear Precedence** by Ivan A. Sag  
**Constituency and Luiseno Argument Structure** by Susan Steele  
**Configurational Variation in English: A Study of Extraposition and Related Matters** by Susan U. Stucky  
**Linear Precedence in Discontinuous Constituents: Complex Fronting in German** by Hans Uszkoreit  
**Extraposition from NP as Anaphora** by Kent Wittenburg

WORKING PAPERS IN GRAMMATICAL THEORY AND DISCOURSE  
 STRUCTURE: INTERACTIONS OF MORPHOLOGY, SYNTAX, AND  
 DISCOURSE  
 (CSLI LECTURE NOTES 11)

Masayo Iida; Stephen Wechsler; and Draga Zec (eds.)

Center for the Study of Language and Information, Stanford  
 University, Stanford, CA 1987, xi + 238 pp.  
 Distributed by the University of Chicago Press  
 ISBN 0-937073-25-3 (hb); ISBN 0-937073-04-0 (sb)

The papers in this volume emerged from a workshop on Morphology/Syntax/Discourse Interactions, held in Summer 1985 at the Center for the Study of Language and Information (CSLI), Stanford University. The participants included students and faculty from the Stanford and Berkeley Linguistics Departments, as well as several CSLI researchers.

Presentations given in the workshop offered insight into how different components of grammar work together, and demonstrated, moreover, that specific linguistic phenomena receive more interesting accounts when viewed as the result of interplay between components. The papers included in the volume are refined and augmented versions of the material originally presented in the workshop.

—From the preface

The papers in the volume are the following:

- Introduction** by Joan Bresnan  
**Topic, Pronoun, and Agreement in Chicheŵa** by Joan Bresnan and Sam A. Mchombo  
**Morphological Integrity and Syntax: The Evidence from Finnish Possessive Suffixes** by Jonni Kanerva  
**Case-assignment by Nominals in Japanese** by Masayo Iida  
**On Obligatory Control in Clausal Complements** by Draga Zec  
**Reflexivization Variation: Relations between Syntax, Semantics, and Lexical Structure** by Peter Sells, Annie Zaenen, and Draga Zec

MENTAL PROCESSES: STUDIES IN COGNITIVE SCIENCE  
 (EXPLORATIONS IN COGNITIVE SCIENCE)

H. Christopher Longuet-Higgins

(University of Sussex, Brighton, England)  
 Cambridge, MA: MIT Press/Bradford Books, 1987, xiii +  
 424 pp.  
 ISBN 0-262-12119-0, \$35.00 (hb)

Twenty years of previously published papers written or co-authored by Longuet-Higgins are collected in this volume. The topics range widely over cognitive science and artificial intelligence, and include music and vision as well as language.

The papers in the section on language are the following:

- The Algorithmic Description of Natural Language** (1972).  
**Modal Tic-Tac-Toe** (1973, with Stephen Isard).  
**Question-Answering in English** (1971, with Stephen Isard).  
**A Computational Model of Discourse Production** (1978, with Anthony Davey).  
**Learning to Count: A Computational Model of Language Acquisition** (1978, with Richard Power).  
**Tones of Voice: The Role of Intonation in Computer Speech Understanding** (1985).

ELEMENTS OF FORMAL SEMANTICS: AN INTRODUCTION TO LOGIC  
 FOR STUDENTS OF LANGUAGE

John N. Martin

(University of Cincinnati, Cincinnati, Ohio)  
 Orlando, FL: Academic Press, 1987, x + 364 pp.  
 ISBN 0-12-474855, \$65.00 (hb); ISBN 0-12-474856-2,  
 \$24.95 (sb)

This book is an introduction to that part of logic of most interest to linguists and philosophers of language. Quite generally, formal semantics is the study of meaning for formal languages defined and explored by means of set theory. . . . Since set theory is a technical idiom, the interesting results of semantics are inaccessible without

special training. The purpose of this book is to bring the reader to a point from which he or she may easily read and evaluate ordinary research in formal semantics. The book is also a good introduction to standard logic and to more specialized textbooks on modal logic, Montague grammar, and philosophical logic.

Propositional and first-order logic are treated separately, including for each its syntax, natural deduction and proof theory, and formal semantics with Henkin-style completeness proofs. The nine chapters of the book divide into groups of three, each suitable for a quarter-length course. Standard logic is fully covered in the first two-thirds of the volume. The final section is suitable for a more advanced course in philosophical logic.

—From the preface

**THE ARTICULATE COMPUTER**  
(THE LANGUAGE LIBRARY)

**Michael McTear**

(University of Belfast, Belfast, Ireland)  
Oxford, England: Basil Blackwell, 1987, ix + 240 pp.  
ISBN 0-631-14009-3, \$34.95 (hb)

Michael McTear's book *The Articulate Computer* is not addressed to researchers in computational linguistics, but they will find it useful, anyway, as a book to recommend to outsiders who want to know more about the field. Although it is an introduction to natural-language processing, it is not a textbook. Rather, it is addressed to readers in neighboring disciplines, and, indeed, intelligent lay readers, who want to know more about the field, its successes, its issues, and its problems, without the technical density or pedagogical style of a textbook. That is not to say that McTear shies away from technical detail; on the contrary, the book contains plenty of it, and goes quite deeply into many issues. But it is detail to produce thorough understanding, not to teach the reader to write their own programs. Only a minimal knowledge of linguistics and computing is assumed.

McTear's presentation is comprehensive; he covers the early history of the field, syntax, semantics, issues in knowledge representation, and problems in extended discourse—McTear's own area of research. This book would be an excellent starting point for anyone in other areas of AI or cognitive science who wants to know more about computational linguistics but feels hesitant about tackling the technical literature straight off.

—G.H.

**DEPENDENCY SYNTAX: THEORY AND PRACTICE**  
(SUNY SERIES IN LINGUISTICS)

**Igor A. Mel'čuk,**

(Université de Montréal, Québec, Canada)  
Albany, NY: State University of New York Press, 1987, xx  
+ 428 pp.  
ISBN 0-88706-450-7, \$54.50 (hb); ISBN 0-88706-451-5,  
\$24.50 (sb)

This work presents the first sustained examination of Dependency Syntax. In clear and stimulating analyses Mel'čuk promotes syntactic description in terms of dependency rather than in terms of more familiar phrase-structure. The notions of dependency relations and dependency structure are introduced and substantiated, and the advantages of dependency representation are demonstrated by applying it to a number of popular linguistic problems, e.g.,

grammatical subject and ergative construction. A wide array of linguistic data is used—the well-known (Dyirbal), the less known (Lezgian), and the more recent (Alutor). Several "exotic" cases of Russian are discussed to show how dependency can be used to solve difficult technical problems.

The book is not only formal and rigorous, but also strongly theory-oriented and data-based. Special attention is paid to linguistic terminology, specifically to its logical consistency. The dependency formalism is presented within the framework of a new semantics-oriented general linguistic theory, Meaning-Text theory.

—From the publisher's announcement

**GRAMMAR IN THE CONSTRUCTION OF TEXTS**  
(OPEN LINGUISTICS SERIES)

**James Monaghan (ed.)**

(Hatfield Polytechnic, U.K.)  
London, England: Frances Pinter (Publishers), 1987, ix +  
155 pp.  
Distributed in the U.S. by Columbia University Press  
ISBN 0-86187-627-X, \$35.00 (hb)

Based on extensive empirical research, this work addresses questions of how the grammar—in its wider sense of the syntax, vocabulary, and phonology—of naturally occurring texts signals higher-order semantic structures.

Part I focuses attention on issues of general interest, illustrated with specific examples, including the structure of technical discourse, the role of time expressions in English, the pragmatics of reasoning and causality, and of utterance functions. Part II contains discussions of causal ordering and adverbial usage based on a major machine-readable corpus, an examination of the development of conversational skills in children, and a report on an experiment on reference. In Part III, the emphasis is on cross-language matters. Here are textual insights into the problems of English-Arabic translation, of English-German bilingual dictionaries, of reference in the translations of novels, and finally a discussion of the various types of errors language learners make, with examples drawn from a wide variety of language systems.

—From the publisher's announcement

*The contents are as follows:*

**Introduction** by James Monaghan

*Part I: Discourse Structures*

**Some Observations on the Signalling of Structure in Technical Discourse** by Paul Georg Meyer

**On Denoting Time in Discourse** by Werner Hüllen

**Cognitive verbs and the indication of utterance function** by Hans Arndt

**Two ways of looking at causes and reasons** by Ivan Lowe

*Part II: Conversational Strategies*

**Causal Ordering Strategies in English Conversation** by Bengt Altenberg

**What Does really really do?** by Anna-Brita Stenstrom

**Discourse Structure and Interpretive Strategies in Adult-Child Talk: Some Properties of "Summons-Answer" Sequences** by Margaret MacLure

**Modelling Discourse Participants' Knowledge** by Gillian Brown

*Part III: Comparative Discourse Studies*

**A Text-Linguistic Model for the Analysis of Discourse Errors: Contributions from Arabic Linguistics** by Basil Hatim

**Contrastive Textology and Bilingual Lexicology** by R.R.K. Hartmann

**"Extended reference" in English and German** by Monika Krenn  
**Discourse Error Analysis** by Rod Haden

**FUNDAMENTALS OF HUMAN-COMPUTER INTERACTION**  
 (COMPUTERS AND PEOPLE SERIES)

Andrew Monk (ed.)

(University of York, Yorkshire, England)  
 London, England: Academic Press, 1984, xvii + 293 pp.  
 ISBN 0-12-504580-8, \$32.00 (hb)

The aim of this book is to share some of the knowledge acquired from research into human-computer interaction with those at the sharp end of the design process, principally the systems engineers and programmers. If effective interactive products are to be built and sold, all personnel involved in the design process must be aware of the basic principles involved: it is not enough to simply consult a specialist when problems arise.

—From the publisher's announcement

The papers in this volume are the following:

*Part 1: The User as a Processor of Information*

**Visual Perception: An Intelligent System with Limited Bandwidth** by Peter Thompson

**Reading: Extracting Information from Printed and Electronically Presented Text** by Charles Hulme

**Human Memory: Different Stores with Different Characteristics** by Neil Thomson

**Thinking and Reasoning: Why is Logic So Difficult?** by Neil Thomson

*Part 2: The Use of Behavioural Data*

**How and When to Collect Behavioural Data** by Andrew Monk

**Statistical evaluation of behavioural data** by Andrew Monk  
**Example of an Experiment: Evaluating Some Speech Synthesizers for Public Announcements** by John Waterworth and Antony Lo

*Part 3: The User Interface*

**Work Station Design, Activities, and Display Techniques** by Peter Reid

**Dialogue Design: Characteristics of User Knowledge** by Nick Hammond and Philip Barnard

**User Interface Design: Generative User Engineering Principles** by Harold Thimbleby

**Future Uses of Future Offices** by G. Reinhard Kofer

**Speech Communication: The Problem and Some Solutions** by Peter Bailey

**Speech Communication: How to Use It** by John Waterworth  
**Human Factors Problems in the Design and Use of Expert Systems** by Alison Kidd

Unfortunately, the book's own user interface leaves something to be desired. The text is reproduced from copy run off on a daisy-wheel printer. Although the print quality is good, the text is right-justified without hyphenated word breaks. This results in large spaces between words, making the text difficult to follow with the eye, especially as the lines are unled. Thus the book violates the most basic rules of text design (e.g., Chicago 1982: 567-569; Craig 1980: 127-131). This is rather surprising in a book concerned with human factors, especially as one of the chapters (Hulme's) is largely concerned with factors in the legibility of printed text.

—G.H.

REFERENCES

Chicago 1982. *The Chicago manual of style* (13th edition). The University of Chicago Press.

Craig, James 1980. *Designing with type* (revised edition). New York, NY, Watson-Guptill.

LANGUES ET ARTEFACTS (*LANGUAGES AND ARTIFACTS*)

**Technologos no 4, Special Issue, Printemps 1987**

Centre de prospective et d'Evaluation et  
 Laboratoire d'Informatique pour les Sciences de  
 l'Homme  
 1, rue Descartes  
 75231 Paris Cedex 05  
 France

ISSN 0769-1688. Available free upon request.

*The contents of the issue are listed below. Articles are in French or English; each is abstracted in French, English, German, and Spanish.*

**Editorial** by François Recanati

**Présentation (Introduction)** by Anne Abeille

**Notes on Reflexivity** by Pieter A.M. Seuren

**Sémantique intrinsèque et langues naturelles (Intrinsic Semantics and Natural Language)** by Jean-Pierre Descles

**Dialogue homme-machine et représentation de l'interlocuteur (Man-Machine Dialogue and Representation of the Speaker)** by François Rastier

**Langage naturel: Outil ou modèle pour l'intelligence artificielle? (Natural Language: Object or Model for AI?)** by Pierre-Yves Raccah

**Sur un projet d'écriture universelle (On a Project of Universal Writing: Short Portable Semantography)** by Jean-François Jeandillou

**The Linguistic Approach at GETA: A Synopsis** by Zaharin Yussuf

**Vers une lexicographie des actes de langage (Toward a Lexicography of Speech Acts)** by Georges-Elia Sarfati

BOOKS RECEIVED

Books listed below that are marked with an asterisk (\*) will be reviewed in a future issue. Readers who wish to review books for the journal should write, outlining their qualifications, to: Graeme Hirst, book review editor, Department of Computer Science, University of Toronto, Toronto, Canada M5S 1A4. Obviously, we cannot promise the availability of books in anyone's exact area of interest.

Authors and publishers who wish their books to be considered for review in *Computational Linguistics* should send a copy to the book review editor at the address above. All books received will be listed, but not all can be reviewed.

\* **Natural-language parsing systems (Symbolic Computation and Artificial Intelligence Series)** by Leonard Bolc (Ed.) (Polish Academy of Sciences, Warsaw)  
 Berlin, W. Germany: Springer-Verlag, 1987, xviii + 367 pp.  
 ISBN 3-540-17537-7 and 0-387-17537-7 (hb)

**Programming in Scheme** by Michael Eisenberg (MIT Laboratory for Computer Science)  
 Redwood City, CA: Scientific Press, 1988, xv + 304 pp.  
 ISBN 0-89426-115-0 (sb)

\* **Language and Information** by Zellig Sabbettai Harris (**Bampton Lectures in America 28**) (University of Pennsylvania, Philadelphia, PA)  
 New York, NY: Columbia University Press, 1988, ix + 120 pp.  
 ISBN 0-231-06662-7, \$20.00 (hb)