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Sarah-Marie Belcastro* (smbelcas@cs.xu.edu), Xavier University, Cincinnati, OH. *How the way we 'see' mathematics changes mathematics*. Preliminary report.

In the philosophy of science, there are theories which mediate between social constructivism and realism. I will adapt an aspect of one such theory, agential realism, to mathematics; my primary metaphor will be that of windows in a room as a limiting factor on our visualizations of mathematical ideas. In this same vein of adaptation, I will compare some aspects of taxonomic systems in science with classification systems in mathematics. Finally, I will draw these two seemingly unrelated threads together in order to describe how our internal conceptualizations function together with our choices of mathematical priorities to influence which mathematics is known and which remains unknown. (Received September 28, 2005)