Parametrization of tonal systems

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Description of the Workshop

The study of tone has accumulated impressive qualitative evidence on the diversity of tonal systems in the languages of the world. Yet when it comes to quantitative estimates of this diversity, the current results are much more modest. The aim of this workshop is to stimulate discussion on quantifiable parameters of tonal systems which could serve as a basis for generalizations about variability of tone. In our view, parametrization of tonal systems is an important step towards better typological explanation.

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The subject matter for the discussion is threefold:

- Systematic description of regularities in the population of tonal languages. What varies and within what limits, what is typical and what is not?
- Which parameters of variation of tonal systems are of theoretical interest to typology?
- The current theoretical predictions about tonal systems: what phenomena are expected to be more frequent, correlated, or at all extant, and why?

One practical task that motivates the relevance of the discussion is the design of typological databases for tonal languages. To be able to leverage systematic data for typological explanations one is best served by the theoretically and empirically grounded set of parameters.

Background

Tonal languages are numerous and diverse, they are present in all linguistic macro-areas, and dominant in a few. Recent estimates informed by wide samples predict that 41% to 43% of the

world's languages are tonal (Maddieson 2013; Maslinsky & Vydrin & Gerasimov 2025). The functional load of tone varies greatly from language to language, but overall, tone is able to express all kinds of meanings, both lexical and grammatical. It has been argued that "Tone can do everything that segmental or metrical phonology can do, but the reverse is not true" (Hyman 2011).

At the same time, the typology of tone, pioneered by (Hyman & Schuh 1974) and (Maddieson 1978), remains a relatively weak point in contemporary tonology. It is still characteristic of the typological studies of tone to be confined to particular families and/or areas (Cahill 2011; Kirby 2017; DiCanio & Bennett 2020), among others. A few lines in tonological research are of most relevance to the present dicsussion, as they focus on potentially quantifiable parameters of tonal systems. Cross-linguistic comparisons to date primarily revolve around most basic parameters, such as the number and the types of tones (level or contour), e.g. (Gordon 2016; Hyman 2009; Hyman & Leben 2021). There is still much room both for more fine-grained parameters and for a more comprehensive typology that would bring together different aspects of tonal systems.

There is also a solid conceptual basis for the typology of tonal processes that are potentially amenable to quantification (Hyman & Schuh 1974; Hyman 2007). The studies into the range of grammatical meanings, expressed by tones, as well as types and origins of grammatical tones (Palancar & Léonard 2016; Konoshenko 2017; Rolle 2018) pave the way to measuring the variability of both tonal semantics and exponence (Grimm 2023; Kaldhol 2024).

In the contemporary typological studies, building of databases is of particular importance. Most of existing databases, such as WALS or LAPSyD, offer just one-dimensional discrete evaluation of complexity of a tonal system, and/or have regional scope (e.g., Phonotacticon). A profound discussion of the topics mentioned above will be helpful in the development of more sophisticated typological databases.

Topics for discussion

In this workshop we will specifically invite and seek contributions which address the following questions (the list is not exhaustive, other typological-oriented topics are welcome):

- Quantification of the functional load of tone.
- Lexical diffusion of tone: typological predictions and ways to measure.
- Regularities in the grammaticalization of tone.
- Variability of the phonological tonal contrasts.
- Relationship of tone and prosodic categories; interaction of tone, stress, and intonation.
- Typology of tonal processes.
- Typologically aware description of individual tonal systems.
- Theoretical predictions about the variation of tonal systems.

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