

Reading Guide #22 - Nominalism and Explanation

Sorin Bangu, "Inference to the Best Explanation and Mathematical Realism"

1. How does Melia use the explanatory indispensability argument to increase the burden on the indispensabilist? How is Baker's paper an attempt to meet this challenge?
2. Describe Field's version of the explanatory indispensability argument.
3. Why is it essential to Baker's argument that the physical phenomenon purportedly explained by a mathematical fact be outside of mathematics?
4. What is the explanandum in Baker's cicada example? How is it a mixed phenomenon? What are the elements of the mixture?
5. How is Baker's argument circular? How does it beg the question against the nominalist?
6. Do scientists take Baker's explanandum to be true? Does this opinion sway philosophers? Should it?
7. How does Bangu's argument extend to a general argument against any strategy to defend mathematical realism which relies on inference to the best explanation or the explanatory indispensability argument?