

THE MODULAR SYLLABLE: SINHALA¹

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'The modular syllable' is the study of the role of the syllable in a modular theory of phonology. This study asks what modules are necessary in phonology, how they interact with each other and with other components of linguistic theory, and what their representational and computational resources are. This paper focuses on representations of the syllable at the morphology/phonology interface and their fate as they pass through the phonological modules. A Sinhala example illuminates the question of what happens to syllables in the phonology. (See Cairns and Raimy, forthcoming.) This example is interesting because, on the surface, it appears that Sinhala exhibits contrastive syllabification: [ka.ⁿdə] 'trunk; sg. def. nom.' vs. [kan.də] 'hill; sg. def. nom.' We will see that in fact this effect is an opacity due to modular interaction among three modules, the morphological, the phonological, and the phonetic modules. I justify the analysis of the nasal stop sequences as two distinct segments underlyingly (as opposed to a single "prenasalized" segment, which appears only on the surface) below.

In the minimalist theory proposed here, syllable boundaries are represented on a distinct syllable tier; there are no node labels nor constituent structure within syllables. I assume a Halle/Idsardian 3-Dimensional model (Halle and Idsardi 1995), with a number of half planes radiating from a common line which constitutes the timing tier. Word stress is represented on one of these planes (the metrical plane), features on another, syllables on yet another, and other linguistically relevant material on other orthogonal planes. X-slots, representing segments, are arrayed along the timing tier; the theory of Precedence Based Phonology (Raimy 2000) is used to represent the precedence relations among the X-slots (although that is not exemplified in this presentation). Lexical storage is in terms of the timing tier, complete with explicit precedence relations. Parameterized rules in the morphological module derive syllables, as well as other information on other orthogonal planes. Sonority features of segments are projected on the syllabic tier, where syllable boundaries are calculated. Metrical (stress) structure is represented on the metrical plane as a grid with constituents on Line 0, as well as on other lines. These 3-D representations are then handed over to the phonological module for a variety of operations. Following Calabrese 2005, the phonological component is itself a modular entity, comprising both idiosyncratic rules as well as constraints and repairs.

The example of the modular syllable presented here, from Sinhala (Feinstein 1977, 1979; Cairns and Feinstein 1982), shows that syllable boundaries inserted in the morphology are not (always) erased in the phonological component. The only unusual feature of Sinhala is that an intervocalic nasal - stop sequence is tautosyllabic. The Sinhala phonological component imposes full assimilation on a glide in a sequence and degeminates the resulting geminate. Because there is no resyllabification, this gives rise to spectacular but illusory contrasts such as in (2), which look like examples of contrastive syllabification. In fact, the operation of the algorithm within the morphology

¹ Eric Raimy has provided much insight into the analysis adopted in this paper. Although I take full responsibility for any errors or misconceptions, Eric's suggestions have vastly improved this paper.

that places the syllable boundary has been rendered opaque by the operation of the phonological module. (Note that the tautosyllabic nasal-stop sequence has been analyzed as a single segment, a prenasalized stop, by Davis 2003. Ringen and Vago (this conference) argue against his analysis, as I do at the end of this paper.

References:

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