1135-J5-299 **Brent Hancock*** (brent.hancock@unco.edu). *Collective Argumentation Regarding Integration of Complex Functions within Three Worlds of Mathematics.*

Although undergraduate complex variables courses often do not emphasize formal proofs, many widely-used integration theorems contain nuanced hypotheses. Accordingly, students invoking such theorems must verify and attend to these hypotheses via a blend of symbolic, embodied, and formal reasoning. This report explicates a study exploring student pairs' collective argumentation about integration of complex functions, with emphasis placed on students' attention to hypotheses of integration theorems. Data consisted of task-based, semistructured interviews with pairs of undergraduates, as well as classroom observations. Findings indicate that participants' explicit qualifiers and challenges to each other's assertions catalyzed new arguments allowing students to reach consensus or verify conjectures. Although participants occasionally conflated certain formal hypotheses, their arguments married traditional integral symbolism with dynamic gestures and clever embodied diagrams. Participants also took care to avoid invoking attributes of real numbers that no longer apply to the complex setting. Teaching and research implications are discussed as well. (Received August 21, 2017)