The Untenability of the Standard Platonist View: A Threat from the Incompatible Mathematical Theories

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Abstract:

The presentation distinguishes two types of Platonist approach, namely the Standard (or Traditional) one and the newly emerged or Full-blooded (or Robust) one. In relation to this distinction I am going to argue that if the ontology of mathematics is intended to defend plausibly in a Platonist way then this cannot be done according to the Standard version. This will draw our attention to the plausibility of the Full-Blooded version.

The plausibility of the two versions of Platonism will be examined in relation to the central problems of the philosophy of mathematics, namely the truth-proof problem and the accessibility problem. The surveying of the truth-proof problem will bring to the surface the *prima facie* plausibility of the Platonist approach, as well as the apparent accessibility problem of it. Focusing on the accessibility problem will help us to identify two conditions that have to be met any particular access theory of Platonism. These will be the reducibility condition, and the matching one. The Traditional version will appear an insufficient philosophical theory in relation to the two former conditions. The insufficiency will be demonstrated in the area of the incompatible mathematical theories, namely in the area of Euclidean and hyperbolic geometries. It will turn out that the Full-Blooded Platonism can escape the squeeze of these conditions, so can it save the original *prima facie* plausibility of the Platonist approach.

Keywords: Standard Platonism, Full-Blooded Platonism, incompatible mathematical theories, hyperbolic geometry, Euclidean geometry

References

M. Balaguer, *Platonism and Anti-Platonism in Mathematics* (OUP, New York 1998)

Ø. Linnebo, "Platonism in the Philosophy of Mathematics", in E. N. Zalta (ed.), *The Stanford Encyclopedia of Philosophy* (Fall 2011 Edition), URL=<http://plato.stanford.edu/archives/fall2011/entries/platonism-mathematics/>

B. Linsky, E. N. Zalta, "Naturalized Platonism versus Platonized Naturalism", *The Journal of Philosophy*, vol. 92, no. 10 (1995): 525-555.

W. W. Tait, "Truth and Proof: The Platonism of Mathematics", *Synthese*, vol. 69, no. 3 (1986): 341-370.