INTERLINGUISTICS: ASPECTS OF THE SCIENCE OF PLANNED LANGUAGES

Klaus Schubert (ed., in collaboration with Dan Maxwell)
(BSO/Research)

Berlin: Mouton de Gruyter, 1989, vii + 348 pp.
(Trends in Linguistics; Studies and Monographs 42)
Hardbound, ISBN 3-11-011910-2 and 0-899-25548-5, DM 148

Schubert, the editor of this book, is a computational linguist presently working on the DLT machine translation system, which uses Esperanto as an interlingua. In the book, *interlinguistics* means the study of planned (or, pejoratively, *artificial*) languages such as Esperanto, Volapük, etc. Schubert has collected 18 papers (in English, or translated into English), covering sociolinguistic, psycholinguistic, theoretical, and literary aspects of planned languages.

METATAXIS: CONTRASTIVE DEPENDENCY SYNTAX FOR MACHINE TRANSLATION

Klaus Schubert
(BSO/Research)

Dordrecht: Foris Publications, 1987, 250 pp.
(Distributed Language Translation 2)
Hardbound, ISBN 90-6765-358-6, $37.00; Softbound, ISBN 90-6765-359-4, $24.90

Schubert derives the word *metataxis* from Tesnière's *métataxe*, as used in his original treatment of dependency grammar. It is used to mean the mapping from a source language syntactic dependency structure to that of a target language. Schubert holds that this is a primary process in language translation, and reports that the Distributed Language Translation Project has constructed metataxes (i.e. dependency transfer rule systems) for English to Esperanto and Esperanto to French.

The first four chapters present a history of dependency theory and a discussion of its linguistic basis. Dependency is defined as directed co-occurrence of morphemes. It can be determined by distributional studies of the co-occurrence of words and phrases in utterances. If we consider the sentence "Very interesting people arrive," we can observe that "they" can be substituted for "very interesting people" and maintain grammaticality in "they arrive." Similarly, the substitution of "people" for the phrase maintains grammaticality. But the substitution of "very" or "very interesting" for the whole phrase results in ill-formed utterances such as *"very arrive" or *"very interesting arrive." An essential criterion for dependency appears to be that the word that cannot be omitted from the phrase under substitution criteria is the governor of the phrase. Within the phrase, applying the substitution process to "the very interesting people" shows that "the people" and "interesting people" are both well-formed phrases, and that "people" dominates "the" and "interesting." But "very people" is badly formed, while "very interesting" is good. Thus "interesting" governs "very." At the sentence level, the verb is taken (mainly by convention) to govern subject, object, and complements. It also appears to be by convention, rather than substitution criteria, that prepositions and conjunctions become governors of their phrases. Directed arcs, labeled by their syntactic function, connect a governing term and its dependents.

Detailed examples of dependency analysis are offered in several different languages, and the process of metataxis is explained in detail. Metataxis rules are simply mappings of dependency structures of one language to those required by another. The rules are indexed by governing morphemes, and are in the form of a morpheme dominating constrained variables as dependents. Metataxic rules are also used in the dictionary to map from a single word in one language to phrases in another, or vice versa.

The book is limited to describing the syntactic component of a translation system, and it emphasizes the linguistics of the process, offering few comments on the computational aspects. Generally, it is a good source for scholars with an interest in the linguistics of dependency analysis, and it provides a detailed bibliography of mainly European work in dependency theory. As an approach to machine translation, there is no obvious advantage of metataxis over the customary transfer rules defined on phrase structure constituents.—*Rob't F. Simmons, Department of Computer Science, University of Texas at Austin*

BOOKS RECEIVED

Situations, Language and Logic
Jens Erik Fenstad, Per-Kristian Halvorsen, Tore Langholm, and Johan van Benthem
(University of Oslo, Xerox Palo Alto Research Center, Stanford University, and University of Amsterdam)
Dordrecht: Reidel, 1987, viii + 186 pp.
(Studies in Linguistics and Philosophy 34)
Hardbound, ISBN 1-55608-048-4, Dfl 125, £38.75

Registers of Written English: Situational Factors and Linguistic Features
Mohsen Ghadessy (ed.)
(National University of Singapore)
London: Pinter Publishers, 1988, ix + 184 pp.
(Open Linguistics Series); (Distributed in the U.S. by Columbia University Press)
Hardbound, ISBN 0-86187-989-9, $49.00

†**L'inference en langue naturel: Le problème des connecteurs; Représentation et calcul** (Inference in Natural Language: The Problem of the Connectors; Representation and Computation)
Jacques Jayez (Ecole des hautes études en sciences sociales)
Paris: Hermès, 1988, 287 pp.
(Langue, raisonnement, calcul)
Hardbound, ISBN 2-86601-118-X, FF 195

Sur les fondements de la mathématique: Fragments (Discussions préalables, méréologie, ontologie) (On the Foundations of Mathematics: Fragments [Preliminary Discussions, Mereology, and Ontology])
Stanisław Leśniewski (1886–1939) (Translated from Polish by Georges Kalinowski)
Paris: Hermès, 1989, 148 pp.
(Langue, raisonnement, calcul)
Hardbound, ISBN 2-86601-178-3, FF 395

Lexical Representation and Process
William Marslen-Wilson (ed.)
(University of Cambridge)
Cambridge, MA: The MIT Press, 1989, xi + 576 pp.
Hardbound, ISBN 0-262-13240-0, $49.95

†**Modélisation du dialogue: Représentation de L'inférence argumentative** (Modeling Dialogue: Representation of Inferential Argumentation)
Jacques Moeschler (Université de Genève)
Paris: Hermès, 1989, 266 pp.
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Jean-Marie Pierrel
(Université de Nancy I)
Paris: Hermès, 1987, 239 pp.
(Langue, raisonnement, calcul)
Hardbound, ISBN 2-86601-105-8, FF 195

Kompjuterizacija Prepodavanija Jakykov (Computerization of Language Teaching)
R. G. Piotrovskiy
Leningrad: Leningrad Pedagogical Institute Press, Ministry of Education, U.S.S.R., 1988, 74 pp.
Softbound, 0.75 rubles

Statistika Reči i Avtomatičeskaja Pererabotka Tekstov (Statistics of Speech and Automatic Processing of Texts)
R. G. Piotrovskiy (ed.)
Leningrad: Leningrad Pedagogical Institute Press, Ministry of Education, U.S.S.R., 1988, 163 pp.
Softbound, 1.50 rubles

Temporal Representation and Inference
Barry Richards, Unge Bethke, Jaap van der Does, and Jon Oberlander
(Imperial College, University of Edinburgh, University of Amsterdam, and University of Edinburgh)

London: Academic Press, 1989, xxi + 367 pp.
Hardbound, ISBN 0-12-587770-6, £19.50

Inside Case-Based Reasoning
Christopher K. Riesbeck and Roger C. Schank
(Northwestern University)
Hillsdale, NJ: Lawrence Erlbaum Associates, 1989, xxii + 423 pp.
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L'Intelligence artificielle et le langage. Volume 1: Représentations des connaissances; Volume 2: Processus de compréhension (Artificial Intelligence and Language. Volume 1: Knowledge Representation; Volume 2: Processes of Comprehension)
Gérard Sabah
(CNRS)
Paris: Hermès, Vol. 1: 1988, 352 pp., Vol 2: 1989, 411 pp.
(Langue, raisonnement, calcul)
Hardbound, Vol 1: ISBN 2-86601-134-1, Vol 2: ISBN 2-86601-187-2, FF 240 per volume

Computers and Thought: A Practical Introduction to Artificial Intelligence
Mike Sharples, David Hogg, Chris Hutchison, Steve Torrance, and David Young
(University of Sussex)
Cambridge, MA: The MIT Press, 1989, xxix + 401 pp.
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Léa Sombé (pseud.)
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George Springer and Daniel P. Friedman
(Indiana University)
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Hardbound, ISBN 0-262-19288-8, $39.95

Common Lisp: A Gentle Introduction to Symbolic Computation
David S. Touretzky
(Carnegie Mellon University)
Redwood City, CA: Benjamin Cummings, 1990, xxiii + 564 pp.
Softbound, ISBN 0-8053-0492-4, $27.95