

# **Parts of a whole: Distributivity as a bridge between aspect and measurement**

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Why can I tell you that I 'ran for five minutes' but not that I '\*ran to the store for five minutes'? Why can you say that there are 'five pounds of books' in this package if it contains several books, but not '\*five pounds of book' if it contains only one? What keeps you from using '\*sixty degrees of water' to tell me the temperature of the water in your pool when you can use 'sixty inches of water' to tell me its height? And what goes wrong when I complain that '\*all the ants in my kitchen are numerous'?

The constraints on these constructions involve concepts that are generally studied separately: aspect, plural and mass reference, measurement, and distributivity. In this talk, I will give an overview of my dissertation, which provides a unified perspective on these domains, connects them formally within the framework of mereological semantics, and uses this connection to transfer insights across unrelated bodies of literature. A generalized notion of distributivity is proposed and formalized as a parametrized higher-order property called stratified reference: a predicate that holds of a certain entity or event is required to also hold of its parts along a certain dimension and down to a certain granularity. The dimension parameter is a thematic role in the case of 'each' and 'all', a measure function in the case of pseudopartitives, and time or space in the case of 'for'-adverbials. The granularity parameter involves pure atoms in the case of 'each', pure and impure atoms in the case of 'all', and very small amounts of space, time, or matter in the cases of pseudopartitives and 'for'-adverbials. Stratified reference is used to formulate a single constraint that explains each of the judgments above. The constraint is exploited to improve on existing characterizations of distributivity, atelicity, and monotonicity of measurement.

The framework results in a new take on the minimal-parts problem that occurs in the study of atelic predicates and mass terms. It scales up successfully from temporal to spatial aspect, and it explains why pseudopartitives and other distributive constructions are sensitive to the difference between intensive and extensive measure functions. It provides a fresh view on atomic and cover-based theories of quantificational distributivity. The framework is also used to account for the scopal behavior of 'all' and of 'for'-adverbials with respect to cumulative quantification and dependent plurals. Together with a novel theory of collective predication, the framework also provides an account of the differences between such predicates as 'be numerous' and 'gather' as they interact with 'all'.