

CAROLINE FÉRY & RUBEN VAN DE VIJVER (eds.), *The Syllable in Optimality Theory*. Cambridge: Cambridge University Press, 2003. Pp. ix + 415. ISBN: 0-521-77262-1. doi:10.1017/S0025100306232675

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Yet another book about the syllable, one could say. Still, the editors convincingly argue that the book fills a lacuna by providing a systematic treatment and evaluation of the role of the syllable in the most popular modern phonological framework – Optimality Theory. The volume is a collection of fifteen chapters grouped into five parts, each dealing with a different aspect of syllable-based phonology. Part One, ‘Introduction’, prepared by the editors, is an excellent, short but comprehensive, overview of the problems the book will be concerned with. Part Two, ‘Syllable structure and prosodic structure’ (four chapters), deals with weight issues. The five chapters of Part Three, ‘Nonmoraic syllables and syllable edges’, treat the notorious ‘unsyllabifiable’ segments. Part Four, ‘Segments and syllables’, includes four chapters on the segmental structure of syllables, and finally, Part Five, ‘How concrete is phonotaxis?’, provides an apparent anticlimax with a chapter proposing syllable-independent phonotactics.

Féry & van de Vijver emphasise the mutual benefit relation between the syllable and Optimality Theory (OT): while OT sheds new light on old syllable-related issues, the syllable allows OT to make valid phonological generalisations. For instance, they show that OT is able to account for syllable typology by means of its markedness and faithfulness constraints rather than by means of rules and rule conspiracies. The universally predictable implicational hierarchy of syllable structures can be explained as a result of the interaction (shown via ranking) among the constraints. If markedness constraints (like ONSET and NOCODA) fully dominate faithfulness constraints (e.g. a constraint against deletion and against epenthesis), we obtain the most unmarked syllable type, namely CV. The authors claim that the advantage of the OT explanation as opposed to the ‘conspiracy of rules’ explanation lies in the fact that while the rules ‘do not know’ their own ultimate function (e.g. hiatus avoidance, which may be obtained either via consonant epenthesis or vowel deletion), constraints always rank with reference to this ultimate function (i.e. faithfulness constraints with reference to markedness constraints). This advantage granted, it is worth remembering that Natural Phonology in both its earlier and later facets has advocated a functional account of phonological structures by means of either (earlier) simultaneous ordered application of universal natural processes or (later) preference hierarchies (compare markedness constraints) and semiotic principles (compare faithfulness constraints). The Swabian example (9) is easily handled by a process-based interpretation ( $bi[s]t \rightarrow bi[f]t \rightarrow bi[f]$ ).

Incidentally, the authors state that ‘in Hawaiian, hiatus is freely allowed’ (5), which is disputable. In fact, certain combinations of two vowels in Hawaiian are pronounced as one-syllable diphthongs (cf. Schütz 1995: 18), and diphthongisation is certainly one of the hiatus-avoidance strategies.

The syllable as a prosodic constituent is a leitmotif of Part Two. In ‘Sympathy, cumulativity, and the Duke-of-York gambit’ John J. McCarthy replaces the opaque Duke-of-York derivation in Bedouin Arabic ( $ʔákalat \rightarrow ʔkálát \rightarrow ʔakálat$ ) with the improved sympathy theory account, in which the notion of cumulativity is employed. While in a Duke-of-York derivation, ‘later steps do not accumulate the results of earlier steps’ (25), in non-Duke-of-York derivations exactly this happens. In this way, the intermediate steps are not vacuous/opaque any more. The clear advantage of this analysis over the rule-based analysis is that it is transparent. However, the apparatus for comparing and evaluating unfaithful mappings is very complex, while in the case of Duke-of-York derivations usually one intermediate-stage

rule is at stake. The old question of the abstract simplicity vs. concrete complexity of a phonological description returns. But candidates also differ by properties which are not governed by faithfulness constraints: these are non-contrastive properties like syllabification. McCarthy argues that it is faithfulness to moras, rather than syllables, that is the basis of contrast in syllabicity.

Stuart Davis argues for the underlying moraic nature of geminates in ‘The controversy over geminates and syllable weight’. He concludes that geminates are always underlyingly moraic, while their surface nonmoraic behaviour might be due to either their extraprosodicity or the language-specific role of some high-ranked constraints.

Haruo Kubozono proposes ‘the syllable as a unit of prosodic organization in Japanese’ (99), a language traditionally analysed as moraic. His support for trochaic feet in Japanese (either HL or HH) comes to a large extent from the so-called external evidence, i.e. loanword truncation, a secret language (‘zuzya-go’, the secret language of jazz musicians), motherese and emphatic memetics. This is a very welcome contrast to the OT authors who adhere, in the traditional manner, to the so-called internal evidence. Kubozono argues convincingly that the prosodic asymmetries observed in Japanese, in both extragrammatical and grammatical phonological behaviour (e.g. in word formation processes), cannot be explained without recourse to the syllable, and especially to the distinction between heavy and light syllables.

From Draga Zec’s chapter, ‘Prosodic weight’, we learn that prosodic constituents (moras, syllables, feet, prosodic words) have their own minimal sonority thresholds, whereas sonority itself is a family of constraints that govern the relations among the constituents. In particular, it is not only moras and syllables, but also higher prosodic constituents – the foot and the prosodic word – that impose their own minimal sonority thresholds. This means that the extrasyllabic portion of a higher constituent may influence weight distinctions based on the sonority of the nucleus. For instance, in English, there are two types of syllable nuclei: a vowel or *r* nuclei, and an *l* or nasal nuclei, whose distribution is very restricted. The latter are light nuclei, restricted by the sonority threshold imposed by the foot. A further consequence is that prosodic heads differ from non-heads by their phonotactics.

Part Three examines the edges of words vs. the edges of syllables. It is traditionally assumed that word structure is more liberal than syllable structure in what can appear at their beginnings and ends. The chapters in this Part support a view of a weak interpretation of the so-called Strict Layer Hypothesis. That is to say that a ‘spare’ constituent may be attached to a non-immediate prosodic ‘layer’, e.g. a mora may be attached to a foot rather than to a syllable. In OT this means that the constraints of NONRECURSIVITY and EXHAUSTIVITY are violable.

Paul Kiparsky speaks of such unaffiliated moras in his chapter ‘Syllables and moras in Arabic’. These are onsetless semisyllables attached directly to the prosodic word. They may persist into the output if a language/dialect allows clusters. In the paper three dialect groups of Arabic vernaculars are considered. They differ precisely by their treatment of semisyllables. The author argues for a serial organisation of phonology and morphology, in a Lexical Phonology fashion as opposed to the parallel organisation of OT.

Young-mee Yu Cho and Tracy Holloway King also use semisyllables in their analysis of Georgian, Polish and Bella Coola, in the chapter ‘Semisyllables and universal syllabification’. They define semisyllables as nonmoraic. The paper starts with an observation that the Universality and the Exhaustivity hypotheses about syllables may not hold for all languages, and especially not for languages which are rich in consonant clusters. The authors point to problems with strictly syllable-based solutions in such languages. Their solution relies on semisyllables. Since a semisyllable contains no mora, it has no nucleus, no coda, no suprasegmental features (stress, accent or tone), it is prosodically invisible and can appear only at the edge of a morpheme (in other words, the distribution of semisyllables is dictated by morphology). Importantly, Sonority Sequencing Generalisation (SSP) applies to clusters containing semisyllables: they are thus always rising onset clusters. The authors perform a successful semisyllabic analysis of the complex clusters of Georgian, Polish and Bella Coola, in all cases allowing one semisyllable per morpheme edge. Still, language-specifically,

additional assumptions about the moraicity of segments need to be made (e.g. in Bella Coola already fricatives can be moraic) in order to complete the analysis. Some languages do not allow semisyllables at all, e.g. Korean, which results in e.g. loanword repair by epenthesis. One thing is certain: no matter the (OT) disguise, the idea of semisyllables is far from new, and the analysis in the paper owes much more to the original *Nebensilben* by Sievers (1881) than is actually admitted. Crucially, even if there were no counterexamples to SSP-governed semisyllables, what remains to be explained is why they combine with syllables in the way that they do. For instance, why should *s* combine with stops so readily? Since semisyllables are claimed on morpheme peripheries, are we dealing with morpheme structure conditions rather than strictly phonological conditions?

In 'Onsets and nonmoraic syllables in German' Féry discusses the behaviour of German onsets and observes that while higher prosodic constituents (prosodic words and feet) require an onset, lower prosodic constituents tend to get rid of it. [g] after [ŋ], [h] and [ʔ] are all onsets of some syllable. They are realised when they are onsets of some higher prosodic constituent (i.e. prosodic word, foot, moraic syllable), but not when they are onsets of nonmoraic syllables (i.e. schwa syllables, e.g. in *Ehe*, *Lampe*, *loben*, and semisyllables, e.g. in *Lob*, *Helm*, *fünf*). This helps reanalyze superheavy final syllables in German, which in turn allows including words containing them into the unmarked trochaic pattern.

Antony Dubach Green discusses onset clusters in 'Extrasyllabic consonants and onset well-formedness' and also claims (cf. Féry above) that the higher the prosodic constituent the more onset clusters are allowed. The evidence presented in this chapter comes from Icelandic, Attic Greek and Munster Irish. The author argues that differences in the tolerance towards marked clusters is accounted for by a universal and intrinsically ranked set of Onset Well-Formedness constraints against specific clusters at the left edge of particular prosodic constituents.

Similar arguments with reference to the right edge are found in the next paper, entitled 'Beyond codas: word and phrase-final alignment', in which Caroline R. Wiltshire proposes that final unsyllabified consonants do not contribute weight to the syllable. She emphasises the difference between syllable edges and the edges of higher prosodic constituents, and proposes a unified alignment-based account of how edges may either be stricter or more lenient in demands on structure. Alignment constraints reflect what within derivational framework is referred to as sensitivity of rules to prosodic boundaries. This is illustrated in the paper with languages aligning edges to consonants or vowels, e.g. in Leti a phrase-final metathesis guarantees that phrases end in vowels, in Yapese words end in a consonant (by the loss of the word-final underlying vowel), while in Pitjantjatjara there is an opposite requirement – words need to end in a vowel.

In the first chapter of Part Four, 'On the sources of opacity in OT: coda processes in German', Junko Ito and Armin Mester use local conjunction of constraints ([M&F] conjunction), as suggested by Łubowicz (1998), to distinguish formally between basic and derived inputs. For example, in Northern German, a final voiceless velar stop is spirantised only if it is derived (e.g. in *wenig*) and not when it is basic (e.g. in *Derrick*). Or, cluster simplification (e.g. in *Ding*) bleeds devoicing of the final velar (which, however, is not the case in colloquial German (cf. the pronunciation [dɪŋk]). In derivational frameworks, cases like these are accounted for by means of rule ordering (counter-feeding, bleeding).

The authors conclude that opacity belongs to phonology and cannot be dealt with either solely by morphophonemics or by an all-embracing phonological mechanism. As in traditional derivational phonology (not specifically Lexical Phonology, though), they support a serial relationship between word phonology and phrase phonology, by means of which some opacity can be explained. Interestingly, OT parallelism ITSELF is found to be a source of opacity.

Marc van Oostendorp, in 'Ambisyllabicity and fricative voicing in West Germanic dialects', argues basically for underlying fricative geminates (or long, and therefore, ambisyllabic consonants) as opposed to the short ones. The former are predictably voiceless, the latter voiced. Geminates are viewed as bisegmental units and not as moraic consonants. The direct implication of this argument is that at least some syllabic information is underlying,

which is controversial for the OT framework, especially in view of the so-called Richness of the Base Hypothesis, according to which inputs cannot be restricted in any way. It remains puzzling how it is to be decided within OT how much and which type of information should be underlying and in what form.

Ruben van de Vijver's chapter, entitled 'The CiV-generalisation in Dutch: what *Petunia*, *Mafia*, and *Soviet* tell us about Dutch syllable structure', supports, among others, the notion of ambisyllabicity, as was the case in the preceding chapter. The author discusses two theories of vowel representation in Germanic languages, i.e. the one relying on the difference in length and the one relying on the difference in quality (tenseness), and speaks for the latter. The whole discussion revolves around the vowel preceding the CiV-context in Dutch. The vowel tends to be tense; the cases in which it is lax are explained either by the ambisyllabicity of the C (cf. Sievers's Law, which states that surface realisation of [i] vs. [j] depends on their syllabic position, e.g. *soviet* vs. *mafia*, Sievers 1878) or by a lexical specification of the vowel as lax. Tense vowels are unmarked and therefore tend to occur more often. Thus, the OT solution proposed here appeals to markedness. It seems unclear, though, why the author speaks about the superiority of surface constraints (obvious in OT) while at the same time assuming some underlying/lexical information to be necessary for his account.

In the last chapter of Part Four, 'The relative harmony of /s+stop/ onsets: obstruent clusters and the Sonority Sequencing Principle', Frida Morelli approaches the *enfant terrible* of phonotactics and deals with it superbly. She proposes a system of markedness constraints relevant to obstruent clusters only and independent of the Sonority Sequencing Principle. She evaluates /s+stop/ onsets as the most harmonic obstruent clusters (cf. 365). She proposes that it is fricative+stop rather than stop+fricative clusters that are unmarked among obstruent clusters. This proposal stems from the observation that, out of 15 possible co-occurrence combinations of a stop (S) with a fricative (F) (i.e. FS, SF, SS and FF), only six combinations actually occur in languages. A scrutiny of those shows that FS is present in all, and, most importantly, it is THE ONLY ONE THAT CAN OCCUR ALONE, and thus, others always imply its presence! Additionally, there is a systematic place restriction on the fricative, i.e. it is /s/ in most cases. Morelli rightly concludes that sonority cannot be relevant to these clusters. What is relevant are the features of manner and place, for which respective markedness constraints are proposed. Her proposal is universally attractive since it (a) derives from the scrutiny of facts and (b) remains basically theory-independent.

Part Five contains Juliette Blevins's chapter, 'The independent nature of phonotactic constraints: an alternative to syllable-based approaches'. This is the most original contribution to the volume, since it simply denies the role of the syllable in establishing language phonotactics. Blevins accepts the existence of the syllable but sees phonotactics as independent of it. Phonotactic constraints are string-dependent and not syllable-dependent. Such syllable-independent phonotactics is easily adaptable to various phonological frameworks. Unmarked constraints directly reflect phonetic origins, they have the widest distribution in the languages of the world, and they incorporate implicational universals. The final statement in the chapter is worth quoting, since it is revolutionary with reference to the assumptions of OT (it undermines the necessity of constraint ranking) and, at the same time, it is conciliatory with reference to other theories of universal preferences, e.g. to natural linguistics (Donegan & Stampe 1979; Stampe 1979; Dressler 1985, 1996; Dziubalska-Kołaczyk 2002a, b):

The real challenge, then, is not to describe common and rare cross-linguistic phonotactics solely as the output of a ranked set of markedness and faithfulness constraints but to DISCOVER PRINCIPLES [emphasis mine, KDK] underlying these phonotactics, their roles within individual grammars, and any consistent or recurrent relationships that exist between phonotactics and syllable structure. (396)

The overall impression that the volume *The Syllable in Optimality Theory* gives is that, perhaps paradoxically, the syllable does not, or needs not, play a pivotal role. Syllabic constituents, other prosodic units, or intersegmental relationships in a string may have more

explanatory power. The various types of dilemmas that a phonologist faces when dealing with the syllable are aptly illustrated in the book not only by its chapters, but also in the drawings, whose author – Regine Eckardt – should be complimented for.

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