'Every language gets the writing system its users can process': Exploring the relation between the linguistic and processing fits

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It is a trivial observation that ideally, writing systems should not only structurally and typologically suit the respective languages they provide with a written form (this is their 'linguistic fit') but that they also be physiologically, psycholinguistically, and cognitively manageable for readers and writers ('processing fit'). While the cognitive reality and significance of certain isolated features of writing systems has been the subject of psycholinguistic research (an example being their phonographic [in]transparency or 'depth', cf. Katz/Frost 1992; for more features, cf. Daniels/Share 2018), the interaction between the structural and cognitive perspectives calls for more comprehensive – and systematic – research. In this talk, which is situated in a functionalist, usage-based grapholinguistic framework rooted in semiotics (Meletis 2020), it is argued that studying the intricate relations between the linguistic and processing fits can potentially explain why writing systems are structured the way they are by shedding light on the following questions:

- Diachronically, how has human processing pressure influenced the structures found in writing systems (cf. Dehaene 2009), and how have different structural features affected each other (such as *type of writing system > inventory size > graphic complexity*, cf. Miton & Morin 2021)? And, as a result, how predictable is grapholinguistic change?
- Synchronically, how does the structure of writing systems influence users' processing of them – and how is this affected by language-specific features (cf. Pae & Wang 2022, Winskel 2022)? As a result, are some systems cognitively more demanding or 'difficult' than others – if so, why and how? How do these systems or how do their users compensate for this? Does every language get the writing system it 'deserves' and/or that its users can process?
- Are there cognitive universals of (processing) writing, and what could they be (cf. Handel 2019)? How do they fit into the tension between formal and functional universality vs. diversity/variation across the world's many writing systems?
- What role do sociolinguistic factors play (the so-called 'sociocultural fit'), and how do they interact with or even override the linguistic and processing fits?

To explicate these questions (and preliminary answers to them) with specific examples, this talk focuses on three cross-grapholinguistically recurring semiotic principles: (1) iconicity (especially pictography, but also diagrammaticity), (2) transparency, and (3) figure–ground (which includes, for example, the varying sizes or spatial positions of graphic units in relation to their function in a given system and its use).

At a metalevel, and at the end of this talk, it is discussed how the aspects mentioned and examples provided concern also the very core of the question of how emerging cognitive approaches to grapholinguistics can (and should) effectively operate as well as what they can achieve. This invokes the 'deadly sins' of cognitive linguistics that should be avoided (Dąbrowska 2016) such as downplaying the variation found in the world's writing systems (Kim & Tjuka 2024).

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