Editorial: Perspectives on Nordic phonology

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Abstract

In this editorial, we first offer a glimpse of the scope and traditions of studying phonology in the Nordic countries and how these are mirrored in the aims of FiNo and the topics presented at its 2020 workshop. We then summarize the individual contributions to the volume, showing how they connect nicely with an overarching framework, which we call 'Autosegmental Metrical Optimality Theory'.

1. Phonology in the North

This special issue of *Nordlyd* contains five selected papers from the fifth *Fonologi i Norden* (FiNo for short; Phonology in the Nordic countries) meeting hosted by the Department of Languages and Literature Studies at the University of South-Eastern Norway. The event was held physically at campus Drammen over two exciting days, 21-22 February 2020, at a time when most of us still could not suspect that Covid was about to hit for real, hardly three weeks later, to completely disrupt our normal way of life. The initial program included 19 interesting talks and posters on both theoretical and experimental phonology on a wide range of languages, both Nordic (Danish, Norwegian, Finnish, Estonian, Lithuanian, Northern Saami) and otherwise (English, French, Arabic, Persian, and Bantu). Five of these responded to the call for papers for this special volume and were subsequently submitted for peer review. The issue was jointly edited by Islam Youssef and Miguel Vázquez-Larruscaín, who were also the organizers of FiNo 2020.

FiNo is a forum for Nordic phonologists to meet every year to share their newest research, exchange ideas, and connect with anyone interested in phonology in or about the Nordic and Baltic region. As a relatively informal network, it is open to both senior and junior researchers who simply want to stay in touch and be part of a group – and, by extension, of a larger community – with some common interests and goals. Originally named *Fonologi i Skandinavia* (FiSk), the initiative was launched by Martin Krämer and Laura Downing who hosted the first meeting in Gothenburg (2016), followed by three successful FiNo workshops in Kristiansand (2017), Lund (2018), and Edinburgh (2019). Our 2020 meeting in Drammen was an equally memorable event, and for this we are thankful to all participants and attendees. The present volume is an offshoot of this workshop and its enriching phonology discussions.

FiNo is thematically wide open, consistent with the long tradition of Nordic scholars of insatiable curiosity. This goes back at least two hundred years, when a young Rasmus Rask was doing research on his own native dialect while at the same time setting the foundations for comparative Indo-European language research and developing the hypothesis that Old Norse was historically related to the Classical Languages of Europe, as well as to Slavic and Baltic. Rask's findings were not only of outstanding significance in the foundational stages of scientific linguistics but also a clear testimony of the intellectual ambition and the theoretical open mindedness which we want to see as a trademark of the way linguistics is done in the North.

In a related fashion, it does not come as a surprise that one of the unifying themes in most FiNo presentations is prosody, which has been crucial in the study of North Germanic and Baltic languages, quite naturally, since Høysgaard (1743) first described the patterns of stød, with a high degree of insight and success. This interest in prosodic topics is likely to originate in the existence of word accents in many languages of the Northern region, in contrast to most other European languages, where neither pitch nor

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laryngealization can keep a distinction in a minimal lexical pair by themselves (Serbo-Croatian and Basque, of course, excepted). This prosodic interest is reflected in this volume: vowel harmony in the foot and word domain, syllable structure, word accentuation, and the interplay between the intonation group and the demands of poetic meter – all key aspects of the range of data covered by the five papers, from Danish and North Germanic to Lithuanian, and from the interlanguage of Persian learners of English to the poetic meter of Sir Thomas Wyatt, an English Renaissance poet.

2. The AM/OT constellation

The combination of prosodic topics and constraint-based argumentation anchors the FiNo contributions in mainstream phonological theory. For convenience, we will condense and refer to the theoretical "language" of this common framework as the AM/OT constellation, an acronym that stands for Autosegmental Metrical Optimality Theory (Goldsmith 1990, Prince and Smolensky 1993/2004, Selkirk 2011).

Autosegmental Phonology segregates the components of a phonological representation into sounds and prosodies, to use a formulation of the London prosodic school (Firth 1948), and arranges the prosodies, or features, in separate tiers. Therefore, autosegmentalism is well suited to do prosodic phonology, since features become properties not only of segments but of any phonological domain, such as the syllable, the metrical foot, or the phonological word. This explains that autosegmental and metrical reasoning is present in all five papers of this volume, even though not always formalized or explicitly formulated. In the following paragraphs, we introduce each of the contributions and show how they link to the AM/OT constellation.

In his contribution to the present volume "Nordic umlaut, contrastive features and stratal phonology", **Johan Schalin** attempts to solve a range of issues in the reconstruction and analysis of the historical changes that lead to front rounded vowels in North Germanic. We are reminded that the Germanic umlauts are a type of vowel harmony, that is, feature spreading from trigger to target; but unlike what is common in other harmony systems, either Turkish or Bantu style,[1] the outcomes of umlaut are often not structure-preserving, giving rise to new segments in the language not found anywhere else outside the context of umlaut itself. The creation of new contrasts forces upon the analyst the imperative to examine the nature of the derivational process, and, if diachronically oriented, also the nature of change. On the face of the challenge, Schalin proposes to combine the Contrastive Hierarchy Theory (Dresher 2009) with Stratal Phonology (Bermúdez-Otero 2018) to correct for some of the complications that are part and parcel of the umlauts.

Interestingly, Schalin also suggests, at the end of his Section 3.1, that Stratal Phonology may be the appropriate tool to model the life cycle of umlaut changes as he elaborates on how the three phases of change that appear in the classic study of Twadell (1957), namely, surface-true allophony, phonologization, and morphologization, relate to the three strata of Stratal Phonology: (P)hrase, (W)ord, and (S)tem levels. Umlaut can be formalized at P-level when it is a regular surface-true allophonic pattern. When the new segments that result from umlaut are phonologized as contrastive segments, once the motivating context is blurred by syncope or apocope, umlaut can be conceived of as the result of a partial reranking at the W-level, as far as the motivating context is still part of the S-level with a division into stem and suffixes. Finally, when the products of umlaut are completely opaque from a phonological point of view, the Stem-level offers the last chance for a constraint reranking to take place. In Schalin's analysis, Stratal Phonology appears as a version of Optimality Theory (Stratal OT; Kiparsky 2000 *et seq.*) which, in a sense, embodies many of the three-level generative models of the past, such as Lexical Phonology (Kiparsky 1982) and Harmonic Phonology (Goldsmith 1993).

On matters of detail, Schalin's paper is focused on the irregular and opaque aspects of North Germanic i-umlaut, which have challenged historical linguists for ages. Schalin deals with a well-known subset of the pattern of 'exceptions to the main exceptions' as first arranged by Axel Kock (1888). Kock divided the i-umlaut of Proto-Scandinavian in three stages: syncope with umlaut, syncope without umlaut, and umlaut

[1] Cf. Jade Sandstedt's talk at FiNo 2020, entitled "Bantu harmony locality variation is autosegmental", which offers a purely autosegmental account of Bantu harmony.

without syncope. Kock also identified some intriguing cases: sometimes short vowels undergo umlaut in front of the sequence -iR, as in *frama-iz -> fremr* 'further', and sometimes they don't, and noticed that the -iR which did not produce umlaut was heteromorphemic, with -i as stem final and -R following the stem boundary, e.g., *staði-z -> stadr* 'place (nom.sg.)'. Schalin's thesis, at the risk of oversimplifying his analysis, is that such discrepancies are due to two types of -i, which nevertheless are identical on the surface. In Stratal OT, the difference is due to a constraint against the front/round spreading feature if the specification front/round appeared stem finally in a word with an initial light syllable. The -i that does not produce umlaut lacks the spreading feature at the relevant stratum, unlike the -i that does, which, not being stem final, remains unaffected by the said constraint.

The combination of autosegmental, metrical, and derivational questions is also prominent in **Miguel Vázquez-Larruscaín's** paper "Complementary length in Danish. Why not?". The main concern of this contribution is how to parse consonants in Danish, for which one needs an analysis of Danish syllable structure and the way the syllable is responsible for the distribution of stød. This interplay between stød, a laryngeal autosegment, and the syllable, a metrical structure, can be observed in what is known as the Copenhagen Rule, a variable and quite active process in the mainstream accents of current standard Danish. The Copenhagen Rule shortens long vowels in front of approximants, as in *båd* 'boat' or in *gade* 'street', with the automatic result that laryngealization, if present, moves, so to say, from the second phase of the original long vowel to the following approximant ([b̥ɔːˀð̥] -> [b̥ɔðˀ], cf. [g̊æːð̥] ->[g̊æðð̥]).[2] Here, stød behaves as a prototypical floating autosegment, that is, a property of the second mora of the nucleus, independent of the phonological material associated to that mora. If the vowel is long, it has stød; if the vowel shortens, stød automatically moves to the following coronal approximant, which now occupies the second mora of the nucleus. The second mora is the invariant locus of stød, regardless of whether stød is linked to a vowel or a sonorant. Vowel shortening happens on the segment-to-mora plane, quite regularly, in syllables both with and without stød, while stød, if present in a word, remains anchored to the same position before and after vowel shortening.

Now the question is to what extent the grammar of stød is dependent on syllabic structure, and to what extent syllabic structure can make stød fully predictable. Theories split at this juncture. For instance, when a syllable nucleus is made up of a short vowel plus an obstruent, as in *kat* [kʰad̥] 'cat', *sæk* [sɛg̊] 'sack' or *kop* [kʰʌb̥] 'cup', stød is systematically absent. Basbøll (2005) and others claim that this is because obstruents cannot be moraic, which makes the syllable light, and in turn stødless ('the Light Syllable Model'). Vázquez-Larruscaín, on the contrary, claims that the systematic lack of stød in those contexts is caused by a laryngeal filter against the combination of obstruency and prosodic laryngealization, so that the obstruent is parsed by the second mora, in compliance with Prokosch's Law or the Stress-to-Weight Principle, which requires all stressed syllables to be heavy (hence, 'the Heavy Syllable Model'). According to Vázquez-Larruscaín's analysis, Danish syllables will not differ significantly from the rest of the Scandinavian languages. This is based on the conviction that the syllable must account for not only stød patterns but also distributional restrictions and phonological alternations, as, for instance, when a long vowel systematically shortens in front of a well-defined set of coda obstruents, e.g., in *skabe-skabt,* [sg̊æːb̥ə]-[sg̊ɑb̥d̥] 'create-created'. Why should *skabt* shorten the vowel of the stem, if not because the "b" must be assigned to the second mora of the stressed syllable?

The metrical aspect of phonological representations figures in every contribution to the volume in explicit or implicit ways. Perhaps the paper that most clearly invokes the whole body of the Prosodic Hierarchy (Nespor and Vogel 1986, Selkirk 1986), from syllable and feet up to the intonation phrase, is **Patrik Bye's** study of defective iambic pentameters in the poetry of Thomas Wyatt, a figure in the English Renaissance. In this contribution, entitled "Medial catalexis in Sir Thomas Wyatt's iambic pentameter", Bye takes issue with those who deny that Wyatt wrote in iambic pentameters because of the many metrically irregular lines that can be found in his poetry. He also argues that Wyatt's irregularities do not diminish the quality

[2] Transcriptions of Danish follow the notational conventions in Basbøll (2005).

of Wyatt's verse, contesting those who claim that Wyatt did not master the metrical art of the pentametric line, even when they recognize that his intention was to write iambic pentameters.

Bye's main argument is based on careful examination of over 2,000 of Wyatt's lines, with eyes on hypometrical lines, i.e., those with fewer syllables than the standard pentameter. He explores the extent to which the units of poetic meter and linguistic intonation are consistent with each other, and whether a substantial set of the metrical resolutions employed by Wyatt do take place at those positions where one would also expect major intonation breaks. A major claim of the paper is that hypometrical iambic pentameters often contain catalectic feet, that is, heavy syllables not preceded by a light syllable in the same foot, since those empty positions can be justified to appear where intonation breaks are more frequent in the line, namely, between the second and third feet. In addition to the analysis, the paper includes much informative material, such as Wyatt's stanza structure and rhyming as well as his biography, and it offers a thoughtful discussion of the interface of meter and intonation (and performance more generally).

"Complex onset and coda markedness in Persian" is the title of **Martin Krämer's** study, one of the most representative examples of the AM/OT conjunction in this volume. Krämer examines the way native speakers of Persian (19 of them) accommodate the word-initial complex onsets they find in new words: both nonce words and words borrowed from a foreign language like English. How would they pronounce words such as *play* or *stone* or the exotic sounding foreign name of a fictitious soccer player, say, *Mpada?* Do they keep them faithful to the original pronunciation, or do they reproduce the patterns of their native Persian when encountering a word with an unfamiliar structure? Do they adopt one uniform strategy to pronounce such words, or does their pronunciation use alternative repairs in random, unpredictable ways? The answer is nothing but surprising, as their behavior is none of the above. As expected, Persian speakers systematically avoid complex onsets in foreign words, which is consistent with the fact that these are not licensed in Persian, but still, the repairs are not uniform: their preferred strategy is to insert a prothetic vowel in front of the cluster, e.g., *stone* -> [ʔəs.ton], but they will nevertheless split some legitimate clusters with an anaptyctic vowel, e.g., *trip* -> [tə.rip]. Krämer proposes that the best predictor of the repair mechanism for word-initial consonant clusters in this "interlanguage" is not in the phonotactics of Persian but the universal typology of codas in consonant clusters.

The favored strategy of the Persian interlanguage is prothesis, [ʔəs.ton], as far as the resulting coda plus onset resembles not a legitimate cluster in Persian, as one who thinks that all our linguistic knowledge is grounded on experience would expect, but, instead, a legitimate word-internal coda in a completely unrelated language like Eastern Ojibwa. To be precise, pronouncing *trip* as [ʔət.rip] would respect the phonotactics of Persian, where there are almost no restrictions on codas, but not the phonotactics of languages with some surface phonotactic restrictions on codas. Persian speakers will nevertheless avoid the complex heterosyllabic cluster, the same way speakers of Eastern Ojibwa would do because in their language a stop is highly marked in codas, thus preferring [tə.rip]. Krämer, accordingly, concludes that the phonological knowledge that guides those speakers when facing new words must be rooted in universal preferences, very much in line with a cherished topic in the OT literature: the Emergence of the Unmarked (McCarthy and Prince 1994), also in the study of L2 phonologies (cf. Broselow 1993 *et seq.*).

The paper, therefore, departs from the observation that, in languages with both prothesis and anaptyxis to repair an initial consonant cluster, the choice is dependent on the Syllable Contact Law (Vennemann 1988): prothesis is avoided where it would give rise to a heterosyllabic rising sonority cluster. The Persian data poses a challenge to this view, and Krämer offers a solution within OT by utilizing a set of licensing constraints based on a universal hierarchy of coda/onset tolerance. In Section 5, as the discussion becomes more OT internal, he shows that Gouskova's (2002) analysis of Kirghiz, which employs Syllable-Contact-Law-based constraints, fails to account for the Persian patterns, and that positional faithfulness constraints cannot do the job by themselves either. The conclusion evaluates different ways to formalize the proposed (universal) Coda Condition, either as positional markedness or positional licensing set of constraints. All in all, Krämer's paper presents a very interesting set of data, which, on the one hand, is consistent with optimality-theoretic approaches to L2, and, on the other, is highly relevant for the discussion of syllable structure within OT.

Sabonytė & Goldshtein's paper, "F0 and duration changes in unstressed vs. stressed syllables connected to postlexical stress and sentence type in Standard Lithuanian", questions a general assumption that Lithuanian stressed syllables are realized with a higher pitch than unstressed ones. The authors test whether the association of stress and high pitch is consistent in all environments. Their study concludes that the correlation between high F0 and stress is consistent in only one context: when the stressed syllable is part of the focused word in an exclamation. To sieve the effects of context, they examine the contrast between stressed and unstressed syllables in nine different three-word utterance types, in which the word of interest is always on the second position. The two variables that cross-classify the data are (i) type of utterance (statement, question, exclamation) and (ii) location of focus in the utterance (initial, medial, final). This classification implicitly invokes the prosodic hierarchy, as it takes into consideration the phonological word and its position in phrases and intonation groups. The data is, in other words, prosodically controlled.

The findings reveal that the traditional assumptions on the phonetics of stress in Lithuanian must be more nuanced. On the one hand, there are no tonal differences between stressed and unstressed syllables in most contexts. Only two types of utterance, out of nine, show a clear tendency to have systematic tonal differences between stressed and unstressed syllables. Of these two, only one, exclamation utterances, will show a consistently higher tonality in the stressed syllable. In questions, the order is reversed, such that the stressed syllable is systematically lower than the syllables without stress. When the measured word is out of focus, stress must rely on other cues different from duration or pitch, as there are no significant differences between stress and stressless syllables along those two phonetic dimensions.

At the end of their Section 3.1, Sabonytė and Goldshtein speculate, in a pure autosegmental fashion, that the higher tone of unstressed syllables in interrogative utterances might be motivated by the fact that Lithuanian, like many other languages, marks the stressed syllable of the focal word in a question with *L, that is, a low tone, and the end of the utterance with a high boundary tone H%. Consequently, the tonal line from the stressed to the final unstressed syllable is necessarily ascendent, since the pitch values of the syllables comprised between two tones is determined by extrapolation, which in this case involves a rise from the lower tonic to the higher right boundary tone.

With the same data, Sabonytė and Goldshtein also find out that the stressed syllable is consistently longer than the syllables without stress whenever they are part of the focal word in the utterance, regardless of the pragmatic type of utterance in which they appear – neutral, question, or exclamation. Outside of the focal position, stressed syllables are neither different in pitch from nor longer than stressless syllables in a consistent way.

The topic of this study is intriguing since there is little known about the prosodic correlates of sentence focus and sentence types in Lithuanian, a free word order language with semantically distinctive lexical stress. Different word orders in such languages usually convey discourse-semantic meanings which partly overlap with the functions of intonation in fully configurational languages (e.g., English). The results are valuable, but the authors, due to the complexity of the task, are cautious and take them as provisional at this stage, pending further investigation.

3. Final words

The contributions to this volume, put together, are a true reflection of the spirit and inclinations we claim have been part of the Nordic linguistic tradition from the mid-18th century until today, together with a range of other aspects that are congruent with the common threads. Many theoretical and empirical assumptions are also challenged and re-examined from a variety of standpoints, and we hope that readers will find the discussions in these papers stimulating and will appreciate their depth.

It has been a pleasure to have taken part in shaping this volume and we, of course, wish to thank our colleagues who contributed papers, those who reviewed the contributions and provided invaluable feedback, and also Peter Svenonius and the *Nordlyd* editorial team for their support throughout the process. Let us finally hope and see to it that FiNo will continue this way for a long time!

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