This paper is complementary both to work like that of Hornstein and Pietroski [2], who explicitly exclude phonology in their discussion of a possible set of 'basic operations' for language; and to work like that of Mesgarani *et al.* [3] who report finding evidence for phonetic/phonological feature encoding in the brain. We are interested in the combinatoric and syntactic properties of phonological computation. We are influenced by scholars like Poeppel [4] who maintain that neuroscientists need theoreticians to tell them what primitives to look for in the brain: "The commitment to an algorithm or computation [...] commits one to representations of one form or another with increasing specificity and also provides clear constraints for what the neural circuitry must accomplish. The kinds of operation that might provide the basis for investigation include concatenation, segmentation, combination, labelling, and other elementary (and generic) operations that could be implemented quite straightforwardly in neural circuits". Our discussion of basic notions like variables and functions and the combinatorics of phonological data structures built from atomic symbols is inspired by [1].

References

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