

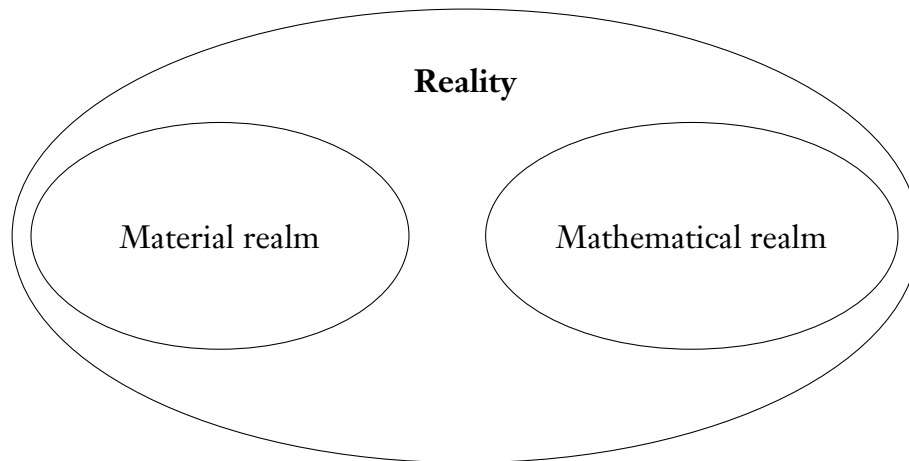
PLATONISM

Ted Sider
Philosophy of Mathematics

1. Metaphysics: an immaterial realm

Platonism Mathematics is about a causally isolated realm of eternal, indestructible, unchanging nonphysical, nonspatial objects that exist independently of us.

According to platonism there is more to reality than the material realm; there is in addition the realm of mathematics:



Material objects can be sensed and are subject to change. Mathematical entities are eternal, immutable, and causally and spatially isolated from us.

2. The challenge of applied mathematics

How could a causally isolated realm be so useful (e.g., in science)?

3. The epistemic challenge

How can we know about an isolated realm of entities?

(What exactly is the problem? Benacerraf's (1973) version: in order to know facts about x , you need to be causally related to x . Field's (1989, pp. 25–30) version: if mathematical entities are abstract, we couldn't explain how are beliefs about them are reliable, which undermines the justification of those beliefs. Check out Schechter (2018) for discussion and references.)

Plato's answer: we remember facts about mathematics from past lives. Hmm...

References

- Benacerraf, Paul (1973). "Mathematical Truth." *Journal of Philosophy* 19: 661–79.
- Field, Hartry (1989). *Realism, Mathematics and Modality*. Oxford: Blackwell.
- Schechter, Joshua (2018). "Is There a Reliability Challenge for Logic?" *Philosophical Issues* 28(1): 325–347.