

# Review of Jun (2014) *Prosodic Typology II*\*

For *Phonology*

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*Prosodic Typology II* gathers a set of papers detailing the intonational phonologies of 14 different languages from across the globe. As the name suggests, *Prosodic Typology II* is the successor to the first *Prosodic Typology* volume (Jun 2005b); the introductory chapter by Sun-Ah Jun describes it as an extension of the original collection. There is a great deal of continuity between this volume and the first *Prosodic Typology* collection. Like its predecessor, *Prosodic Typology II* is mostly composed of targeted articles on the intonational phonology of individual languages. These articles contain a wealth of description and analysis, and in many cases are authored by recognized experts on the languages in question. Along with extensive coverage of phrasal prosody, the articles delve into word-level phonology, discourse pragmatics, and to a lesser extent morpho-syntax. *Prosodic Typology II* differs from the first volume in placing greater emphasis on underdocumented intonational systems, though various better-studied languages such as Catalan and Basque are represented here as well. These descriptive articles are supplemented with an introduction and two overview chapters written by the editor of the volume, Sun-Ah Jun (one of these overviews, a chapter on the methodology of intonational research, is co-authored with Janet Fletcher).

This collection also shares a clear theoretical perspective with the first volume of *Prosodic Typology*. All of the papers in *Prosodic Typology II* adopt the Autosegmental-Metrical framework: surface intonational contours are decomposed into abstract, categorical pitch targets that are associated with abstract prosodic domains (as head tones or edge tones); these targets and domains are integrated compositionally to yield the continuous pitch events of surface phonetics (further details of the A-M framework can be found in Pierrehumbert 1980, Pierrehumbert & Beckman 1988, Shattuck-Hufnagel & Turk 1996, Gussenhoven 2004, Ladd 2008a, and elsewhere). The articles uniformly employ a ToBI-style notational system, with some small points of variation (e.g. edge-marking tones at the level of the Accentual Phrase are indicated by ‘Ta’, ‘T%’, and ‘T’, depending on the chapter; see Silverman et al. 1992, Beckman & Hirschberg 1994, Pitrelli et al. 1994, Beckman et al. 2005). Two papers in the volume present full ToBI systems, complete with break indices (Prieto on Catalan and Khan on Bangladeshi Standard Bengali).<sup>1</sup> By-and-large, the papers also adhere to a ‘prosody-first’ style of description: prosodic domains are characterized primarily in terms of tonal events,

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<sup>1</sup>This is a bit of a departure from the first *Prosodic Typology* volume, which outlines eleven language-

and possible correspondences between prosodic domains and morpho-syntactic domains are downplayed, if discussed at all. This perspective, dubbed the ‘intonational approach’ by Jun (1998), is discussed further below.

The volume can be subdivided into roughly four parts. The first two chapters deal with intensively-studied languages of the Iberian peninsula, European Portuguese (Sónia Frota) and Catalan (Pilar Prieto). The focus of the collection then shifts to languages with comparatively underdocumented intonational systems. Chapters 4-11 describe the prosody of Bangladeshi Standard Bengali (Sameer ud Dowla Khan), Tamil (Elinor Keane), Georgian (Chad Vicenik & Sun-Ah Jun), Halh Mongolian (Anastasia Karlsson), West Greenlandic (Anja Arnhold), Dalabon (Janet Fletcher), Jamaican Creole (Shelome Gooden), and Curaçao Papiamentu (Bert Remijsen, Farienne Martis & Ronald Severing). The third part of the book (Chs. 12-15) returns to languages with extensively documented intonational systems, but with an eye toward dialect comparison or the description of lesser-known varieties. The languages discussed in this portion of the book include Venlo and Helden Dutch (Carlos Gussenhoven), Lebanese and Egyptian Arabic (Dana Chahal & Sam Hellmuth), Northern Bizkaian and Standard Basque (Gorka Elordieta & José Hualde), and several varieties of Japanese (Yosuke Igarashi). The book then closes with two overview chapters: a methodology chapter outlining the logistics of intonational research in both laboratory and fieldwork settings (Jun & Fletcher); and a chapter in which Jun proposes that languages can be typologized according to their tonal regularity at the phrase-level, a property she refers to as ‘macro-rhythm’.

The articles in *Prosodic Typology II* are strikingly consistent in terms of both content and quality. This is a testament to the volume’s editor, Sun-Ah Jun, who has done an admirable job of compiling research on some fairly disparate languages into a coherent whole. The chapters dedicated to specific languages each contain information on word-level prosody, phrase-level intonation, phrase-level prosodic constituency, and focus prosody. Most of the papers also discuss intonational differences between sentences of different illocutionary types (e.g. declaratives vs. polar questions). The articles are replete with phonetic diagrams for example sentences, usually showing pitch tracks and their associated waveforms. These example diagrams are typically quite clear, and the corresponding sound files can be easily accessed at a companion website (<http://oup.co.uk/companion/jun2>). Almost all of these chapters end with tables and/or schematic diagrams which helpfully summarize the basic intonational tunes proposed for the language in question.

This is not to suggest that that the articles in *Prosodic Typology II* are overly similar. The papers in this volume vary in their empirical coverage, in part because intonational research is at different stages for each of the languages surveyed, but also because the articles have somewhat different goals, depending on how well-studied the language in question is. A few articles (e.g. Vicenik & Jun on Georgian) discuss the results of perception studies; most do not. The chapters on European Portuguese (Frota), Catalan (Prieto), and Basque (Elordieta & Hualde) offer fairly exhaustive discussion of prosodic phonology in these three languages, including information on segmental alternations and a wide array of sentence types. The chapter by Gussenhoven leverages intonational differences between Helden and

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specific ToBI models over sixteen chapters. This difference clearly stems from the decision to survey a larger number of understudied languages in the second volume of the series.

Venlo Dutch to argue that gradient phonetic differences between adjacent dialects may mask more substantial differences in their underlying phonological systems. Igarashi's chapter has an even more theoretical flavor: he proposes that several intonational differences across Japanese dialects can be reduced to differences in the maximum size of Accentual Phrases (APs) in each variety. The remaining descriptive chapters are dedicated to the narrower goal of accounting for the basic intonational contours of a specific language. This is an ambitious task, and the authors do commendable work toward that end, often with insightful commentary about the place of each language within the larger typology of word-prosodic and intonational systems.

Given that the articles in *Prosodic Typology II* are so similar in terms of form and content, most of what follows in this review concerns my reaction to the collection as a whole. Like the first volume in the series, *Prosodic Typology II* will be a tremendous resource for anyone working on phrase-level prosody or phonological typology. The topical overlap between chapters allows for easy cross-linguistic comparison of focus marking, pitch alignment, and other intonational phenomena. The typological coverage of the volume is good, and includes languages with a range of different word-prosodic systems. This includes languages with lexical stress (e.g. Catalan), lexical pitch accent (e.g. Japanese), or both (e.g. Curaçao Papiamentu), and languages which arguably lack any kind of word-level stress or pitch specifications (e.g. West Greenlandic). Conspicuously absent are languages from Africa, languages from Central or South America, and languages with rich systems of lexical tone.<sup>2</sup> One can only hope for a third volume of *Prosodic Typology* to continue expanding the empirical coverage of this valuable series.

While the papers in *Prosodic Typology II* do form a cohesive whole, I suspect that most readers who pick up the volume will do so because they have a specific interest in one of the languages detailed inside. The core descriptive chapters (Chs. 2-14) provide excellent overviews of previous research on each language. These articles could be used for typological comparison, but they will also serve as useful starting points for future work on the intonational systems of the languages included in the volume. Researchers who are interested in Dalabon or other Northern Australian languages, for instance, would do well to consult the empirical summary and bibliography in Janet Fletcher's article before setting out on their own research. Though space limitations prevent the authors from defending every descriptive generalization in detail, the careful citations in each article point readers to an array of relevant work to follow-up with. This is a real strength of the volume, and will help ensure its utility for years to come.

This collection could also serve as the backbone of a graduate course on intonation, or even a field methods course, depending on its focus. In either case, Ch. 16 (Jun & Fletcher's "Methodology of studying intonation: from data collection to data analysis") should probably be read before any of the descriptively-oriented chapters, as it introduces the ToBI notation and unpacks some common methods, challenges, and assumptions in intonational research. Useful comments on the methodology of intonational fieldwork are also given in some of the descriptive chapters, especially the chapter on Tamil by Elinor Keane (though good advice abounds throughout the volume).

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<sup>2</sup>The first *Prosodic Typology* volume included articles on Mandarin and Cantonese, two languages with dense lexical tone; Chickasaw was the only indigenous language of the Americas included in that collection.

Stepping back from practical matters, what can readers expect to learn about prosodic typology from this book? The languages described in *Prosodic Typology II* make use of the usual intonational devices—edge tones, downstep, and so on—but do so in ways that may be surprising for researchers working on more familiar languages. For example, it has long been known that languages differ in the conditions governing global adjustments to pitch scaling, such as pitch range compression and pitch reset (e.g. Pierrehumbert & Beckman 1988). The language-specificity of such effects suggests that these gradient phonetic patterns are under direct grammatical control, and indeed such adjustments may have discourse-pragmatic functions, as with the use of final pitch lowering to signal topic structure in English (Beckman & Pierrehumbert 1986). This general point is dramatically established by several languages in the volume which use pitch scaling to distinguish questions from declaratives: in Tamil, for instance, declaratives and *in situ wh*-questions carry the same intonational tunes, but have systematic differences in pitch range (p.137-43). Analogous facts hold for Egyptian Arabic, discussed in the chapter by Chahal & Hellmuth, and for polar questions vs. declaratives in Northern Bizkaian Basque, discussed by Elordieta & Hualde (see also Gussenhoven 2004:83). Phonological pitch scaling effects, such as pitch reset at the beginning of prosodic domains, are also well-attested in the collection. These phenomena have all been observed before, but I for one was still struck by the pervasiveness of such global pitch adjustments in the languages surveyed, and how central a role they play in cueing categorical grammatical distinctions.<sup>3</sup>

A few other dimensions of intonational variation are highlighted by the chapters in *Prosodic Typology II*, especially when the articles are read together as a whole. Several chapters confirm Jun's (2005a) observation that languages may do without phrasal pitch accents entirely, marking intonational domains and intonational prominence solely through the use of boundary tones, differences in phrasing, or pitch scaling (e.g. Halh Mongolian and West Greenlandic, Chs. 7 and 8). The languages discussed in this volume also showcase an impressive array of responses to tonal crowding, understood as the co-occurrence of multiple tonal targets in a small temporal window, especially at domain edges (e.g. Gordon 2000, to appear, Arvaniti et al. 2006). These responses include tonal compression (Catalan, p.53), tonal truncation/deletion (Tamil, p.135), segmental lengthening (European Portuguese, p.26), epenthesis (European Portuguese, p.26), and the inhibition of word-level phonological processes of deletion or fusion (Bangladeshi Standard Bengali, p.110).

The volume also contributes to the growing literature on tonal alignment (e.g. Prieto 2011, Remijsen 2013). Among the languages surveyed, one finds significant diversity in the micro-alignment of target tones with respect to domain edges or tone-bearing units. These alignment patterns often reflect purely phonological or phonetic factors, such as the domain of association or the overall tonal environment (e.g. p.227 on Greenlandic and p.392 on Egyptian Arabic). But differences in tonal alignment may also signal differences in meaning, as with the pragmatically contrastive 'delayed early rise' patterns reported for Catalan (Prieto) or peak delay under focus in Northern Bizkaian Basque (Elordieta & Hualde).

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<sup>3</sup>As an aside, Chahal & Hellmuth remind us (p.395) that global phonetic adjustments of this sort, though quite widespread, are not yet well-integrated into the ToBI formalism. A similar point is made in Keane's chapter on Tamil (p.126). See also Ladd (2008a), Dilley (2010).

Those who are interested in the comparison of intonational melodies will not be disappointed: the articles in this volume diligently analyze each language's target tones using the primitive H and L pitch categories that are standard in the ToBI tradition, giving a rough sense of how intonational melodies vary cross-linguistically (non-standard !H/M is sometimes also used as a distinct target tone). The enumeration of these melodic inventories sometimes veers a bit too close to butterfly collecting for my own taste—there's little discussion of the actual typology of tonal targets, or what that typology tells us about phonology—but they are of course an integral part of any complete prosodic description, and do help lay the groundwork for future theories of melodic typology (see also Jun 2005a:447-8, Ladd 2008b).<sup>4</sup>

*Prosodic Typology II* also provides some interesting counter-examples to otherwise robust typological tendencies of phrase-level prosody (see also Ladd 1981, 2001, Cruttenden 1997, Hirst & Di Cristo 1998, Gussenhoven 2004:Ch. 4). Focus is marked with a high-tone pitch accent in many languages, but in the formal register of Halh Mongolian, it is marked with a low pitch accent instead (p.200). Post-focal deaccenting and/or dephrasing are widely attested, but do not regularly occur in Jamaican Creole or Egyptian Arabic (though Egyptian Arabic does show consistent post-focal pitch compression; see also Cruttenden 2006). A few languages in the volume, such as Halh Mongolian (p.198-200) and Lebanese Arabic (p.397), also have *pre*-focal pitch compression or deaccenting. Polar questions are typically realized with rising intonation, but in Bangladeshi Standard Bengali and many varieties of Catalan, polar questions occur with a falling pitch contour instead (pp.62,99). Lastly, though utterance-final segmental lengthening may be a universal phenomenon (e.g. Myers & Hansen 2007), the languages covered in this volume apparently differ as to whether final lengthening also occurs at the edge of smaller prosodic domains (in particular, European Portuguese stands out for lacking  $\phi$ P/ip-final lengthening).

There are a number of things that *Prosodic Typology II* does not contain. Readers interested in an explicit defense of the Autosegmental Metrical framework will not find it here; the theory is assumed largely without comment (though cf. Frota's brief discussion of 'domain clustering' effects as evidence for abstract prosodic structure in European Portuguese, p.8). In this sense, the volume does not directly engage with recent work questioning the validity of Prosodic Hierarchy Theory (see Seidl 2001, Pak 2008, Samuels 2009, Schiering et al. 2010, Wagner 2010, Scheer 2012, among others). On the other hand, many languages described in this book reinforce the finding that non-syntactic factors like speech rate and constraints on the phonological size of prosodic domains play a major role in conditioning phrasal prosody. In Catalan, for instance, default (S)(VO) phrasing in declaratives may yield to an (SV)(O) parse when the object is relatively long, or when the (SV)(O) parse eliminates stress clash (p.49-50). Since non-syntactic influences on prosodic structure have long been used as evidence for a distinct prosodic hierarchy (e.g. Nespor & Vogel 1986), linguists of any theoretical bent should pay attention to the richness of such effects in this volume. Readers who are interested in evaluating other assumptions of the A-M framework, such as the decomposition of continuous pitch contours into discrete level pitch targets, should also look elsewhere (e.g. Ladd 2008a, Dilly 2010, Beckman & Venditti 2011).<sup>5</sup> The evident

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<sup>4</sup>At various points in the volume it is noted that higher prosodic levels seem to have richer tonal inventories and/or more complex tonal targets, including tritonal melodies (e.g. pp.3,47). The relation between tonal density and inventory size is also touched on by Chahal & Helmuth (p.391).

<sup>5</sup>An exception is Karlsson's chapter on Halh Mongolian (p.211), which criticizes the common assumption

success of Autosegmental Metrical Theory as a framework for typological description does, of course, constitute a strong implicit argument in its favor (see also Ladd 2008b).

The volume also sidesteps recent debates over the role of recursion in prosodic structure (e.g. Krivokapić 2007, Vogel 2009, Wagner 2010, Itô & Mester 2013, Frota & Vigário 2013, and references there).<sup>6</sup> Distinct edge tones, for example, are generally taken to correspond to distinct prosodic categories (e.g. AP and ip) rather than different levels of a single, recursively nested prosodic category (e.g.  $\phi P_{min}$  and  $\phi P_{max}$ ; Elfner 2012, Itô & Mester 2013). A few authors nonetheless touch on the possibility of recursion in their intonational analyses (e.g. Frota and Chahal & Hellmuth).

Despite the impressive descriptive coverage of this volume, its contribution to the theory of prosodic typology is somewhat limited. Only two chapters offer concrete proposals about the space of typological variation in phrasal prosody: these are Igarashi's chapter on Japanese (Ch. 15), and Jun's final overview chapter (Ch. 17). Igarashi argues that Japanese dialects can be taxonomized according to two parameters: the maximum size of Accentual Phrases ( $[\pm \text{multiword AP}]$ ) and the presence or absence of contrastive lexical pitch accent ( $[\pm \text{lexical tone}]$ ). These parameters jointly account for three prosodic differences between Japanese dialects: intonational variation conditioned by syntactic branching (or lack thereof); the (non-)occurrence of post-focal deaccenting in certain contexts; and the degree of variability observed for peak  $f_0$  alignment at the phrase level. This proposal is explanatory in the sense that it reduces several dimensions of surface intonational variation to a smaller number of phonological parameters. However, the extent to which these proposals meaningfully extend beyond Japanese is not entirely clear.

As with the first *Prosodic Typology* volume, Jun closes the book with a summary chapter that distills the descriptive findings of the target articles into some overall conclusions about the structure of cross-linguistic prosodic variation. In this chapter Jun argues that languages can be typologized with respect to their 'macro-rhythm'—essentially a measure of phrase-level tonal regularity, or "global tonal pattern" (p.521). The idea is this: some languages show a highly periodic alternation between high and low pitch events at the phrase level (e.g. Egyptian Arabic) while others do not (e.g. Mandarin). Macro-rhythm emerges from the interaction of several different factors: the density and diversity of lexical tone; the number of distinct phrasal tones; the typical shape of phrasal tones (level or contour); the size of the smallest tonally-marked unit; and various other factors having to do with the consistency and frequency of tonal events at the phrase level. Macro-rhythm is intended as a continuum, and Jun even sketches some ways to quantify the degree of macro-rhythm in a given language.

Jun refers to macro-rhythm as a 'parameter', but it should be clear that this is not a parameter in the sense of an irreducible, primitive dimension of variation. Indeed, Jun is explicit that macro-rhythm is a second-order property that derives from other prosodic characteristics, like the composition of the tonal inventory. This makes it different from parameters like Igarashi's  $[\pm \text{multiword AP}]$  or the foot-construction parameters in Hayes (1995), which reduce the surface complexity of prosodic typology to the interaction of a small

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that 'paralinguistic' functions of intonation do not belong to the same representational system as other speaker-controlled prosodic phenomena (e.g. Hayes 1994, Gussenhoven 2004:Ch.5, Ladd 2008a:Ch.1).

<sup>6</sup>Sun-Ah Jun suggests that this gap may owe to the fact that these articles were submitted for publication prior to the recent renewal of interest in phrase-level prosodic recursion.

set of relatively simple factors.

Though macro-rhythm may differ across languages at the observational level, I am not yet convinced that such differences serve a real linguistic function. Jun describes some studies (p.522-3) which purportedly show that listeners exploit tonal regularity as a cue for word segmentation (e.g. Dilley & McAuley 2008). These papers certainly suggest that listeners use predictable intonational cues for morpho-syntactic parsing, but the extent to which these results reflect an effect of macro-rhythm is at best unclear. To establish a functional role for macro-rhythm, one would need to demonstrate that parsing is aided by intonational patterns that are specifically composed of temporally-even high-low pitch alternations. The general finding that listeners use predictable pitch events as a cue for segmentation does not itself demonstrate a functional advantage for any particular type of “global tonal pattern”. Somewhat more convincingly, Jun suggests that macro-rhythm has an inverse correlation with the salience of word-level stress (p.536-7): since phonetically weak stress is probably a poor cue for word segmentation (e.g. Cutler 2005), languages with weak stress may rely more heavily on tonal macro-rhythm to signal word-boundaries. On balance, Jun’s chapter offers a thoughtful first step in the exploration of macro-rhythm as a novel dimension of prosodic typology (see Burdin et al. to appear for a recent application of macro-rhythm in the domain of focus marking).

I’d like to finish this review with a few words about the theoretical orientation of *Prosodic Typology II*, in particular how the ‘prosody-first’ approach to phonological description shapes the content of the volume. The introduction to *Prosodic Typology II* states that the book will be especially useful for “those who are interested in...the role of prosody in the sub-areas of grammar [including the] syntax prosody-interface” (p.4). I think this is true in a broad sense, but the style of description found in *Prosodic Typology II*—which aims primarily at the identification of surface prosodic domains—doesn’t really lend itself to in-depth research on the mapping from morpho-syntax to prosody. This is for several reasons. First, the articles in *Prosodic Typology II* are not always explicit about possible correspondences between prosodic domains and morpho-syntactic structure (a few articles, such as the chapter on Basque by Elordieta & Hualde, buck this trend). For instance, Gooden’s chapter on Jamaican Creole contains careful discussion of the phonetic correlates of IP and ip constituents, but little information about the kinds of morpho-syntactic constituents that these prosodic domains typically coincide with (apart from a section on left-dislocation structures, and some brief comments on vocatives, coordination, and lists). Even when details about the relation between morpho-syntax and prosody are included, they are not always as precise as one might like. To take another example, Khan’s chapter on Bangladeshi Standard Bengali observes that “The intonational phrase (IP) is a group of ips roughly spanning a clause or sentence” (93). The conflation of ‘clause’ and ‘sentence’ here (and elsewhere in the volume) is unfortunate, as authors like Selkirk (2005, 2011) and Elfner (2012) have shown that utterances, root clauses, embedded complement clauses, restrictive relative clauses, and non-restrictive relative clauses may all have distinct prosodic characteristics. These differences have both phonetic and phonological manifestations, and may affect syntactic comprehension (e.g. Wagner & Watson 2010). (Importantly, this is true even when constituent length is controlled for, e.g. Watson & Gibson 2004, Schubö et al. 2015, Bennett et al. to appear.)

I don’t mean to single out Gooden and Khan’s articles for criticism: they are both excellent resources, the fruit of years of careful research. And in fairness, some of these

unclearities probably reflect the fact that we're dealing with understudied languages: it's hard to have a complete picture of syntax-prosody relations when neither the syntax nor the prosody of the language is fully understood. Still, I think that the descriptive content of *Prosodic Typology II* is considerably shaped by a theoretical outlook which Jun (1998) calls the 'intonational approach' to prosodic research:

“the INTONATIONAL APPROACH [defines] prosodic units larger than a word based on the surface phonetic form of an utterance by looking at suprasegmental features such as intonation and final lengthening... [and] focuses on how to detect a prosodic boundary from an utterance... It is true that syntax plays a significant role in forming a phonological phrase... [but] the phonological phrasing of a sentence is not straightforwardly predictable from the syntactic structure alone”

(Jun 1998:189-90, 219, 223)

This perspective—perhaps more of a methodology than a theory—thus de-emphasizes the role of syntax as a determinant of surface prosodic phenomena. It's certainly a reasonable position to take: the non-isomorphism of syntactic and prosodic domains was observed well before Chomsky & Halle (1968), and at this point it's abundantly clear that both syntactic and non-syntactic factors influence prosodic phrasing. But the emphasis on a surface phonetic definition of prosodic domains does come with descriptive pitfalls. Like all research frameworks, the overall theoretical perspective of the intonational approach determines which empirical questions end up getting investigated. Relative to surface phonetic detail, the syntax-prosody interface gets short shrift in *Prosodic Typology II*. Still, the phonetic patterns outlined in these articles will doubtlessly serve as valuable diagnostic tools for more targeted work on the syntax-prosody interface in these languages.

A related issue concerns the identification of prosodic categories in the volume. In some theories of the syntax-prosody interface, prosodic domains are defined extrinsically by their relationship with specific syntactic constituents: the prosodic word  $\omega$  is the correspondent of an  $X^0$  terminal node in syntax; the phonological phrase  $\phi P$  is the correspondent of a maximal syntactic projection  $XP$ ; and so on (e.g. Nespor & Vogel 1986, Selkirk 1986, 2011, Itô & Mester 2010). Prosodic domains can thus be identified from their phonological patterning and relative size, but also from the specific syntactic constituents that they tend to align with. This is less true under the intonational approach to prosodic description, which privileges surface tonal events as the basis for category definition.

This leads to a certain indeterminacy in how prosodic domains are identified across articles. Jun & Fletcher write that “an Accentual Phrase... is slightly larger than a Word... All languages would have [a Prosodic Word], but languages differ whether they have... an AP”. This dictum is not consistently followed in the volume: many of the articles propose an Accentual Phrase without mentioning the Prosodic Word, if they adopt a roughly word-sized constituent at all (a few chapters propose both, e.g. Fletcher's article on Dalabon).<sup>7</sup> In some cases the postulated APs typically correspond to a single content word, raising the question of whether they would be better understood as Prosodic Words. For example, Karlsson proposes that the AP in Halh Mongolian consists of a content word and a following postposition

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<sup>7</sup>One could of course assume that all languages have a Prosodic Word even in cases where no evidence has been adduced for its existence. The question then is why this same agnostic stance isn't extended to the AP or other levels of the prosodic hierarchy.

if there is one. While this usage may be consistent with the view that the AP is “slightly larger than a Word”, the devil is in the details. As a point of comparison, Frota proposes a Prosodic Word for European Portuguese that consists of a content word and any adjacent clitics dependent on it; Prieto does the same for Catalan, as does Arnhold (tentatively) for West Greenlandic. All of these domains are tonally marked in some way, and in all four languages the hypothesized prosodic domains are about the same size and composition. From my perspective, the motivation for distinguishing between an AP and a Prosodic Word here is obscure.

The limitation of the AP label to domains “slightly larger than a Word” is also undermined by the existence of languages like Japanese and Northern Bizkaian Basque in which APs can consist of two, three, or even more content words. This difference is presumably related to the fact that Japanese and Northern Bizkaian Basque are pitch-accent languages (pp.410-5,502), but such variability nonetheless casts doubt on the idea that the AP is a single, cross-linguistically comparable category. Igarashi’s proposal that Japanese dialects differ with respect to the acceptability of multiword APs also hints at the possibility that two distinct domains, one word-level and one phrase-level, may actually be at play here (a point that Igarashi does touch on in his discussion).

This may seem like terminological quibbling—if we agree that there’s some kind of word-level prosodic constituent in language X, who cares what we call it?—but I think something deeper is at stake. If we believe that intonational systems are organized around a universal set of prosodic categories, as commonly assumed within Prosodic Hierarchy Theory, then we should be mindful about which category labels we use to describe intonational phenomena. Otherwise, we undermine one important goal of prosodic typology: identifying the precise inventory of prosodic categories, and comparing their phonological and phonetic properties across languages (see also Itô & Mester 2013, Elfner to appear:§7.2, and references there). Along similar lines, the development of an explicit, cross-linguistically valid theory of the syntax-prosody interface depends on our ability to isolate specific prosodic domains as the correlates of specific syntactic structures. It may be the case that this project is doomed—perhaps the mapping from syntax to prosody is highly language-specific—but we’ll never know unless we’re meticulous in our efforts to develop a general, internally-consistent theory of prosodic domains.

Researchers who reject the notion of a universal prosodic hierarchy (e.g. Schiering et al. 2010, Padgett 2014) should also take heed. If prosodic domains are incommensurable across languages, being purely idiosyncratic features of individual phonologies, then we should ask whether it’s really appropriate to use terms like ‘Accentual Phrase’ as if they referred to a single, cross-linguistically coherent prosodic category.<sup>8</sup>

Some last thoughts about the identification of prosodic domains in *Prosodic Typology II*. In this volume, prosodic categories are proposed primarily on the basis of tonal events. When Vicenik & Jun, for instance, write that “Georgian has three levels of phrasing—the Accentual Phrase, the Intermediate Phrase (ip), and the Intonational Phrase (IP)”,

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<sup>8</sup>On the other hand, there may be good expository reasons to use a single set of category labels for a particular cross-linguistic comparison. For example, the chapter by Chahal & Helmuth proposes an ip for Lebanese Arabic (p.368) and a MaP for Egyptian Arabic (p.373), but acknowledges that these two categories are functionally equivalent. The use of separate category labels for these two varieties of Arabic is thus a distinction without a difference.

they're really claiming that just three distinct domains are motivated by the distribution of edge tones, pitch accents, and phrase accents (see also Jun 2005a). In many cases the proposed domains are supported by convergent evidence from non-tonal phenomena like final lengthening and sandhi effects—exactly the type of ‘domain clustering’ predicted by Prosodic Hierarchy Theory (Inkelas 1990, Schiering et al. 2010). But it remains true that discrete tonal events are taken as the gold standard for identifying prosodic constituents.

Intonational targets are of course the natural starting place for an analysis of a language’s phrasal prosody. Still, we should be careful not to equate prosodic domains with tonally-marked domains (see also Jun 1998:§4.2). An instructive example comes from Kawahara & Shinya (2008), who identify an IP-level constituent in Tokyo Japanese on the basis of final lowering, creaky voice, pitch reset, pitch range expansion, and pause (see also Kawahara 2012). Missing from this list of diagnostics is any kind of IP-level target tone. The lesson here is that the absence of tonal marking does not necessarily imply the absence of a particular prosodic domain.<sup>9</sup> Similar conclusions can be drawn from the apparent existence of ‘covert’ feet in some languages, these being instances of metrical structure with no direct phonetic correlate (e.g. Kubozono 2008, Buckley 2009).

I think this point bears mentioning because our assumptions about the phonetic realization of prosodic domains affect how we approach prosodic typology. If prosodic constituents must be tonally marked, then we will naturally be driven to the conclusion that some languages lack an AP/ip/etc. An alternative, more universalist view would be that languages share the same set of prosodic constituents, but differ in whether and how those constituents are cued in the phonetics and phonology (see Hyman 2011 for related discussion). As prosodic typology continues to develop, pushed forward by excellent volumes like this one, linguists should remain open to the possibility that some prosodic domains might be marked solely by segmental patterning, or by gradient effects on pitch and articulation (e.g. Fougeron & Keating 1997).

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<sup>9</sup>The same point can be made by a language covered in *Prosodic Typology II*: Elordieta & Hualde observe that the ip in Northern Bizkaian Basque lacks independent target tones, but can be diagnosed by the blocking of downstep (p.414).

Frota (p.39) and Chahal & Hellmuth (p.391) also note that dialects of the same language may differ as to what prosodic levels get marked by phrasal pitch accent. This suggests that pitch accents may not be probative as to the presence vs. absence of a particular prosodic category—a point that bears on Igarashi’s proposal to typologize Japanese dialects in terms of the size of AP rather than the level at which pitch is associated (p.473,489).

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