

from the COOCCURRENCE of several features involving perfectivity and also verb types and information structure. Moreover, the structure of narratives follows recurring patterns, accounting for the distribution of the various verbal forms in narratives and indicating remarkable strategies for packaging the narrative event structure in most African languages. In this view, cognitive semantics and mental spaces have proved to provide very useful tools for approaching the ‘paradox of clausal grammar’ by relating TAM markers (clausal scope) with situations or mental spaces corresponding to portions of text (discourse scope), thus delineating the discourse structure and the speaker’s going back and forth between narrative and metanarrative spaces. Furthermore, the conjoint use of comparative concepts such as the main event line opens up the possibility of a typology of the expression of discourse functions. In these respects, this book may herald a breakthrough in the study of the grammar-discourse interface.

## REFERENCES

- BOTNE, ROBERT, and TIFFANY KERSCHNER. 2008. Tense and cognitive space: On the organization of tense/aspect systems in Bantu languages and beyond. *Cognitive Linguistics* 19.145–218. DOI: 10.1515/COG.2008.008.
- DINSMORE, JOHN. 1991. Partitioned representations. *A study in mental representation, language understanding and linguistic structures*, Ch. 2. Dordrecht: Kluwer.
- FAUCONNIER, GILLES. 1994 [1985]. *Mental spaces: Aspects of meaning construction in natural language*. Cambridge, MA: MIT Press.
- LABOV, WILLIAM, and JOSHUA WALETZKY. 1967. Narrative analysis: Oral versions of personal experience. *Essays on the verbal and visual arts*, ed. by June Helm, 12–44. Seattle: University of Washington Press.
- ROBERT, STÉPHANE. 2010. Clause chaining and conjugations in Wolof: A typology of parataxis and its semantics. *Clause hierarchy and clause linking: Syntax and pragmatics*, ed. by Isabelle Bril, 469–98. Amsterdam: John Benjamins.

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**The phonetics–phonology interface:** Representations and methodologies. Ed. by JOAQUÍN ROMERO and MARÍA RIERA. Amsterdam: John Benjamins, 2015. Pp. xxi, 288. ISBN 9789027248541. \$149 (Hb).

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This book presents thirteen papers from the 5th Phonetics and Phonology in Iberia (PaPI) conference in June 2011 in Tarragona, Spain. These papers were selected because they ‘showcase ... the thematic and methodological richness of the work presented at the 2011 meeting ... that goes beyond the Romance realm’ (vii) and because they ‘represent a multifaceted cross section of current work on the phonetics-phonology interface’ (xix). The majority of the papers focus on Romance languages, but many will nonetheless be of interest to phoneticians and laboratory phonologists working on other languages. The volume includes papers from leading experts in the field as well as junior scientists and is intended for experienced researchers.

The thirteen papers are organized into four parts and are preceded by the editors’ introduction, which gives a critical overview of the past and current state of research and frames the following chapters in a very detailed and useful way. In particular, the editors highlight how the papers address the book’s ‘goal of deepening our understanding of the phonetics-phonology interface’ (xix) and suggest broader implications that are not always apparent in the individual papers.

The first part is on ‘First and second language acquisition’ and opens with a review chapter by CATHERINE T. BEST entitled ‘Devil or angel in the details? Perceiving phonetic variation as infor-

mation about phonological structure'. The author reviews earlier research in which variation was typically viewed as noise that needs to be factored out in order to unveil the abstract phonological structure; she then convincingly argues in favor of the role of phonetic variation in the acquisition of phonological structure. Best draws upon growing evidence suggesting that language learners of all ages benefit from variation in production and thus in perception when shaping their first and second language (L2) phonologies.

With their study on 'Effects of Spanish use on the production of Catalan vowels by early Spanish-Catalan bilinguals', JOAN CARLES MORA, JAMES L. KEIDEL, and JAMES E. FLEGE contribute to two issues in L2 research, namely language dominance and age of bilingualism. They show that production of and exposure to Catalan and Spanish shape the ways in which the Catalan mid-vowel contrasts are maintained or merged—potentially leading to a change. Variation is again mentioned as an important factor but is not addressed directly in the otherwise careful acoustic analysis.

In 'Cues to dialectal discrimination in early infancy: A look at prosodic, rhythmic and segmental properties in utterances from two Catalan dialects', MARTA ORTEGA-LLEBARIA and LAURA BOSCH compare durational (i.e. rhythmic) measures with the distribution of vowels in unstressed syllables, which differs in the two dialects. The aim was to disentangle possible acoustic effects that may have helped five-month-olds in a previous pilot study to discriminate eastern from western Catalan dialects. The findings point to vocalic rather than rhythmic differences. The paper might have made reference to the wealth of literature that is critical of rhythmic measures (as, for example, addressed by Nava and Goldstein in this volume) and that has demonstrated the difficulty of grouping languages (and even more so dialects) according to simple rhythm typologies (e.g. Grabe & Low 2002, Arvaniti 2009). Given that many dialects differ foremost in vocalic features (e.g. English varieties), it is indeed worthwhile to further investigate the extent to which young infants pick up on these cues.

In 'Phonology versus phonetics in loanword adaptations: A reassessment of English vowels in French', SHARON PEPERKAMP investigates French listeners' perception of American English vowels presented within the original context (flanked by labial consonants) or in isolation. The author compares the results to on-line adaptations of French speakers to the same CVC stimuli that were obtained in a previous study. Different responses to spliced (where listeners could not compensate for coarticulatory effects) vs. unspliced vowels (where they compensated) are taken as support for loanword adaptations being guided by phonetic rather than phonemic proximity.

The second part of the book is on 'Prosody' and contains three chapters. The first is by MATHIEU AVANZI, SANDRA SCHWAB, and ISABELLE RACINE. In 'A preliminary study of penultimate accentuation in French', they show that penultimate accents produced by Neuchâtel speakers are perceptually more prominent than those of Parisian speakers. Whereas Parisians mainly use fundamental frequency ( $f_0$ ), the Neuchâtel speakers cue prominent penultimate accents with duration. The study is preliminary, given its limitation to four older speakers per group (who are known to show slower articulation rates; see e.g. Duchin & Mysak 1987, Harnsberger et al. 2008), and is restricted to an assessment of perceptual prominence by measuring perception units (Rossi 1999).

The next chapter, by FRANCESCO CANGEMI and MARIAPAOLA D'IMPERIO, entitled 'Sentence modality and tempo in Neapolitan Italian', likewise focuses on the role of durational cues in prosody. More specifically, the purpose of the study was to disentangle conflicting results in previous studies by analyzing highly controlled stimulus sentences with two different measures (discrete and continuous) and by taking focus placement into account. The study is important for laboratory phonology because of the way it sheds new light on the interaction between focus, sentence modality, and tempo. An interpretation of the observed differences between sentence modalities in sentences with focus on subjects (their figure 4) would have been welcome, but this minor criticism is more than offset by the many new insights into prosodic theory that the paper provides.

In the last paper of section two, entitled 'Glottalization at phrase boundaries in Tuscan and Roman Italian', JESSICA DI NAPOLI reports findings from an acoustic analysis on laboratory speech that supports previous accounts, which suggest that glottal stops in Italian function as prosodic boundary markers preventing certain phonological processes. However, no evidence

was found for glottal stops filling empty codas of final stressed syllables, also posited in previous accounts of glottalization in Italian varieties.

Under the heading 'Segments', the third part comprises three chapters. The first and the third papers focus on varying realizations of phonemes in Northern Peninsular Spanish varieties and provide for the first time (as noted by the authors and editors) analyses based on acoustic data. The study by NAGORE BARBERO and CAROLINA GONZÁLEZ, 'Acoustic analysis of syllable-final /k/ in Northern Peninsular Spanish', shows that realizations of syllable-final /k/ as an interdental fricative (possibly due to manner dissimilation) are rarer than glottal fricatives or deletions. In the third paper, 'The production of rhotics in onset clusters by Spanish monolinguals and Spanish-Basque bilinguals', CHRISTINE WEISSGLASS finds that bilinguals produce fewer trills than expected based on the literature. The materials in both studies were carefully selected—among other things to allow for analyses of phonetic factors conditioning certain realizations (e.g. voicing and place of articulation of surrounding consonants). Both studies contribute to the field of Spanish phonetics and phonology, but they remain preliminary (as recognized by the authors themselves), particularly because the number of speakers was only four per variety and phonological accounts of variation were not entirely borne out.

In the second paper of this section, entitled 'The phonetic basis of a phonological pattern: Depressor effects of prenasalized consonants', EMILY CIBELLI addresses a topic that is highly relevant to laboratory phonology. Based on three carefully derived hypotheses, she tackles the linguistic puzzle of why only some languages phonologize coarticulatory effects by investigating the interaction between consonants and f<sub>0</sub> in Chichewa. This language is well suited for this purpose since it has prenasalized segments in both high- and low-tone syllables—that is, it has not (yet?) phonologized f<sub>0</sub> lowering in vowels due to a preceding voiced consonant. Even if the results are preliminary given that they are based on one speaker only, such studies are an important step toward understanding the different ways that sound systems can develop.

The last part of the book encompasses three papers that are grouped under the somewhat misleading heading 'Methodology'. While it is true that all three papers apply advanced technologies in data analysis, each addresses research questions of broader relevance to laboratory phonology and prosodic theory, and more so than some other papers in this book.

The paper by NICHOLAS HENRIKSEN addresses 'Secondary correlates of question signaling in Manchego Spanish' using principal component analysis and other techniques. His findings do not support the idea 'that there is a relative prosodic marking of question type based on lexico-syntactic properties' (234). Instead, the form of the pitch accents was correlated with speech rate, which was accounted for within the scope of Gussenhoven's (2004) effort code.

In 'Modeling prosody and rhythmic distributions in Spanish speech groups', EMILY NAVA and LOUIS GOLDSTEIN investigate in three experiments the interaction of phrasal prominence and speech rhythm in English and Spanish speakers, as well as Spanish learners of English. This paper makes an important contribution to the long-standing debate on rhythmic measures and rhythm typologies. The results support the idea of a relation between a language's rhythmic structure and the way phrasal prominence is placed.

The last chapter, by BRECHTJE POST, EMMANUEL A. STAMATAKIS, IWO BOHR, FRANCIS NOLAN, and CHRIS CUMMINS, is entitled 'Categories and gradience in intonation: A functional magnetic resonance imaging study'. The findings from this combined behavioral and neuroimaging study support the idea that categorical phonological and gradient phonetic information in intonation is processed differently. This favors a theoretical distinction between the two modes (linguistic vs. paralinguistic) as made in the autosegmental-metrical framework for the analysis of intonation.

In summary, the volume presents a series of papers that provide new insights into the phonetics-phonology interface. The papers are grouped appropriately, though the heading of the last part is slightly misleading. The editors do a good job of building connections between the book's rather general title and the individual papers. The papers differ in the extent to which they contribute to more general questions concerning the relation between phonetics and phonology, and some will be primarily important to researchers working on Romance languages. Several studies are preliminary, but they provide important first steps toward a better understanding of how pho-

netic form and phonological function are related. Taken together, the book undoubtedly makes a useful contribution to laboratory phonology and especially to prosodic theory.

#### REFERENCES

- ARVANITI, AMALIA. 2009. Rhythm, timing and the timing of rhythm. *Phonetica* 66.46–63. DOI: 10.1159/000208930.
- DUCHIN, SANDRA W., and EDWARD D. MYSAK. 1987. Disfluency and rate characteristics of young adult, middle-aged, and older males. *Journal of Communication Disorders* 20.245–57. DOI: 10.1016/0021-9924(87)90022-0.
- GRABE, ESTHER, and EE LING LOW. 2002. Durational variability in speech and the rhythm class hypothesis. *Laboratory phonology 7*, ed. by Carlos Gussenhoven and Natasha Warner, 515–46. Berlin: Mouton de Gruyter.
- GUSSENHOVEN, CARLOS. 2004. Intonation and interpretation: Phonetics and phonology. *Proceedings of Speech Prosody, Aix-en-Provence, 2002*. Online: [http://www.isca-speech.org/archive\\_open/sp2002/sp02\\_047.pdf](http://www.isca-speech.org/archive_open/sp2002/sp02_047.pdf).
- HARNSBERGER, JAMES D.; RAHUL SHRIVASTAV; W. S. BROWN, JR.; HOWARD ROTHMAN; and HARRY HOLLIEN. 2008. Speaking rate and fundamental frequency as speech cues to perceived age. *Journal of Voice* 22.58–69. DOI: 10.1016/j.jvoice.2006.07.004.
- ROSSI, MARIO. 1999. *L'intonation, le système du français: Description et modélisation*. Paris: Ophrys.

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