Title

PRE-CogSci 2011 – Bridging the gap between computational, empirical and theoretical approaches to reference

Authors

Van Deemter, Kees
Gatt, Albert
Van Gompel, Roger
et al.

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Kees van Deemter (k.vdeemter@abdn.ac.uk)
Computing Science Department, University of Aberdeen

Albert Gatt (albert.gatt@um.edu.mt)
Institute of Linguistics, University of Malta
Tilburg center for Cognition and Communication (TiCC), Tilburg University

Roger van Gompel (r.p.g.vangompel@dundee.ac.uk)
School of Psychology, University of Dundee

Emiel Krahmer (e.j.krahmer@uvt.nl)
Tilburg centre for Cognition and Communication (TiCC), Tilburg University

Outline

The PRE-CogSci 2011 workshop is a follow up to the first workshop on the *Production of Referring Expressions: Bridging the gap between computational and empirical approaches to reference* (PRE-CogSci 2009), organised on 29 July 2009 as part of the Annual Meeting of the Cognitive Science Society (CogSci 2009) in Amsterdam, The Netherlands.[1] This event was very successful, with 23 oral and poster presentations and an audience of approximately 65 participants. Following this workshop, the Topics in Cognitive Science (TopiCS) journal accepted the production of referring expressions as a new topic; a subsequent open call attracted 28 submissions. Accepted papers are expected to appear in 2011. Given the strong interest that the production of referring expressions has attracted on both occasions, another PRE-CogSci workshop seems timely, and will be organized as part of the 2011 Annual Meeting in Boston, MA. This workshop is similar to the first in its topic and overall structure (mixing externally reviewed oral and poster presentations with three invited presentations – see below), but this time we also emphasise the role of theoretical linguistic work, explore new directions (e.g., referring expressions in dialogue), and organise a panel discussion on the way in which different research communities can benefit from each others' expertise on the production of language.

Workshop overview

Interest and significance   The production of referring expressions has been intensively studied by computational linguists and experimental psycholinguists. This research spans both the production of definite descriptions and anaphora, with recent work showing a renewed interest in phenomena related to discourse context and dialogue. These issues have also been tackled in the theoretical linguistic community, especially through frameworks that seek a formal account of referential phenomena. While progress has been significant in all three research traditions, the interaction between them has been somewhat limited. Yet, as the first PRE-CogSci workshop in 2009 demonstrated, there is both scope for and interest in more collaboration between these areas. The primary goal of the PRE-CogSci 2011 workshop is to foster such collaboration by bringing researchers from these three areas together.

Importance   Increased collaboration is bound to be mutually beneficial and have substantial impact. Computational work on reference production would benefit from a greater awareness of psycholinguistic findings, with a view to grounding computational models in empirical evidence. At the same time, computational work contributes by bringing about an increased focus on precise and explicit algorithmic interpretations of psycholinguistic models. An excellent example of an area which seems ripe for mutually beneficial collaboration is reference in discourse and dialogue. This has evinced a resurgence of interest in recent years, but much remains to be discovered, while existing models still need to be made sufficiently precise. Moreover, both computational linguistics and psycholinguistics stand to gain from a greater awareness of theoretical work, which frequently addresses a broader range of phenomena than either of the former disciplines (for example, by addressing a broad range of anaphoric expressions, or through formal accounts of the semantics of plural references and vague descriptions). Finally, given the centrality of reference in linguistic communication, cross-disciplinary work in this area will be of relevance to a broader community of researchers interested in language production in general.

Relevance to CogSci 2011   In addition to tackling an important topic in language processing, we believe

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[1]See http://pre2009.uvt.nl/ for the first workshop website and proceedings.

that this workshop is directly relevant to the CogSci conference theme *Expanding the space of cognitive science*, bringing together experts from three areas (computation, experimental psychology and theoretical linguistics) that have historically contributed to the development of the discipline as a whole. Both the focused nature of the workshop and our proposed panel on future collaboration between the disciplines have the potential to result in concrete ideas for further multi-disciplinary work.

Format, audience, speakers and impact

Proposed format and funding PRE-CogSci 2011 is a full-day workshop, with three short (30 minutes) keynote lectures. In addition, we plan to have 10 20-minute oral presentations and a poster session. All accepted oral and poster presentations are externally reviewed by members of the programme committee, where each submission is reviewed by representatives from at least two out of the three disciplines targeted in this proposal (computational, theoretical and/or experimental). The workshop is closed with a panel discussion specifically addressing avenues for future collaboration. Partial funding for the workshop (specifically, the travel expenses of the three keynote speakers – see below) will be covered by NWO, The Netherlands Organization for Scientific Research, via the NWO-VICI project *Bridging the gap between psycholinguistics and computational linguistics: The case of Referring Expressions* (Krahmer, 2009 – 2013; see `http://bridging.uvt.nl/`).

Likely audience and attendees The workshop will be of interest to psycholinguists with an interest in computational modeling; computational linguists with an interest in human language production; and theoretical linguists whose work borders on other areas of cognitive science, particularly those with an interest in discourse structure and/or formal models of human language that are grounded in cognitive principles.

We are proud that three important contributors to research on reference have accepted our invitation to give a keynote lecture at the workshop:

- Jeannette Gundel (University of Minnesota - theoretical linguistics),
- Amanda Stent (AT&T Labs - computational linguistics and dialogue) and
- Dale Barr (University of Glasgow - psycholinguistics)

In addition, the following individuals, who collectively represent all three of the disciplines of interest, have agreed to form part of the programme committee:

- Jennifer Arnold, University of North Carolina, USA
- Adrian Bangerter, Université de Neuchâtel, Switzerland
- Dale Barr, University of Glasgow, UK
- Susan Brennan, Stony Brook University, USA
- Sarah Brown-Schmidt, University of Illinois at Urbana-Champaign, USA
- Robert Dale, Macquarie University, Australia
- Victor Ferreira, University of California, USA
- Claire Gardent, CNRS, France
- Simon Garrod, University of Glasgow, UK
- Jeanette Gundel, University of Minnesota, USA
- Martijn Goudbeek, Tilburg University, The Netherlands
- Markus Guhe, University of Edinburgh, UK
- Ellen Gurman Bard, University of Edinburgh, UK
- Daphna Heller, University of Toronto, Canada
- Helmut Horacek, University of the Saarlandes, Germany
- John Kelleher, Dublin Institute of Technology, Ireland
- Alfons Maes, Tilburg University, The Netherlands
- Danielle Matthews, University of Sheffield, UK
- Linda Moxey, University of Glasgow, UK
- Martin Pickering, University of Edinburgh, UK
- Paul Piwek, Open University, UK
- Ehud Reiter, University of Aberdeen, UK
- David Reitter, Carnegie Mellon University, USA
- Jan-Peter de Ruiter, University of Bielefeld, Germany
- Advaith Siddharthan, University of Aberdeen, UK
- Amanda Stent, AT&T Labs, USA
- Matthew Stone, Rutgers University, USA
- Takenobu Tokunaga, Tokyo Institute of Technology, Japan
- Duane Watson, University of Illinois at Urbana-Champaign, USA

Publicity and impact A dedicated website for the workshop has been created: `http://pre2011.uvt.nl/`. While the previous edition resulted in a publication in Topics in Cognitive Science, related to this edition we edit a special issue of Language and Cognitive Processes, specifically dedicated to psychologically plausible models of reference production.