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*Aristotelian Realist Philosophy of Mathematics*

Marc Lange writes that “Aristotelian realism allows mathematical facts to be explainers in distinctively mathematical explanations” in science as (some) mathematical facts are themselves about the physical world, while Paul Thagard describes Aristotelian realism as “the current philosophy of mathematics that fits best with what is known about minds and science.” The talk gives an introduction to these developments. Aristotelian or naturalist (non-Platonist) realism breaks the impasse between Platonist realism and nominalism. It holds that the objects of mathematics are realizable in the physical (or other non-abstract) world. Though favored by many thinkers from Aristotle to Mill, such a view receded in twentieth century philosophy of mathematics. It has been revived by such authors as Franklin, Gillies, Jacquette, Irvine and Hossack. Mathematical features of the world include quantity, structure, pattern, complexity, relations. Aristotelian realism begins with applied mathematics and the mathematical properties of physical things such as symmetry, ratio and continuity, rather than with (apparent) abstracta such as sets and numbers. The main objections to Aristotelian realism are addressed, such as the fact that large infinities and perfect geometrical figures cannot be physically realized.