Typological tendencies in verse and their cognitive grounding

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8 Conclusion

Verse is a cultural system inherent to every human society, and I have argued that shared aspects of human cognition may have shaped the diversity of verse systems in three specific ways. First, the numeric requirements imposed by verse templates do not demand counting beyond four; second, when creating new texts, poets and songwriters are more faithful to templatic features towards the end of lines; third, the musical properties of templates interact with the prosodic properties of texts in a non-random manner. To be sure, these three findings constitute hypotheses with varying empirical support.

In the even chapters of the dissertation (2, 4, 6), I have developed strategies to describe verse systems, focusing on methodologies which can be applied in a consistent way across traditions. These methods have been applied to a range of languages in this dissertation, but their main merit is that they have the potential to highlight core, invariant aspects of verse if employed on larger samples. The experiments presented in the odd chapters (3, 5, 7) use simplified verse-like material to narrow down, in a controlled fashion, hypotheses on the factors driving the three recurrent verse features listed above. By combining these two types of studies, I promote a research programme where the analysis of verse phenomena directly engages with the study of human cognition. This programme constitutes a two-way street. On the one hand, the diversity of human verse provides patterns (such as final strictness) which need to be accounted for by theories of cognition; on the other hand, these theories (e.g. core systems of number, Feigenson, Dehaene & Spelke 2004) bring forth coherent sets of principles which are expected to shape any human cultural system, including verse.

As stated in the introduction, the overarching goal of the dissertation is to develop ways of explaining features of verse, particularly those with a widespread distribution. I have focused on explaining *formal* aspects of verse from a *cognitive* perspective. Specifically, Part 1 covers how to explain features of templates, and Parts 2 and 3 cover how to explain the way words are set to templates. Still, the enterprise can be expanded (1) by addressing other dimensions, such as the meanings, social dynamics, or functions of verse (e.g. Savage et al. 2015), (2) by investigating causal effects of verse other than those derived from shared cognitive

capacities.

Indeed, the kind of explanations I have offered involve biases present at the online processing level of individuals, which entails that they are unable, on their own, to explain the tendencies already present in the verse corpora (Enfield 2014:18). Cognitive hypotheses about synchronic facts generally suffer from a linkage problem (Clark & Malt 1984:201), that is, we need to provide an account of how some (but not all) online biases get transmitted across generations so that a verse system as a whole shows a tendency synchronically.

> The synchronic facts are an aggregate outcome of individual people's biases multiplied in a community and through time. The bias has a causal effect precisely in so far as it affects the likelihood that a pattern will spread throughout that community. (Enfield 2014:18)

How these processing biases come into place phylogenetically or ontogenetically is not a topic treated in this dissertation. Similarly, it is beyond its scope to investigate processes of interaction and diachrony by which verse systems evolve under the pressure of e.g. language contact or psychological factors. In this respect, only the iterated learning experiment in Chapter 3 tackles a larger temporal frame, by analysing the effect of cultural transmission using a simple model where each subject indirectly interacts with another subject by trying to imitate accurately their syllable sequences.

The themes which I have developed in the dissertation do provide, nonetheless, building blocks on which three specific strands of future studies can build readily.

First, I have highlighted the need for comparative concepts (such as instance-strictness, Section 4.2.2) and standardised descriptive measures (such as the under-representation metrics to describe textsetting, Section 6.2). Substantiating robust typological tendencies requires the systematic application of these kinds of methods to balanced samples of verse traditions. Furthermore, a successful typology of verse would benefit from two additional collaborative ingredients. On the one hand, it is critical to compile existing resources on versification systems, whether raw data, or analytic and descriptive publications. This facilitates the building of samples and, more pressingly, it highlights major gaps in the documentation of endangered verse traditions. On the other hand, effective cross-linguistic studies become more straightforward when the comparative concepts and metrics are aggregated into conventional data structures, be them under unified databases or distributed repositories.

Second, the experimental work here presented offers a benchmark for future studies with speakers from languages other than Dutch. Psychology-related fields

such as psycholinguistics or music cognition generally suffer from an ethnocentric bias, sometimes assuming that the principles observed in Western undergraduate students directly generalise to humankind as a whole (Majid & Levinson 2010). Hence, it would prove informative to conduct our experiments with subjects from a variety of backgrounds. The chunking and final strictness effects shown in Chapters 3 and 5, even if based on non-linguistic stimuli (i.e. drum strokes and meaningless syllables), are prone to be affected by the rhythmic properties of Dutch. To be sure, comparable studies on the grouping of acoustic events have demonstrated marked differences between speakers of e.g. English and Japanese (Iversen, Patel & Ohgushi 2008). While the experiments in this dissertation do show parallels with real verse data from several independent languages, it is too early to establish the extent to which the effects are universal or language-specific. In this respect, follow-up studies may sample speakers from languages with different word prosody, phrasal prosody, and information structure.

Finally, brain imaging techniques can complement the behavioural findings from Chapters 5 and 7. Methods with high temporal granularity such as EEG can help pinpoint the contexts which violate expectations, while using a minimally conscious task from the listener's perspective (cf. the judgement task in Chapter 7). Additionally, the continuous nature of neural signals (e.g. mismatch negativity, Duncan et al. 2009) provide an adequate means to account for the gradual nature of words-to-template alignment rules in songs and poetry (Ryan 2011), as argued in the case of final strictness (Part 2) and textsetting (Part 3).

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