

# Seminar in General Metrics

Wednesday 25 January

Amsterdam, Meertens Instituut

Oudezijds Voorburgwal 185, room 2.18

## **Morning session**

Varun deCastro-Arrazola (PhD)

"The emergence of verse templates through iterated learning"

Kristen de Joseph (PhD)

"Meter as a minefield: Methodological issues in the study of Vedic metrics".

Mirella De Sisto (PhD)

"The Birth of the Lamb in Early Renaissance Low Countries"

*Lunch break*

## **Afternoon session**

Kristin Hanson (NIAS fellow 2016-2017)

"What's Elision For? Aesthetic Implications of the Meter of Shakespeare's Sonnets"

Marc van Oostendorp (Meertens Instituut)

"Measuring the length of Tsjêbbe Hettinga's lines"

Bariş Kabak / Christina Domene Moreno

"What can accent-meter alignment in music say about prosodic typology?"

## ABSTRACTS

Varun deCastro-Arrazola

"The emergence of verse templates through iterated learning"

Verse sets words to abstract templates, such as melodies or poetic metres. Verse templates consist of (hierarchically organised) sections (e.g. songs contain stanzas contain lines contain bars, etc.). We hypothesise that this kind of structured templates may emerge in the process of cultural transmission; unstructured sound sequences impose a challenge to short-term memory, but chunking the input makes it easier to parse and reproduce the sequences accurately.

In order to test this hypothesis, I present an iterated learning experiment where random sequences of syllables are evolved by teaching them to ten generations of subjects (like in the telephone game). The initial random sequences are generated by concatenating twelve tokens of the set {ban, bi, ta, tin}. Then, the syllable-sequences produced by each subject are given as an input to the following subject, so any bias introduced by an individual can be transmitted and amplified if the subsequent subjects detect them.

I perform a number of statistical analyses on the sequences produced by each generation of subjects. These analyses test the overall evolution of the initial random sequences, and show that the process of iterated learning makes them more learnable and introduce a number of structural regularities. I interpret the regularities as the result of pressures imposed by memory and phonological features of Dutch.

Kristen de Joseph

"Meter as a minefield: Methodological issues in the study of Vedic metrics".

The Sanskrit tradition comprises a metrical dataset of unprecedented scope, but the study of its oldest testimony, that of Vedic metrical poetry, is beset by serious empirical difficulties. While the oral tradition and, later on, the manuscript tradition were able to preserve these texts rather faithfully from at least the mid-2nd millennium BCE, for all their efficacy these methods were not without their faults: over the course of centuries, the texts suffered at the hands of later redactors and scribes whose own native idioms were far removed from that of the Vedic poets. Vedic metrical poetry is thus a pastiche of "authentic text" (already a problematic concept in the Vedic context) - composed in a natural meter in the early Vedic period - and the work of later waves of redactors (not to mention scribes who occasionally left the imprint of adstrates). The redactors not only interpolated content from different periods into the hymns, but even edited the meter based on an insufficient familiarity with early Vedic prosody; efforts to resuscitate the authentic prosody have been undertaken since the late 19th century. What can we do with such a valuable but flawed dataset? While I don't profess to have a definitive answer, I will explore the case of Vedic as an example of how sensitivity to textual history can sometimes make or break the study of ancient metrical traditions, as well as some potential directions for how we can overcome these empirical limitations.

## Mirella De Sisto

### “The Birth of the Iamb in Early Renaissance Low Countries”

During Renaissance, Dutch poets abandoned accentual verse, the typical Germanic meter, in favour of iamb. This change was the result of the influence of French and Italian Renaissance poetry. The meter used in the two Romance languages was very distant from Dutch poetic tradition; therefore, it had to undergo some adaptations in order to be incorporated into the recipient poetry. The result was an iambic foot-based meter, which was different from the sources that were based on a fixed number of syllables and a limited number of fixed stressed positions. However, it was this new form that established itself and has been used by Dutch poets since then. Previous attempts of more “French-like” verse were made by poets of the south of the Low Countries but they did not manage to spread. The success of one form rather than the other is conditioned, to a certain extent, to the language context in which it develops.

Another element contributing to the accommodation of iambic meter into Dutch poetic tradition was the great number of loanwords entering Dutch lexicon because of the contact with French language in particular. This influx of foreign words is expected to have modified the stress system of the language in allowing more and more words with non-initial stress.

The aim of this project is to analyse metrical and language change and to determine the role played by lexical borrowings in the two processes. The adaptation and development of iambic meter in Dutch poetry will be used to investigate two aspects of contact-related change in poetic tradition: the first being the way loanwords contribute to the process and how this reflects a change occurring in the language itself; the second aspect will be the analysis of how differences across languages mirror differences across their poetic traditions.

## Marc van Oostendorp

### "Measuring the length of Tsjêbbe Hettinga's lines"

Tsjêbbe Hettinga (1949-2013) was probably the only Frisian poet ever to acquire international fame, not least of all because of his impressive performances of his own poems. These poems were known for their long lines; in this talk I investigate how long these lines really were and I show that there are two dimensions to this length: there is a fixed number of syllables on the one hand, and a fixed number of stresses on the other, but these two are in no specific relation to each other (there is no alternating stress). I show how this double metrics led to the special effect of Hettinga's poems, and I show how it is possibly related to some metres used by e.g. Dylan Thomas. Hettinga had spent some of his time in Wales, and it is thus possible that there has been a direct influence of one minority language (Welsh) on another one (Frisian).

## What's Elision For? Aesthetic Implications of the Meter of Shakespeare's Sonnets

Kristin Hanson

UC Berkeley and NIAS

Amsterdam Meeting of the Seminar in General Metrics

25 January 2017

The principles governing syllable count are perhaps the longest recognized and best agreed upon formal aspect of the meter of Shakespeare's Sonnets. The meter as borrowed from Italian, influenced by French adaptations, and developed by earlier English sonneteers retained the template of the original meter and its correspondence rule requiring one syllable in each of its ten metrical positions, plus one optional unstressed line-final syllable. In the Sonnets, this rule is strictly respected, setting the meter of the Sonnets apart from that of his plays. Yet variation in syllable count flourishes, through elisions either borrowed from Romance models as in (i), or innovated by English predecessor: as in (ii):

i. But flowers distill'd, though they with winter meet, (Son. 5.13)

w s w s w s w s w s

ii. A liquid prisoner pent in walls of glass, (Son. 5.10)

w s w s w s w s w s

In this talk, I will argue that these elisions perfectly exemplify the Russian formalist aesthetic principle that form is content in art. First, I will show how Shakespeare uses these elisions to explore the same question linguists have of what, exactly, is a syllable. Then I will show that this question asks about language the same question the Sonnets ask about love and life and art, which is a philosophical question about repetition and how it can require simultaneously sameness and difference.

## What can accent-meter alignment in music say about prosodic typology?

Bariş Kabak and Christina Domene Moreno  
University of Würzburg

Vocal music has been argued to provide an instructive ground to test the ramifications of accentual prominence for the language user. In English and German, for instance, stressed syllables have been shown to align with relatively strong beats of musical meter (Palmer & Kelly, 1992), suggesting the lexical nature of stress in these languages. In French, where stress is not lexical but fixed to the end of an (accentual) phrase (Jun & Fougeron 2002), metrical prominence in traditional songs has also been shown to consistently align with word-final positions, which was taken to suggest the existence of word-final stress in French (Temperley & Temperley 2013). These findings have recently been extended to pitch accent systems such as Tokyo Japanese (TJ), where accented syllables tend to fall on strong beats of the meter, syllable weight acting as an ancillary in the case of unaccented syllables (Cho 2016). The consequences of these findings for prosodic typology remain far from clear, however, since the outcome so far culminates on the isomorphism between linguistic accent and musical prominence despite employing languages with traditionally distinct accentual systems (English/Dutch: lexical stress, French: phrasal stress, TJ: pitch-accent systems).

Here, we extend this line of research to another language, Turkish, which provides a seemingly mixed accentual system, where prominence, which is regularly word-final, is modulated by lexical and morpho-syntactic properties, leading to non-final word stress patterns (e.g., Kabak & Vogel 2001). Although much has been debated about the precise mechanisms responsible for Turkish stress assignment, recent studies on intonation classified Turkish as a pitch-accent system, where word-final prominence is rendered as an artefact of prosodic phrasing (Kamali 2011, Güneş 2015). Studies exploring the significance and functional load of Turkish stress for the language user reveal an even more complex picture: In speech perception and processing, Turkish speakers experience difficulties with identifying stressed syllables (Altmann 2006) and evaluating lexical stress violations (Domahs et al. 2012) while they can reliably use stress cues for word segmentation (Kabak et al. 2010, van Ommen 2016).

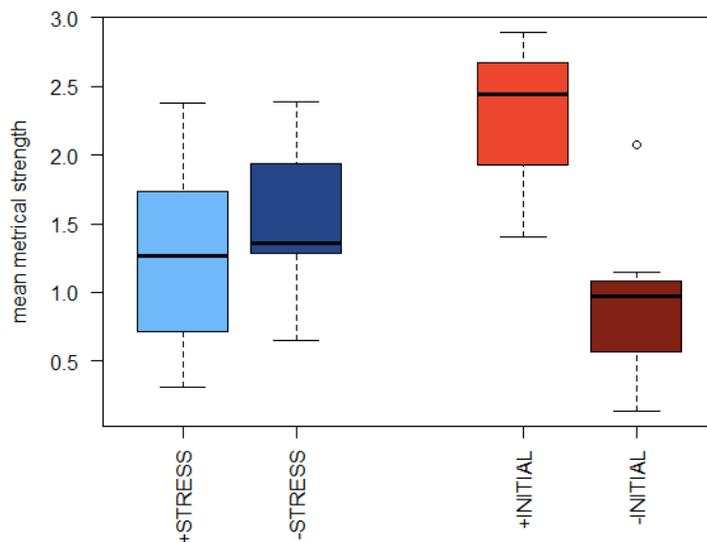
Given the results from French and TJ, and the fuzzy nature of word stress in Turkish, we would also expect accentual prominence to manifest itself in music, at least in the case of words with lexical (non-final) stress. Following the methodology used in Temperley & Temperley (2013), we asked (i) whether there is a tendency for stressed syllables (final/non-final) in Turkish to coincide with strong musical positions, and (ii) whether the final syllables of polysyllabic words coincide with strong musical positions even in non-phrase final contexts. We also asked which other phonological phenomena might modulate text-to-tune alignment in Turkish songs.

Our first corpus (Corp1) consists of the lyrics of 12 Turkish children's songs composed in the "makam" tradition. Each song employs one of five different "usuls" (rhythmic patterns, each with a distinct inherent distribution of metrical weight, see Holzapfel & Bozkurt 2012). Syllables were coded for linguistic features (stress, syllable structure, position in phrase) by a native speaker of Turkish, and for metrical weight (inspecting the musical score) by a trained musician. We then determined the distribution of stressed vs. unstressed syllables across beats with high and low metrical weight. In a second step, we excluded phrase-final words to avoid confounding word-level with phrase-level stress. We finally tested the interaction of musical prominence with syllable type, vocalic duration, and syllable position. In order to extend the generalizability of our observations to other musical styles, we analyzed an additional set of Turkish children's songs (Corp2) with typical western prominence distributions.

Preliminary results show no significant effect of stress, syllable type, or vocalic duration on mean metrical weight in Corp1, thus indicating a lack of isomorphism between musical prominence and prosodic factors. This tendency can also be confirmed for C2. Closer inspection of our results

reveals another factor that strongly predicts music-language alignment in Turkish: Mean metrical strength is significantly higher for word-initial syllables which thus align more strongly with musical prominence than any other syllable (Figure 1). Against the background of previous empirical findings and typological observations, we suggest that accent-musical prominence isomorphism should not be taken to manifest the typology of an accentual system, but rather its utility in the language in question. Stress, being an intrinsic property of the Turkish word phonological system, is largely inert with no corollary beyond its delimiting function to signal word boundaries in the language. Aligning prominence to a word edge in music then accords with the precise function of stress for the language.

**Figure 1: Mean metrical strength in stressed vs. unstressed and word-initial vs. non word-initial positions:**



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