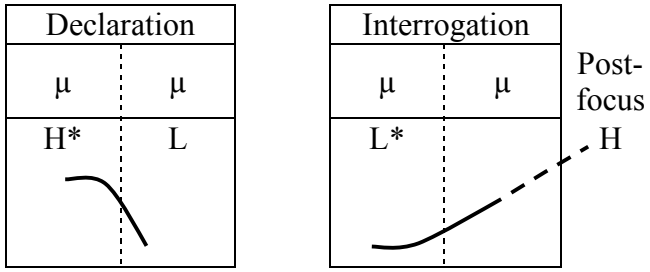
**From many to one: the segment as the only TBU**

In the theory of tonal phonology, we find a coexistence of three Tone-Bearing Units (TBUs): in some languages, the syllable counts as the TBU, in other languages, the mora does, and again in others, the TBU is identified as the segment. In our talk, we propose an account that reduces these three TBUs to one: the segment. We show that it is possible to compensate for this apparent loss with the help of a constraint family that regulates the interaction between tones and prosodic structure. Crucially, this is not simply a substitution of more computation for less representation: the existence of the relevant constraint family can be motivated independently.

**(1) How it starts: preparing the ground**

In the Limburgian dialect of Roermond, Gussenhoven 2000 observes an avoidance of rising contours in bimoraic Accent 1-*syllables*, although he identifies the *mora* as the TBU: whereas in non-final declaratives, both H* and L are linked to the focus syllable, the high target of the interrogation melody L*H is realized post-focal in non-final position:




Tonal mapping in the focus syllable: Accent 1, Roermond (data from Gussenhoven 2000)

Gussenhoven 2004 accounts for this behavior with a constraint against rises at the syllable level: NoRise (σ). In our talk, we provide further evidence for this constraint from other Franconian dialects (our data). At first glance, the introduction of this constraint simply seems to broaden the constraint inventory: instead of having one relevant constraint family – NoContour (TBU) – we need to differentiate between NoContour (σ) and NoContour (μ). However, if we look at the implications that arise from this we can see that these constraints do more than merely enriching the theory: in exchange for increasing the computational load, they provide us with a tool that allows us to dispense with prosodic units as TBUs.

Note that in itself this is a simple exchange-relationship (more computation, fewer representations). However, since we need NoContour (σ) and NoContour (μ) anyway, keeping prosodic units as TBUs exclusively leads to an enrichment of the theory (more computation, same representations).

**(2) How it works: eliminating the syllable as a TBU**

The possibility of eliminating the syllable as a TBU follows straightforwardly from what has been outlined in (1): the mere existence of constraints that operate at the syllable level, even when the mora is identified as the TBU, enables us to abandon the syllable from the inventory of possible TBUs. The argument runs as follows: whereas the avoidance of contours at the syllable level is usually regarded as evidence for the syllable as being the TBU (see e.g. Yip 2002), we can account for the same facts if we propose the mora as the TBU. Then, we merely need to incorporate a constraint against contours at the syllable level:

NoContour (σ). This leads to the association of merely one tone to any syllable,[1] which again creates the impression of the syllable being the TBU.

**(3) How far it goes: eliminating the mora as a TBU**

In going one step further, the insights presented in (1) also enable us to give up the mora as a TBU. Since NoContour (σ) and NoContour (μ) – instead of NoContour (TBU) – restrict the occurrence of tones on different levels of the prosodic hierarchy, there is no theory-internal need to assume that *any* prosodic unit can be the actual TBU. Instead, we can assume that the segment is the TBU and that prosodic units influence the tonal mapping during computation.

**(4) How it relates: the larger picture**

Our proposal implies that it is not necessary to have different hosts for segmental features and tones. This is reflected in the striking similarities that tones and segments show in their interaction with prosodic structure. For instance, de Lacy 2002, 2006 show that the same principles hold for reduction at the segmental level as well as for tonal mapping: they both interact with prosodic structure / stress in similar ways, either related to the sonority scale (segments) or to a tonal prominence scale (tones).

Note that, with respect to segmental features, (probably) no scholar would consider a prosodic unit to be a Feature-Bearing Unit, even though segmental processes interact with prosodic structure. Hence, there is no fundamental reason to assume that tones are linked to prosodic units just because they interact with them. Furthermore, when we regard the segment as the only TBU, the similarities in the interaction of segmental and tonal features with stress are to be expected.

In some respects, however, tone seems to behave more independent than other phonological features (see e.g. Yip 2002 for a discussion of the varieties of tonal behavior). We discuss a selection of potentially problematic instances, give indications how these can be incorporated into our account and define the central research questions that have to be investigated.

References

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[1] Note that this statement disregards faithfulness; i.e., it might (naturally) be the case that we do find contours if faithfulness to tones is high-ranked and lack of space enforces creating a contour – for instance at the end of an intonational phrase.