Briefly Noted

Referential Communication Tasks

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Mahwah, NJ: Lawrence Erlbaum Associates
(Series on Second Language Research:
Theoretical and Methodological Issues,
edited by Susan Gass and Jacquelyn
Schacter), 1997, ix+125 pp; hardbound, ISBN
0-8058-2003-5, $36.00; paperbound, ISBN
0-8058-2004-3, $17.50

Referential Communication Tasks offers, in a
small format (125 pages), a general survey
of experimental settings and scientific back-
ground on communication studies centered
on specific activities in which the speakers
are observed for their ability to achieve tasks
rather than solely for their linguistic produc-
tions. It thus offers a basic and introductory
insight to research and experiments that put
the notion of *reference* at the core of their
interest. Here the focus is generally on ex-
periments in the broad field of L2 studies.
Though the author does not really insist on
the theoretical backgrounds of the different
studies being presented, it is made very clear
that the language that is being described is
that spoken spontaneously in situations (es-
pecially in L2 contexts) in which speakers
might not even be able to correctly designate
the objects they want to refer to and therefore
need to develop linguistic and other commu-
nicative strategies to circumvent their diffi-
culties. It is thus important to remember that
reference is not simply "some kind of connec-
tion between words and things" but rather,
as stated in the first chapter of the book
("Overview"), "an action through which a
speaker (or writer) uses linguistic forms to
enable a listener (or reader) to identify some-
thing."

Apart from the second chapter ("The de-
velopment of (L1) referential communica-
tion"), which is too short to be really infor-
mative, the book is centered on three main
sections, dedicated respectively to the main
trends, the experimental settings, and the
study viewpoints associated with referen-
tial communication tasks. First, Chapter 3
("Principles and distinctions") lists the main
parameters—from the point of view of what
is to be elicited as well as the task format—
that are to lead an experimenter towards
the design of a specific experimental set-
ting adapted to his research interest. The au-

thor then presents (Chapter 4, "Materials and
procedures") in a rather exhaustive way the
different kinds of situations that have been
used in the literature to conduct referential
task studies, ranging from object identifica-
tion to instructional map tasks (which are
well known in the computational linguistics
community). Finally, Chapter 5 ("Analytic
frameworks") quickly surveys the possible
viewpoints that the researcher may take to
consider the linguistic productions resulting
from the different experimental frameworks
presented in the book, insisting on commu-
nication strategies, interactive repair mecha-
nisms, and communicative outcomes.

Even though the book is far from present-
ing a theoretical insight into the field, as
a whole it provides a wide and extensive
overview of experimental materials and prin-
ciples that, considered from the point of view
of computational linguistics, would be of in-
terest to anyone interested in dialogue stud-
ies in which reference plays a central role.
Since the book seems to be intended to pro-
vide the basics of some research methodol-
ogy, one may regret that the literature that
is mentioned contains so few associated ba-
sic readings, which could have been most
valuable for young researchers starting in
the field of communication research. Still, its
small format makes it worth reading and
even to have within reach for those of us who
at some point or another have to deal with,
or even produce, experimental data.
—*Laurent Romary, Loria-CNRS*

Vagueness: A Reader

Rosanna Keefe and Peter Smith (editors)
(University of Cambridge and the University
of Sheffield)

Cambridge, MA: The MIT Press, 1996,
vii+352 pp; hardbound, ISBN 0-262-11225-6,
$35.00

We use vague language without difficulty.
Yet, if asked whether a vague word ap-
plies to a particular object, we might be at
a loss. Is that man tall? If he is 195 cm,
clearly yes. If he is 165 cm, clearly no. But
in many intermediate cases, we simply can-
not say. Vagueness also presents theoretical
problems, among them the so-called sorites
paradoxes. It would appear that a man who
is a fraction of a millimeter shorter than a

tall man is tall. But then, with repeated application of this principle, it seems to follow, paradoxically, that since a 195 cm man is tall, so is a 165 cm man.

The difficulties surrounding vagueness have ramifications within artificial intelligence. We might wish to include vague representations in knowledge bases, and in computational linguistics we will certainly have to come to terms with vagueness. Questions immediately arise about how to represent vague sentences and what to infer from them. To answer these questions, an account of the meanings of vague sentences is needed.

Rosanna Keefe and Peter Smith have compiled a collection of classic papers on vagueness. Three ancient writings provide historical perspective; fourteen others chart the development of the contemporary discussion of vagueness throughout this century. Contributions that might be of special interest to researchers in artificial intelligence include Kit Fine's "Vagueness, truth and logic," which sets out the supervaluational approach to vagueness. This approach is supposed to account for vagueness while preserving classical logic. Kenton Machina defends the approach to vagueness through fuzzy logic that was pioneered by Zadeh and Goguen. Dorothy Edgington criticizes this approach and suggests an alternative many-valued treatment. Max Black explores the idea that the applicability of a predicate to an object is a matter of degree, determined by the applicability judgments of the language community at large. Carl Hempel provides a pointed criticism of his proposal. Other selections are philosophically rich but might only indirectly address the concerns of the artificial intelligence community.

Keefe and Smith contribute a substantial introductory chapter that expounds and evaluates these and other approaches. They discuss the sorites paradox and its significance for logical accounts of vagueness; they describe the epistemic view, according to which vague predicates are sharply defined but speakers are necessarily uninformed about their boundaries; they evaluate the various alternatives to this view, including supervaluational accounts, three-valued accounts, and multivalued accounts; and they outline the recent debate over the existence of vague objects. The chapter extensively refers to relevant material that does not appear in the anthology.

This balanced and comprehensive collection will be a standard reference for many years to come.—*Alice Kyburg, University of Wisconsin, Oshkosh*

Natural Language Processing with ThoughtTreasure

Erik Thomas Mueller
(Signiform)

New York: Signiform (*www.signiform.com*), 1997, x+343 pp; spiralbound, ISBN 0-9660746-0-2, $50.00

"The ThoughtTreasure platform was created with the long-term goal of human-level comprehension in mind. It brings together much of the research and experience in linguistics and artificial intelligence to date, serving as a foundation for future work. The platform contains 135,000 lines of ANSI C code and concise-format database entries representing over 20,000 concepts associated with over 50,000 English and French words and phrases. It includes a syntactic and semantic parser, an English and French generator, and a chatterbot front end enabling the user to converse with the program. Thought-Treasure, including the source code, is available for free on the Internet. It runs on both PCs and Unix systems."—*From the author's introduction*

Semantica (NeXTStep edition, version 1.0)

Richard K. Larson, David S. Warren, Juliana Freire de Lima e Silva, O. Patricia Gomez, and Konstantinos Sagonas
(State University of New York, Stony Brook and Catholic University of Leuven)

Cambridge, MA: The MIT Press, 1997, xiii+179 pp and 3.5-inch diskettes for PCs and NeXTStations running NeXTStep 3.2 or higher; hardbound, ISBN 0-262-62117-7, $25.00

"*Semantica* is . . . a new software application that allows the user to explore the semantic structure of language in an engaging, interactive way. The program, which was produced as part of a National Science Foundation initiative for improving linguistics in-

struction, is designed to be used with [the authors'] *Syntactica* [The MIT Press, 1996], a tool for studying natural language syntax. *Semantica* provides a simple graphical interface for creating semantic theories, viewing the truth conditions that those theories assign to phrase markers created in *Syntactica*, and for testing those truth conditions in a pictorially represented world."—*From the publisher's announcement*

Readings in the Philosophy of Language

Peter Ludlow (editor)
(State University of New York, Stony Brook)

Cambridge, MA: The MIT Press, 1997, xviii+1073 pp; paperbound, ISBN 0-262-62114-2, $35.00

"Throughout the history of ideas, various branches of philosophy have spun off into the natural sciences, including physics, biology, and perhaps most recently, cognitive psychology. A central theme of this collection is that the philosophy of language, or at least a core portion of it, has matured to the point where it is now being spun off into linguistic theory. Each section of the book contains historical (twentieth-century) readings and, where available, recent attempts to apply the resources of contemporary linguistic theory to the problems under discussion. This approach helps to root the naturalization project in the leading questions of analytic philosophy. Although the older readings predate the current naturalization project, they help to lay its conceptual foundations. The main sections of the book, each of which is preceded by an introduction, are 'Language and Meaning,' 'Logical Form and Grammatical Form,' 'Definite and Indefinite Descriptions,' 'Names,' 'Demonstratives,' and 'Attitude Reports'."—*From the publisher's announcement*

Ways of Scope Taking

Anna Szabolcsi (editor)
(University of California, Los Angeles)

Dordrecht: Kluwer Academic Publishers (Studies in Linguistics and Philosophy, edited by Gennaro Chierchia, Pauline Jacobson, and Francis J. Pelletier, volume 65), 1997, xxi+466 pp; hardbound, ISBN 0-7923-4446-4, $170.00, £99.00, Dfl 270.00;

paperbound, ISBN 0-7923-4451-0, $49.00, £29.00, Dfl 90.00

"*Ways of Scope Taking* is concerned with syntactic, semantic, and computational aspects of scope. Its starting point is the well-known but often neglected fact that different types of quantifiers interact differently with each other and other operators. The theoretical examination of significant bodies of data, both old and novel, lead to two central claims. (1) Scope is a by-product of a set of distinct logical form processes; each quantifier participates in those that suit its particular features. (2) Scope interaction is further constrained by the semantics of the interacting operators. The arguments are developed using minimalist syntax, generalized quantify [*sic*] theory, discourse representation theory, and algebraic semantics.

"The contributors (Beghelli, Ben-Shalom, Doetjes, Farkas, Gutiérrez Rexach, Honcoop, Stabler, Stowell, Szabolcsi, and Zwarts) make tightly related theoretical assumptions and focus on related empirical phenomena, which include the direct and inverse scope of quantifiers, distributivity, negation, modal and intensional contexts, weak islands, event-related readings, interrogatives, *wh*/quantifier interactions, and Hungarian syntax. An introduction to the formal semantics background is provided."—*From the publisher's announcement*

Principles of Knowledge Representation

Gerhard Brewka (editor)
(Technical University of Vienna)

Stanford, CA: CSLI Publications and The European Association for Logic, Language and Information, 1996, xvi+318 pp; distributed by Cambridge University Press; hardbound, ISBN 1-57586-057-0, $59.95; paperbound, ISBN 1-57586-056-2, $22.95

"The book contains a collection of eight survey papers written by some of the most excellent researchers in foundations of knowledge representation and reasoning. It covers topics like theories of uncertainty, nonmonotonic and causal reasoning, logic programming, abduction, inductive logic programming, description logics, complexity in artificial intelligence, and model-based diagno-

sis. It thus provides an up-to-date coverage of recent approaches to some of the most challenging problems underlying knowledge representation and artificial intelligence in general."—*From the publisher's announcement*

The contents of the volume are as follows:

"Non-standard theories of uncertainty in plausible reasoning" by Didier Dubois and Henri Prade

"Probabilistic foundations of reasoning with conditionals" by Judea Pearl and Moisés Goldszmidt

"Foundations of logic programming" by Vladimir Lifschitz

"Abductive theories in artificial intelligence" by Kurt Konolige

"Inductive logic programming" by Stefan Wrobel

"Reasoning in description logics" by Francesco M. Donini, Maurizio Lenzerini, Daniele Nardi, and Andrea Schaerf

"Artificial intelligence: A computational perspective" by Bernhard Nebel

"The consistency-based approach to automated diagnosis of devices" by Oskar Dressler and Peter Struss