

**Decoding the Song: Histogram-Based Paradigmatic and Syntagmatic Analysis of Melodic Formulae in Hungarian Laments, Torah Trope, Tenth Century Plainchant and Koran Recitation**

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**Abstract**

The development of musical notation and the changing relationship between textual syntax and musical semiotics were inherently connected to the transformation of a culture based on oral transmission and ritual to one based on writing and hermeneutic interpretation. Along this historical continuum, notation functioned either to reconstruct a previous, remembered melody or to construct a newly composed melody. For the chant scholar the question arises as to when and under what conditions melodic formulae became solidified as musical material. In the present study we examine examples from improvised, partially improvised, partially notated and gesture-based notational chant traditions: Hungarian *síratók* (laments), Torah cantillation, tenth century St. Gallen plainchant, and Koran recitation. We explore examples from these various traditions through computational tools for paradigmatic analysis of melodic formulae and gesture.

Exploring the functionality of melodic gesture, musical syntax and musical semiotics in the specific contexts of speaking, singing, reading and writing enhances the comprehension of the relationship between melodic formula and textual syntax within these divergent forms of religious chant.