1125-N1-1294 **Irma E. Stevens*** (istevens@uga.edu), 110 Carlton St., University of Georgia, Athens, GA 30602, and **Kevin C. Moore** (kvcmoore@uga.edu), 110 Carlton St., University of Georgia, Athens, GA 30602. *A Case Study: When Graphs Contain Everything.*

A two-dimensional Cartesian graph represents the relationship between two quantities. To create a graph of two quantities given a dynamic situation, a productive way of reasoning involves conceiving the situation as entailing two quantities' magnitudes and their covariation, choosing to orient these magnitudes orthogonally, and then uniting these magnitudes in a way that produces a graph. Researchers, however, have found that students develop ways of thinking about graphs—including iconic translations and seeing 'graphs as wire'—that do not entail isolating relevant quantities. Over the course of a semester-long teaching experiment in which we presented an undergraduate pre-service secondary teacher with graphing tasks using dynamic situations (e.g., Ferris wheel ride), we observed a student who first constructed and operated on a graph as if the graph contained everything in the situation (e.g., horizontal and vertical components, arc length). We will discuss how her ways of thinking about graphs made constructing and interpreting graphs problematic for her, and indicate how isolating quantities and reasoning quantitatively about magnitudes impacted her understanding of graphs. (Received September 16, 2016)