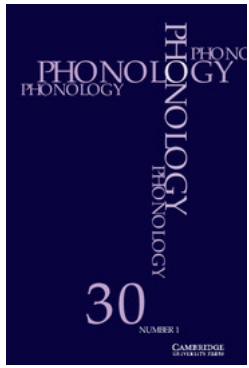

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Reviews

Toni Borowsky, Shigeto Kawahara, Takahito Shinya and Mariko Sugahara (eds.) (2012). *Prosody matters : essays in honor of Elisabeth Selkirk*. (Advances in Optimality Theory.) Sheffield & Bristol, Conn.: Equinox. Pp. xv + 528.

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The volume under review is a selection of papers offered in honour of Lisa Selkirk. All of the contributors are former students and/or colleagues of Lisa. The book contains 16 papers, divided into four sections: 1. 'Mora and syllable'; 2. 'Foot and prosodic word'; 3. 'Phrases and above'; 4. 'Prosodic hierarchy and semantic interpretation (focus)'. The selection of papers is quite balanced in terms of the distribution of topics, and reflects the large number of areas within phonology and at its interfaces where Lisa Selkirk has worked, and where her work has been deeply influential. Several major areas of phonology are covered, and both theoretical and experimental approaches are represented in the papers.

The more formal approaches are all couched within Optimality Theory (OT). This is the framework Lisa Selkirk has been working in for the past two decades, and which she has certainly helped to develop and strengthen. Six of the papers are laboratory phonology oriented, also in line with Lisa's diversity of approaches to the study of prosody. The book will be of interest to language researchers, in particular to phonologists and linguists working on prosodic phonology, the morphology–phonology interface and the syntax–phonology interface, as well as on the importance of prosody to pragmatics and semantics.

The first three papers are clearly OT-grounded. In the first, Karim Bensoukas & Abdelaziz Boudlal propose an account of the distribution of schwa in Moroccan Amazigh (also known as Berber) and Moroccan Arabic. In line with previous work, the authors claim that schwa is an epenthetic vowel, which is inserted for syllabification purposes to break up impermissible consonant clusters (a prosodic licensing analysis is proposed). Insertion depends on the interaction of a number of constraints related to syllable structure and weight. Facts are reported which provide convincing evidence for an analysis of closed syllables containing schwa as being light and monomoraic. We wonder if any interactions might be found between schwa insertion and suprasegmental/phrasal phonology (as in languages such as European Portuguese; Frota 2002), and how the phenomenon analysed relates to the well-known vowelless syllables that exist in at least some dialects of Berber (Ridouane 2008).

Joe Pater's contribution challenges some fundamental assumptions of standard OT (Prince & Smolensky 1993). The author reanalyses syllabification data in another dialect of Berber (Imdlawn Tashlhiyt Berber; see e.g.

Dell & Elmedlaoui 1985), showing the benefits of incorporating both SERIALISM and WEIGHTED CONSTRAINTS into the model. The relevance of serial evaluation is evidenced by the fact that Imdlawn Tashlhiyt Berber syllables with a nucleus with the highest level of sonority must be built before syllables with nuclei with lower levels of sonority; only later is onset and coda material adjoined. The account crucially relies on the existence of a loop between Gen (the function that creates candidates) and Eval (the function that selects the optimal candidate(s)), which recalls aspects of Lexical Phonology (Kaisse & Shaw 1985). Incorporating weight in constraint evaluation accounts for cross-linguistic differences in consonant syllabification where not only the number of violations but also constraint weight is claimed to contribute to the choice of the optimal output. An important point made by the author, and demonstrated in the paper, is that the combination of constraint weight with serialism results in a more restrictive and empirically adequate model.

Jennifer L. Smith's contribution provides further support for the formal definition of the ONSET constraint proposed in her earlier work. The basic claim is that there are two types of constraint families referring to the syllable-initial position: one, which is commonly acknowledged in the literature and for which ample evidence is given, crucially refers to the structural position onset (this is a sonority-based constraint family); the other refers to the beginning of the syllable, irrespective of structural positions such as onset and rhyme (the relevant notions here are simply syllable non-heads/heads). The behaviour of glides in dialects of Korean and Sardinian illustrates the relevance of a head-driven definition of the ONSET constraint: in these dialects glides are argued to be part of the rhyme and thus escape constraints that affect the onset (the structural position in the syllable), while still being affected by constraints on prepeak, syllable-initial segments. Notice that this proposal predicts that the effect of the two types of constraint cannot be distinguished in languages where prenuclear material is always associated with the onset position. We wonder as well whether a symmetrical OFFSET constraint may also play a role in phonology.

Section 2 includes four papers on the prosodic word (PW). Despite the title of the section ('Foot and prosodic word'), the foot is hardly represented. The paper by Hasan Basri, Ellen Broselow & Daniel Finer investigates the prosodic integration of suffixes and clitics in three Makassar languages, spoken in Indonesia. Two types of dependent morphemes are analysed: true suffixes and phrasal clitics. The morphosyntactic distinction is corroborated by syntactic criteria, and correlates with the prosodic integration of the two types of elements: affixes belong to the same PW as their stem, while phrasal clitics are external to the PW of their host, and are directly attached to the phonological phrase (along the lines of Selkirk 1996). A well-designed system of ranked phonological constraints accounts for the phonological patterns observed. The analysis is convincing in its separation of the two types of morphological objects on the basis of their prosodic integration. Nevertheless, we observe that although the data clearly suggests that clitics are prosodified outside the host PW, alternative prosodic configurations are not ruled out, e.g. clitic adjunction to the PW (as proposed for German; Hall 1999). Glottal stop insertion at the end of PWs in one of the languages considered in the paper, Makassarese, seems in fact to point in this direction, since, in the presence of an enclitic, glottal stops are inserted before *and* after the clitic. This raises the question of whether

enclitics in the three languages should be prosodified differently (cf. proclitics in different dialects of Serbo-Croatian; Selkirk 1996).

Scott Myers approaches the well-attested phenomenon of final devoicing from an experimental point of view. The author hypothesises that under certain conditions the (possibly universal) tendency towards phonetic utterance-final devoicing is reinterpreted as an utterance-final phonological process, with further possible generalisations to smaller prosodic domains such as the PW. In order to test this hypothesis, the author investigates the phonetic exponents of final (de)voicing (using minimal pairs such as *proof–prove*, in utterance-internal and final positions), and their effect on subjects' perception of English. The results are compatible with the hypothesis that rules of final devoicing may emerge from the phonologisation of utterance-final phonetic devoicing and then generalise to other prosodic positions. Observing that stops do not pattern in the expected direction, Myers suggests that devoicing rules affecting stops may originate in fricative devoicing and are subsequently generalised to all obstruents. If this is correct, we might observe that it is to be expected that if stops devoice in a language with fricatives and stops, fricatives should in principle also devoice, while the reverse does not have to hold. One aspect that might shed some additional light on the issue is the frequency of occurrence in the language of the four classes of segments investigated word/utterance-finally (voiced and voiceless stops and fricatives), since it is known that the frequency of linguistic elements or patterns may also condition subjects' production and perception.

Jaye Padgett also examines the prosodic configurations that may be relevant for word-final devoicing and voice assimilation, in this case in Russian. The author aims at accounting for categorical phenomena only, within a standard OT approach. An analysis is proposed following Ito & Mester (2009), whereby proclitics adjoin to the host PW, forming a recursive PW (PW^{max}). This, together with the assumption that the domain for stress is the PW^{max}, aims to account for the fact that proclitics count for stress location. Final devoicing is a PW-limit rule, affecting obstruents in PW-final position (prepositions, being proclitic, do not undergo final devoicing). Enclitics are assumed to incorporate directly into the phonological phrase (Selkirk 1996, Gouskova 2010). Final devoicing therefore applies to the final obstruents of a previous word, and stress is not affected by enclitics. The domain of voice assimilation is not given. In order to capture the fact that voice assimilation spans a domain that includes the PW, proclitics and enclitics, the author adopts an idiosyncratic stipulation: the process is blocked by the left edge of a PW^{max}. The analysis of Russian prepositions presupposes that adjunction structures form a domain for the application of phonological processes (PW^{max}). Notice, however, that there is data from many languages suggesting that clitics and prefixes in similar prosodic configurations are not included in the domains of rules that apply to their host/base (e.g. Booij 1996). We therefore wonder if assuming incorporation of proclitics to the host phonological word would not yield better results (see also Selkirk 1996, Peperkamp 1997 and Vigário 2003).

Mariko Sugahara's paper revisits prosodic word prominence in English, with the goal of clarifying disagreements in the findings reported in prior work. A careful experimental study was conducted to examine phonetic evidence for primary stress in unaccented contexts and to establish the domain of PW prominence. The results show that duration is a cue for primary stress and that

the relevant domain for the lengthening effect is the entire head foot. They also show that PW prominence and phrasal prominence contribute cumulatively to the lengthening effect. However, specific word pairs display deviant behaviour, especially in unaccented contexts (with no significant difference between stress conditions), and also with respect to vowel devoicing (which in *fascinating*/*fascination* is only sensitive to phrasal prominence, but in *prosecuting*/*prosecution* is constrained by both PW and phrasal prominence). These differences call for further investigation. Another question that arises once the domain for PW prominence is established is how the durational adjustment is distributed within the head-foot domain. Measuring the way in which the lengthening is implemented within the foot would show to what extent the lengthening is asymmetrical, with an advantage for the head syllable, as a head–dependent asymmetry analysis would predict.

The cues to phrasal constituents in Egyptian Arabic are investigated in Sam Hellmuth's contribution, which opens Section 3. The empirical findings, and their analysis, highlight the importance of phonetic and phonological cues and their relationship to prosodic phrasing. Cues are relevant to deciding whether a phrase boundary is present, and what kind of boundary it is. The author does such a good job in making her assumptions and analytical options clear that they can be challenged. She argues that boundaries are found at almost all XP edges, and that they are Major Phrase (MaP) boundaries. However, the status of after-S (subject) boundaries as level 3 boundaries (MaPs), just like XP edges within the VP, can be questioned. As mentioned in the paper, the results show not only that after-S boundaries are stronger, but also that they differ in the set of cues displayed: lengthening and phrase tones *vs.* a more widespread use of register cues in the other boundaries. The hypothesis that after-S boundaries are level 4 (Intonation Phrase (IP)) boundaries is dismissed on the basis of cue definition (a boundary tone is equated with a final fall, confounding finality with a 'full' boundary and precluding sentence-internal IPs) and partial reset (IPs are taken to require full reset, but data from several languages shows partial reset after IP; see Frota 2000, Truckenbrodt 2007 and Shigeto Kawahara's paper in the volume under review). These arguments, in our view, are not strong enough to support an analysis where 'different cues' mean the 'same' prosodic constituent. This issue calls for a principled way of examining prosodic constituency and levels of phrasing on experimental grounds, and connects with Kawahara's paper.

Kawahara raises the issue of how cross-linguistic variation in the number of prosodic levels can be reconciled with a restricted prosodic theory of a universal hierarchy of constituents. He investigates the IP level in Japanese by experimentally examining the prosody of nominal parentheticals. Assuming Selkirk's (2005) theory of syntactic grounding of prosodic categories, and based on empirical data on tonal cues, he concludes that the IP must be qualitatively different from the MaP (or Phonological Phrase). Thus, for Kawahara, unlike Hellmuth, different sets of cues (pitch reset, initial rise, final lowering and pause distribution) are interpreted as signalling different constituents. Clearly, then, the issue arises as to how a given prosodic category is defined, both within and across languages, an issue that also comes up in Junko Ito & Armin Mester's paper.

As in much of their recent work, Ito & Mester argue in favour of a generalised theory of recursive prosodic phrasing whereby a single category does not mean

a single layer of structure at a given level of prosodic structure. The authors reanalyse well-known phenomena in Japanese, crucially reducing the Major Phrase (MaP) and Minor Phrase (MiP) proposed in earlier accounts to a single recursive phonological phrase (φ). Three layers of a single prosodic category are posited. Recursive structures are assumed to obtain only when they allow the satisfaction of a higher-ranked constraint, but the proposed instances of φ-recursivity are not motivated along these lines in the paper. The superiority of the new approach over previous analyses relying on two distinct prosodic domains and recursion is also explored. As in the previous papers, the question arises of what distinguishes true domains from recursive instances of the same domain. The authors hypothesise that, above the foot, only PW, φ and IP are different prosodic constituents. One diagnostic given for the identification of two separate prosodic domains comes from the location of the heads of constituents: opposite headedness at different levels indicates separate domains. We agree with this criterion, which nevertheless must lead to the conclusion that there is an additional true domain between PW and φ (instead of recursive PWs), as the data from various languages reviewed in Vigário (2010) shows. Another kind of criterion is given for assuming that φ and IP form different prosodic domains, instead of a single recursive constituent: the 'substantial and 'categorical'' (p. 288) phenomena that distinguish them. We also agree with this view. It remains unclear to us why the same kind of criterion does not lead to the analysis of MaP and MiP as separate domains in Japanese, while also exhibiting one level of recursivity, as previously proposed in the literature. In fact, categorical and substantial phenomena such as presence/absence of accent, the initial rise and downstep seem to point to a true domain distinction, while varying levels of F0 in the realisation of the initial rise and in the downstepped tones appear to point to one level of recursion of one of these domains. Whether balanced recursivity (i.e. a node dominating two nodes of the same type) is a property of phonology is thus, in our view, far from settled.

Relating to the issues raised in the Hellmuth, Kawahara and Ito & Mester papers, Frota (2012) proposes a distinction between levels of constituency and levels of phrasing, integrating Selkirk's syntactic grounding of the prosodic hierarchy with a laboratory phonology approach to the study of prosody: prosodic constituents are defined by syntactic grounding (i.e. a syntax-to-phonology mapping relation) and a distinct set of phonological and phonetic properties; levels of phrasing include forms of recursion and compounding, which group instances of the same prosodic category, yielding levels of phrasing that are solely cued by gradient differences in the strength of the same set of phonetic properties (see also Ladd 2008 and Vigário 2010).

John J. McCarthy investigates the morphology and phonology of utterance-final words in Classic Arabic, which are driven by the prosodic edge requirement of showing a heavy syllable. The analysis, couched within the Harmonic Serialism version of Optimality Theory, elegantly brings together the different ways of meeting this requirement, offering a new perspective on the interaction between morphology and phonology. In our view, however, two points deserve further attention. The definition of the relevant prosodic constituent triggering the edge-effect accords well with the definition of the IP (not that of the Utterance) in work on the prosodic hierarchy (e.g. Nespor & Vogel 1986, Selkirk 2005 and Kawahara's paper in the volume under review). This suggests that the explanation offered for the availability of the top-down effect, which

is dependent on the status of the Utterance, needs to be revisited. Secondly, phonological edge effects are common in different prosodic domains, and have been described as domain-limit phenomena (Selkirk 1980, Nespor & Vogel 1986). Interestingly, laryngeal properties such as creakiness and glottalisation are common as phonetic cues to IP-final position, and Classical Arabic seems to show a grammaticalisation of this effect in word-final syllables that are Utterance-final (or IP-final).

Prosodic edges are the focus of Hisao Tokizaki's paper, in which an approach is presented that dispenses with the edge parameter, and derives edges from syntactic headedness, based on a parallelism between syntactic heads (initial, final) and prosodic edges (right, left). For cases where this parallelism does not hold, phrasing facts are explained by resorting to different kinds of effects of other phonological properties (e.g. syllable structure) on prosodic phrasing. We believe that the claim that the edge parameter is a problematic concept needs further clarification, especially in the light of the syntactic grounding of the prosodic hierarchy as proposed by Selkirk. In our view, the issue is not fully developed by the author, since specific argumentation for the problematic status of the role played by edges in the syntax–prosody mapping is not offered. Furthermore, it would be challenging to extend Tokizaki's proposal to languages where head/edge parallelism is not obvious (such as Hungarian, which has a head-initial VP, but is strongly left-headed prosodically, including at the IP level).

The role of prosodic boundaries in the interpretation of ambiguous utterances is addressed by means of experimental research in the two of the papers in Section 4. Katy Carlson, Lyn Frazier & Charles Clifton Jr examine the effect of IP boundaries, marked by a low (L%) or a high (H%) boundary tone, on the interpretation of ambiguous VP ellipsis in English. Most interestingly, the prediction that L% would trigger more matrix interpretations did not hold, and no effect was found of pause or register cues. Only pitch-accent location had an effect, suggesting a division of labour between pitch accents (i.e. prominence) and boundaries (i.e. edges), where the former and not the latter are relevant for antecedent interpretation. In Masako Hirotani's paper it is the use of prosody for disambiguation of the scope of wh-questions in Japanese that is investigated. The results from two production experiments show the presence of a MaP boundary in embedded questions, whereas matrix questions show boundary optionality/variation in phrasing. Information status also affects phrasing, with new contexts increasing the presence of MaP boundaries, especially in matrix questions. Statistical results show that question type is the crucial factor, with context being marginally significant. In the light of these results, the conclusion that wh-scope is not disambiguated by prosodic phrasing is, we believe, too strong. The presence of some overlap in phrasing choices seems to support the conclusion. However, there was a very clear preference for MaP boundaries in embedded questions only. Furthermore, evidence from processing studies suggesting that matrix questions are more costly to process (e.g. Ueno & Kluender 2003) is consistent with these results, and with the line of analysis that assigns default prosody to embedded questions and conflicting prosodic demands to matrix questions. The relationship with such processing studies might be explored in future research.

The papers by Caroline Féry and Hubert Truckenbrodt discuss facts about the prosody of German. Féry presents an account of German particles that seem

to change their meaning according to their accented/unaccented status (*selbst* 'self, even', *wieder* 'again', *schon* 'already'), claiming that the accented and unaccented versions are contingent on information structure. The presence of a pitch accent in these particles is thus a reflex of their free focus role, but not a necessary property. Particle position in the word order, which impacts on accent placement, is also seen as a correlate of information-structure properties. This paper adds new data to illustrate the well-known importance of information structure for pitch-accent placement in Germanic languages (e.g. Gussenhoven 1983, Kratzer & Selkirk 2007, Ladd 2008). In the final paper of the volume, Truckenbrodt discusses phrasal stress in German, in the phase (Kratzer & Selkirk 2007) and the phrase or Stress-XP (Truckenbrodt 1995) accounts. Interestingly, although this is not the foremost goal of the paper, most (if not all) of the facts about verb stress discussed highlight differences across languages, and thus raise questions about how universal or language-specific a given account is, and how a typology of phrasal stress should be understood. In Ladd (2008), for example, some of the German facts analysed here are shown to characterise one set of languages (e.g. German, Dutch, English), but not others (e.g. Italian, Romanian, Spanish). Furthermore, what differentiates languages seems to be an array of factors, such as the accentability of verbs, the possibilities of deaccenting and the treatment of indefinite pronouns, making the hypothesis of a systematic relationship among these factors plausible, and an area for empirical cross-language research.

The present volume addresses some of the core questions in prosody research, which will probably continue to engage the field in the years to come, namely the challenges to theories of syllabification posed by languages like Berber, the ways in which affixes and clitics are prosodified across languages and the very nature of prosodic structure (how a prosodic constituent is defined and whether a universal hierarchy of constituents may meet the challenges of cross-linguistic variation and experimental evidence). We hope that questions raised and suggestions put forward in this review, as well as the cross-language issues we have considered, do justice to this stimulating volume. As is the case for all the contributors to this volume and the editors, Lisa Selkirk's work has been a source of inspiration to us. Yes, prosody matters.

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