In recent decades, research has shown that teachers and instructors’ views about the discipline they teach inform their instructional approaches. As a foundation for investigating this relationship in statistics, we explore how (or whether) beginning graduate students in statistics perceive statistics as distinct from mathematics. Using the lens of epistemology, we share findings from interviews with four, first-year graduate students who served as graduate teaching assistants (GTAs) in a statistics department. Using data collected from interviews across their first year, we constructed three models that explain how the GTAs conceived of the nature of statistics in relation to mathematics. Additionally, we identified two continua that reveal how participants came to understand the nature of doing statistics. We discuss how these models and continua form the basis of a unified statistical epistemology that has implications on their views for statistics education. (Received September 07, 2018)