

Workshop on Experimental Prosody Research

Conference Report

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The workshop on “Experimental Prosody Research” (EPR), which was attended by approximately 80 participants, took place at the University of Leipzig, Germany, between October 7 and 9, 2004. It was jointly organized by the PhD program "Universality and diversity: Linguistic structures and processes" and the research group "Linguistic foundations of cognitive science: Linguistic and conceptual knowledge", both based at the University of Leipzig. The members of the organisational team were Petra Augurzky, Denisa Lenertová, Roland Meyer, Ina Mleinek, Sandra Pappert, Nicole Richter, Johannes Schließer, and Stefan Sudhoff. The website is still available at <http://www.uni-leipzig.de/~prosody>.

One main focus of linguistic research in Leipzig during the past few years has been the investigation of problems of information structure in Germanic and Slavic languages. Many researchers from different backgrounds approached this topic, looking at information structure from syntactic, semantic, and psycholinguistic points of view. Recently, however, attention has been drawn more to prosody and its interaction with other modules of grammar. In this scenario, the need for reliable, expert knowledge about methodological issues of empirical prosody research emerged. The workshop was intended to enable (psycho-)linguists with little or no experience in this field to supplement their research with prosodic experiments and to face reoccurring problems. The aim was to achieve more agreement regarding reasonable methods and procedures in the treatment of speech data and prosodic analysis.

Five invited speakers were asked to give state-of-the-art tutorials on methodological aspects of prosody research. The three main areas covered by the contributions were: (1) data collection (including experimental design, construction of materials, instructions, and procedures), (2) data treatment (including measurement of prosodic parameters, scaling, and treatment of artefacts), and (3) data analysis (including visualisation of the results, annotation, statistics, and interpretation). The speakers, being experts in their respective areas of prosody research, managed to give intriguing and comprehensive tutorials. Despite the high number of participants, the workshop maintained an interactive character and stimulated communication between researchers with similar interests in a lively and productive atmosphere.

The first session, given by D. Robert Ladd (University of Edinburgh), was entitled “Phonetic and pragmatic factors in designing experimental materials for research on prosody”. In this session, Ladd discussed methodological issues that play a role in the choice of speech materials in experimental research on prosody. He showed that

common prosodic research is often based on materials that are either (a) extremely unnatural, or (b) fail to control important factors known to influence F0 and duration, for example. As a consequence, any interpretation of experimental findings is rather problematic. Ladd pointed out the relevance of a number of phonetic and pragmatic factors that, when ignored, have the potential to ruin an otherwise well-designed study. Furthermore, Ladd discussed the validity of laboratory speech and the use of explicit instructions in prosody research.

The second speaker, Bert Remijsen (Universiteit Leiden), dealt with “Acoustic measurements of prosodic parameters with Praat”. In his practically oriented tutorial, he discussed aspects of methodologies for investigating prosodic phenomena like fundamental frequency, vowel quality, duration, and parameters related to intensity and voice quality, all using the software Praat. The main topics included the measurement of prosodic parameters and the processing of raw data in order to calculate statistics and produce average F0 tracks and formant plots. The general discussion was supplemented by a comprehensive introduction to Praat’s scripting language, which was explained using a great number of examples from recorded speech.

The next session was given by Carlos Gussenhoven (Radboud Universiteit Nijmegen). The title was “Experimental approaches towards establishing gradience vs. discreteness in intonation”. Gussenhoven dealt with the problem of how to differentiate between cognitive representations (phonology) and the variation in their articulation (phonetic implementation/articulation) by means of prosodic experiments. He discussed and evaluated several approaches that have been used to decide whether phonetically different intonation contours belong to different phonological categories, including a semantic discrimination task, an imitation task, a same-or-different judgement task, and a categorical perception task. Gussenhoven concluded that the imitation task, introduced by Pierrehumbert and Steele, is the most promising method.

Aoju Chen’s (Max Planck Institute for Psycholinguistics Nijmegen) contribution was entitled “Obtaining perceptual judgments in research of intonational meaning”. She addressed the investigation of the perceptual side of prosody, in particular the question of how to obtain perceptual judgements of gradient meaning differences depending on, e.g., pitch range and the alignment of pitch peaks. Three different experimental designs were discussed, including measurements using the Equal-Appearing Interval scale (EAI), the Direct Magnitude Estimation method (DME), and measurements using the Visual Analogue Scale (VAS). She also compared these methods to previous cross-linguistic studies on the perception of gradient meaning differences.

The last session – “GToBI – an Annotation System for 'Standard German' Intonation” – was given by Stefan Baumann (Universität zu Köln). Baumann introduced the German version of the ToBI system, called GToBI (German Tones and Break Indices), which provides conventions for labelling pitch accents and prosodic boundaries in German. This system was developed in the 1990s by researchers from Saarbrücken, Stuttgart, Munich and Braunschweig. Originally, it was created to facilitate the exchange of prosodically annotated data. An advantage of the system is that it is

reliable and adaptable for different labelling purposes. With the help of authentic sound files, Baumann showed how to use GToBI for data annotation. An interactive training session concluded the workshop.

The comprehensive and informative talks of the invited speakers, as well as the great interest on behalf of the audience and the pleasant atmosphere, contributed to the success of the workshop. A follow-up publication with contributions by the speakers of the workshop, as well as by other researchers in the field of prosody, is currently in preparation.