
Mathematical Definitions and a New Problem for Pyrrhonian Scepticism

Résumé

My paper identifies a previously unnoticed problem for the application of Pyrrhonian scepticism to scientific principles, in particular geometrical definitions. In the *Outlines of Scepticism* (book I, sections 8–10), Sextus Empiricus defines his sceptical method as an ability to suspend belief about any given proposition by constructing pairs of opposing and equally convincing arguments. In *adversus Mathematicos* (= *M*) I–VI, Sextus nonetheless presents a series of straightforward refutations of scientific doctrines rather than oppositions of arguments and counterarguments, even though Sextus programmatically announces at the beginning of *M* that he is going to argue by way of sceptical oppositions. That's why commentators have thought that the method deployed in *M* I–VI is not Pyrrhonian scepticism, but is rather negative dogmatism (Pappenheim, 1874: 16–17; Apelt, 1891: 258–259; Zeller, 1923: 51n2; Janáček, 1972; Russo, 1972: viii n2; Pellegrin *et. al.*, 2002: 23–24; cf. Barnes, 1988: 76–77; Desbordes, 1990: 169). Recently, however, it has become widely accepted among scholars that the apparent lapse from Pyrrhonian scepticism into negative dogmatism, which we find in *M* I–VI, can be rectified by supplementing additional arguments opposing Sextus' refutational arguments (Blank, 1998, I–IV; Desbordes, 1998: 168; cf. Barnes, 1988: 72–77; Morison, 2004: section 5).

Against this I present a counterexample. While the aforementioned strategy accounts for scientific theorems, which are usually accompanied by a proof, it fails in the case of definitions, for which there is no proof or justification of some other sort. The arguments in *M* I–VI against particular scientific definitions cannot, therefore, be instances of Pyrrhonian scepticism. Neither the standard (Annas and Barnes, 1985: 24; 39; 82–83; 98; 102; 121–122; cf. Striker, 1983: 100; Hankinson, 1995: 159) nor the most recent (Morison, 2011) interpretations of Pyrrhonian scepticism give a satisfying interpretation of Sextus' arguments against particular definitions. Hence, although Pyrrhonian scepticism is supposed to be applicable to all kinds of proposition or belief, there turns out to exist one type of proposition or belief to which it does not apply, namely scientific definitions.

REFERENCES

- Annas, Julia and Jonathan Barnes. 1985. *The Modes of Scepticism: Ancient Texts and Modern Interpretations*. Cambridge.
- Apelt, Otto. 1891. "Die Widersacher der Mathematik im Altertum." In Otto Apelt. *Beiträge zur Geschichte der Philosophie*, 253–270. Leipzig.
- Barnes, Jonathan. 1988. "Scepticism and the Arts." *Apeiron* 21(2):53–77.
- Blank, David. 1998. *Sextus Empiricus: Against the Grammarians*, Oxford.
- Desbordes, Françoise. 1990. "Le scepticisme et les 'Arts Libéraux': une étude de Sextus Empiricus, *adversus Mathematicos* I–VI." In *Le scepticisme antique. Perspectives historiques*

- et systématiques*, edited by André-Jean Voelke, 167–179. Geneva / Lausanne / Neuchâtel.
- Hankinson, R. J. 1995. *The Sceptics*, London:.
 - Janáček, Karel. 1972. *Sextus Empiricus' sceptical methods*. Prague: University Karlova Praha.
 - Morison, Benjamin. 2011. "The Logical Structure of the Sceptic's Opposition." *Oxford Studies in Ancient Philosophy* XL:265–295.
 - Morison, Benjamin. 2014. *Sextus Empiricus*, Stanford Encyclopedia of Philosophy,
 - URL: <https://plato.stanford.edu/entries/sextus-empiricus/> [last accessed on 9 May 2017].
 - Pappenheim, Eugen. 1874. *De Sexti Empirici librorum numero et ordine*, Berlin.
 - Pellegrin, Pierre, Cathérine Dalimier, Daniel Delattre, Joelle Delattre and Brigitte Pérez. 2002. *Sextus Empiricus. Contre les professeurs*, Paris.
 - Russo, Antonio. 1972. *Sesto Empirico, Contro i matematici*, Bari.
 - Striker, Gisela. 1983. "The Ten Tropes of Anaesidemus." In *The Skeptical Tradition*, edited by Miles Burnyeat, 95–115. Berkeley / Los Angeles / London.
 - Zeller, Eduard. 1923. *Die Philosophie der Griechen in ihrer historischen Entwicklung* III.2, Leipzig.