

Representation in Newton's Mathematics: A Translational Approach

Paul Greenham

Abstract. Given Newton's similar translational methods in his reading of the symbolic texts of alchemy and of biblical prophecy (as I argue in Wednesday's seminar), an intriguing area for further research lies in finding a similar methodology in Newton's mathematics, in how Newton may have likewise translated the philosophical realities of the natural world into mathematical representation, via geometric construction or fluxional notation. In this talk I investigate the promising arena of mathematics for a further understanding of Newton's translational method. While I present no firm conclusions, I discuss Newton's perception of the ancient mathematicians as having cryptically incorporated the central ideas of seventeenth-century analysis into their geometric constructions and Newton's belief that his mathematics—as with his physics, alchemy and theology—was restoring corrupted and disguised knowledge from the ancient past. I also explore the idea that rather than viewing Newton's mathematics as a translational representation of the natural world, for Newton it was the inverse. Newton's natural philosophy was actually a translation of mathematical methods of argumentation into natural-philosophical phenomena.