Pictish symbols: Letting graphetics inform graphematics

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'Pictish Symbols' are an early medieval symbol system attested primarily on stone monuments throughout a large area of modern-day Scotland. Despite many accounts of its claimed religious, spiritual, totemic and social significance, the system's original function remains unknown. Arguments have been advanced both that the Pictish Symbol system constitutes a narrowly defined writing system (Forsyth 1995) or else that it constitutes a non-linguistic symbol system (Sproat 2014). This paper explores whether applying a grapholinguistic framework (Meletis 2020) to the Pictish Symbol system can provide insights into its form and nature.

The majority of the Symbol corpus consists of geometric basic shapes that do not realistically depict physical entities. This paper presents evidence that geometric basic shapes are generated by transforming one of three elementary forms in one of five regular ways, and optionally combining the result with one of two modifiers: forming a 3×5×3 paradigm of basic shapes. I observe that properties of intrinsic symmetry and graphetic graphotactics provide independent support for the proposed paradigmatic model.

The geographic distribution of basic shapes and the carving methods of individual texts suggest that a systematic change occurred before c. 700 AD to the modification parameter resulting in two distinct scriptual traditions: an earlier 3×5×3 script (attested on incised monuments in the north) and a later 3×5×2 script (attested on relief-carved monuments in the south).

The structured nature of the basic shape inventory suggests that the graphetic system was designed to systematically distinguish 45 graphemes and was supplemented by 9 naturalistic animal graphemes. A cross-linguistic comparison suggests consistency with attested abugidas, such as Tagbanwa, Buhid and Haninu'o (Philippines). Furthermore, a comparison with the ogham script of the British Isles shows strong structural similarities and provides evidence of a contemporary neighbouring writing system distinguishing a 3×5 paradigm of consonant graphemes.

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Sproat, Richard, 'A Statistical Comparison of Written Language and Nonlinguistic Symbol Systems', *Language*, 90.2 (2014), pp. 457–81, doi:10.1353/lan.2014.0031