

1154-O1-2716 **Susan Ruff*** (ruff@mit.edu). *How logic is presented may obscure or enlighten.*

Whether a proof enables readers to recognize why a statement is true may depend on both the proof's logic and how that logic is presented. This talk focuses on the latter.

If a proof's logic is sufficiently amenable, a somewhat obvious strategy for making the proof explanatory is to add text that explicitly draws readers' attention to why the statement is true or to salient aspects of the proof. This strategy may increase the length of the proof or of the surrounding exposition. A less obvious strategy is to use Known \rightarrow New structure to craft the proof so it flows well, thus revealing the flow of the underlying logic while keeping the proof concise. These two strategies are complementary. I will explain Known \rightarrow New structure and provide examples to illustrate how combining the two strategies can help readers to follow a proof and, assuming the underlying logic is sufficiently amenable, to recognize why a statement is true. (Received September 17, 2019)