

Reading Guide #14 - The Problem
Benacerraf, "Mathematical Truth"
Field, "Knowledge of Mathematical Entities"

Benacerraf

1. How are concerns about semantics and epistemology central to discussions of mathematical truth? How are they in tension?
 2. What is the standard semantic account of mathematical sentences?
 3. How did Hilbert's project reject a standard semantics for mathematics?
 4. What are combinatorial accounts of mathematical truth? How do they differ from platonism?
 5. What is Benacerraf's first requirement for a theory of mathematical truth? How does it lead to Tarski's theory of truth? What are the consequences for combinatorial views?
 6. What is Benacerraf's second requirement for a theory of mathematical truth? Which types of views fulfill this requirement best? What's wrong with them?
 7. What is the standard view of mathematics?
 8. What are the consequences of analyzing mathematics non-referentially? How is this a problem for combinatorialists?
 9. What are the grammatical advantages to the standard view? How does this affect the concept of inference?
 10. What is the main problem with the standard view?
 11. Describe Benacerraf's causal account of knowledge. How does he argue for it? According to the causal account, how do we know general laws?
 12. Why does Benacerraf argue that, for X to know that p, there must be a non-innate connection between the truth conditions of p and the grounds of X's knowledge? What are the consequences of this requirement?
 13. How does Gödel propose to account for mathematical knowledge? Why does this worry Benacerraf?
 14. What does Benacerraf like about Gödel's account? How does this relate to his criticism of that account?
 15. How do combinatorial views have epistemological roots?
 16. What are conventionalist accounts of mathematics?
 17. How does Quine argue that the justification of logical truths must come wholesale? How does this function as an argument against conventionalism?
 18. Where does Benacerraf disagree with Quine?
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Field

19. What is Benacerraf's challenge to the platonist? How does that challenge rely on an unattractive epistemology? How does Field urge us to understand that challenge?
20. What is the access problem for platonism? Consider the example of the Nepalese villages. How does the access problem affect Gödel-platonism?
21. What is an indispensability argument? How might an indispensability argument help the platonist?