► JOHN CORCORAN AND HASSAN MASOUD, *Plato's deductivism.*
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Deductivism, a philosophy of mathematics attributed to Russell, is less epistemically restrictive than the mechanistic *formalism* attributed to Hilbert but more restrictive than the Aristotelian *cognitivism* attributed to Gödel. All three philosophies presuppose versions of "axiomatic method" [1]: "theorems" are "derived" from "axioms". All three concern how mathematicians use axiomatic method.

According to cognitivism, mathematicians know axioms to be *true* by intuitions and by derivations know theorems to be *consequences* of axioms [2, pp. 2f]. According to formalism, axioms are arbitrarily chosen character-strings and derivations employ arbitrary string-manipulation rules: mathematicians neither know axioms to be true nor know theorems to be consequences of axioms. According to *deductivism*, mathematicians *don't know* axioms to be true but by means of derivations *do know* theorems to be consequences of axioms: mathematicians know implications but not premises or conclusions.

Axiomatic method predated Plato (428/7–348/7 BCE) [4, pp.54f]. The oldest *surviving* text using it, Euclid's **Elements**, was written a half-century after Plato died [4, pp. xxii and 2, p.14].

In Plato's **Republic** 510–513 and 533 [3, pp. 1131-2, 1148–9], *Socrates* espouses deductivism: he denigrates geometrical axioms by calling them *hypotheses* (not *first principles)* and says they are unknown to geometers, who derive theorems from them. Centuries later, Proclus (410–485 AD) takes *Plato* to hold deductivism [4, pp.25].

We argue that Plato didn't hold deductivism but attributed it to Socrates for expository purposes.

[1] JOHN CORCORAN, *Axiomatic method*, **Cambridge Dictionary of Philosophy**, Cambridge UP, 1999.
[2] JOHN CORCORAN, *Aristotle's Demonstrative Logic*, **History and Philosophy of Logic**, vol. 30 (2009), pp. 1–20.
[3] PLATO, **Complete Works**, (John Cooper, editor), Hackett, 1997.
[4] PROCLUS, **Commentary on Euclid's Elements**, (Glenn Morrow, translator), Princeton, 1970.