

Semantic Considerations

Gottlob Frege (1953)

- The language of mathematics purports to refer to and quantify over abstract mathematical objects.
- Many mathematical theorems are true.
- A sentence cannot be true unless its sub-expressions succeed in doing what they purport to do.
- So there exist abstract mathematical objects that these expressions refer to and quantify over



The Indispensability Argument

Hilary Putnam & W.V.O Quine

- (P1) We ought to have ontological commitment to all and only the entities that are indispensable to our best scientific theories.
- (P2) Mathematical entities are indispensable to our best scientific theories.
- (C) We ought to have ontological commitment to mathematical entities.



**NO
OTHER
OPTION**