

Visualism in Mathematics: Diagrams and Writing

Abstract

What role do diagrams play in mathematical thinking? Prof Chakraborty's innovative attempt to engage with the logic of diagrams should alert us to the nature of mathematical writing. Is mathematical writing purely representational in character – does it 'merely' represent mathematical intuitions/truths/ideas? Or, by their very nature, does the invocation of diagrams allow us to 'see' more than by using the symbolical representation, which is the dominant mode in the doing of mathematics? I will explore this inherent tension between writing and mathematics by looking at what symbolic writing does and what specific task is undertaken by 'diagrammatic writing'. This approach will be part of a larger understanding of an essential relation between mathematical concepts and the use of visual metaphors in mathematics. The discussion of visualism in mathematics points to the importance of visual perception in mathematical thought, thereby challenging some traditional interpretations of mathematics as a platonic ideal.