Don't take that tone with me!
Syntactic Structures and Norwegian Tonal Accents
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Theoretical question: What does syntax have to say about tone?

So-called bracketing paradoxes, i.e., mismatches between syntactic and phonological constituency, are useful phenomena for testing theories of the syntax-phonology interface, particularly the division of labor between the two modules of grammar. The division of labor regarding the notion of exponency in a modular system continues to be a hotly debated matter (Bermúdez-Otero, 2012). In this presentation, we explore the relationships between syntactic and phonological constituency, including bracketing paradoxes, in a related, yet distinct empirical domain: Norwegian tonal accents. With this goal in mind, we consider these data from the perspective of the two dominant trends in currently exist in late-insertion models:

- Trend #1: Assigning different statuses of affixes and $\sqrt{\text{roots}}$ (Creemers, Don, & Fenger, 2018; Lowenstamm, 2014, 2017), or

- Trend #2: Appealing to the cyclic spell-out of lateral phonological representations to absolve these sorts of bracketing paradoxes (Newell, 2021)

In this presentation, we discuss how neither of these trends are fully capable of accounting for Norwegian Tonal Accents. We introduce a more bidirectional, interactive syntax-phonology interface, where – in addition to morphosyntactic story – phonological representations contribute to the designation of tonal accent realizations.

Empirical focus: Accent (Non-)cohering prefixes in Norwegian

Norwegian has what is referred to as a tonal accent contrast (Kristoffersen, 2000), with two types of stressed syllable realizations (**Accent 1** & **Accent 2**). Although dialects vary in terms of how the contrast is realized tonally, the predictable pattern is that Accent 1 corresponds to monosyllabic words ($[\dots \text{'}\sigma]_\omega$) and Accent 2 occurs in multisyllabic ones ($[\dots \text{'}\sigma\ \sigma\dots]_\omega$); unpredictable cases are, following Wetterlin (2010), specified for Accent 1. Forms with the requisite specification are predicted to always occur as Accent 1 (Wetterlin, 2010). In addition to having cohering and non-cohering affixes in the sense discussed in Newell (2021), where the stress domains include the former but not the latter, Norwegian has affixes that do and do not affect the tonal accent of the stressed syllable. These traits are independent from each other. Tonal accents are accordingly determined by the spell-out of syntactic structures, the size of the phonological domain visible to stress calculations, underlying phonological representations, and the interaction between all three. The forms in (1) illustrate these relationships, with superscripts indicating tonal accent and stress location:

(1)   a.   *[1]tal* 'speak.IMP'; *[2]tale* 'speak-INF'
       b.   *be[1]tal* 'pay.IMP'; *be[1]tale* 'pay-INF'
       c.   *[1]påtal* 'criticize.IMP'; *[1]påtale* 'criticize-INF'
       d.   *[2]påtale* 'censure' (N)
       e.   *[2]kjøre* 'drive-INF'; *[2]kjøre på* (or *kjøre [1]på*) 'run over-INF'
       f.   *[2]påkjørsel* 'being run into' (derived from verb, not noun)

The pair in (1-a) demonstrate the fully predictable pattern, with monosyllabic *[1]tal* receiving Accent 1 and disyllablic *[2]tale* Accent 2. In (1-b), on the other hand, the prefix *be-*, although not affecting stress location, imposes Accent 1 on the disyllabic stress domain in *be[1]tale*, suggesting that *be-* is specified for Accent 1 (Wetterlin, 2010). Likewise, the derived forms in (1-c) also suggest that *på* is specified for Accent 1, as it both attracts stress and induces Accent 1. We see, however, that this is not the case in the derived nominal in (1-d), leading Wetterlin (2010) to argue for two *på* forms: one with and one without Accent 1 specification. Following this reasoning, then, (1-f) presents a tonal accent bracketing paradox. The noun is derived from the complex verb *([2])kjøre ([1])på* in (1-e) and should likewise occur with the Accent 1 prefix when nominalized (**[1]påkjørsel*). The derivational path that results in Accent 2, i.e., *[på[kjørsel]]*, has the incorrect hierarchical constituency for the semantic interpretation 'being run into.' Drawing on these and similar data, we examine

the interactions of phonological representations and cyclic spell-out, while revisiting the lexical identity of pre-elements such as *på*, to account for cohering and non-cohering patterns of tonal accent distributions.

Proposal for discussion

A fundamental aspect of our analysis rests on the following architectural factors: First, we examine the association of exponents with $\sqrt{\text{root}}$ and affix identity (Creemers et al., 2018), and how these associations determine different spell-out domains along the course of derivation of morphologically complex forms (Newell, 2021). Second, we probe deeper into the nature of the phonological contrast that induces Accent 1, specifically in terms of non-segmental contrastive representations (Papillon, 2020; Spahr, 2016), and the extent to which bidirectional influences from both syntax and phonology contribute to the distributions of the Norwegian tonal accents. If this analysis is on track, it provides a way to avoid invoking a Prosodic Hierarchy and multiple categorial-dependent prefixes as explanatory mechanisms for the assignment of Accent 1 and 2 in Norwegian.

References

Bermúdez-Otero, R. (2012). The architecture of grammar and the division of labour in exponence. In J. Trommer (Ed.), (pp. 8–83). Oxford: Oxford University Press.

Creemers, A., Don, J., & Fenger, P. (2018). Some affixes are roots, others are heads. *Natural Language and Linguistic Theory*, *36*(1), 45–84.

Kristoffersen, G. (2000). *The phonology of Norwegian*. Oxford: Oxford University Press.

Lowenstamm, J. (2014). Derivational affixes as roots (Phasal spellout meets English stress shift). In A. Alexiadou, H. Borer, & F. Schäfer (Eds.), *The syntax of roots and the roots and syntax* (pp. 230–258). Oxford: Oxford University Press.

Lowenstamm, J. (2017). German affixes *-lich, -tum, -schaft*, and Umlaut. In C. Mayr & E. Williams (Eds.), *Festschrift für Martin Prinzhorn* (pp. 193–202). Vienna: Wiener Linguistische Gazette.

Newell, H. (2021). Deriving Level 1/Level 2 affix classes in English: Floating vowel, cyclic syntax. *Acta Linguistica Academica*, *68*(1-2), 1–46.

Papillon, M. (2020). *Precedence and the lack thereof: Precedence-Relation-Oriented-Phonology* (Unpublished doctoral dissertation). University of Maryland.

Spahr, C. E. (2016). *Contrastive representations in non-segmental phonology* (Unpublished doctoral dissertation). University of Toronto.

Wetterlin, A. (2010). *Tonal Accents in Norwegian: Phonology, morphology and lexical specification*. Berlin: Mouton de Gruyter.