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**Kevin C. Moore\*** ([kvcmoore@uga.edu](mailto:kvcmoore@uga.edu)), 105 Aderhold Hall, Dept. of Mathematics and Science Education, UGA, Athens, GA 30602. *Graphing habits and students' thinking about graphs emergently.*

Numerous researchers have argued that thinking about graphs as representing covariational relationships—how two quantities change in tandem—is a productive way of thinking for undergraduate mathematics studies. These same researchers have illustrated that students experience sustained difficulties thinking about graphs in terms of covarying quantities. In this paper, I report on clinical interviews designed to gain insights into undergraduate students' propensity and capacity to think about graphs as emergent traces of covariation. Contributing to the extant literature base, I describe students' ways of thinking that were not productive for graphically representing covariational relationships that constitute some phenomenon (e.g., a group of individuals taking a trip). In addition to detailing students' ways of thinking, I explain the extent that students experienced perturbations as they attempted to graph relationships that they perceived incompatible with these ways of thinking. For instance, students encountered difficulties graphing relationships that did not “start” along the vertical axis. These findings clarify tacit features of curriculum and instruction that potentially constrain students' opportunities to understand graphs as emergent traces of covariation. (Received July 21, 2015)