

1154-O1-2227      **Jeremy Case\*** (jrcase@taylor.edu) and **Sam Stueckle** (sstueckle@trevecca.edu).  
*Mathematical Explanation as an Aesthetic*. Preliminary report.

A traditional view of knowledge is that knowledge is justified true belief. Assuming a mathematical result is true, a person may not believe, or feel satisfied, with a valid argument. Beginning mathematicians often want examples to be convinced. Seasoned mathematicians may need explanations since most have seen counterexamples of seemingly solid proofs. Furthermore, a skeptic could challenge every deduction or claim. When does a proof become accepted? We propose that Mathematics at its core is a creative act, and every creative act has at its core an aesthetic. Mathematical aesthetics provides a necessary guide of mathematical knowledge or at least the acceptance of mathematical knowledge. (Received September 17, 2019)