Philosophy 405: Knowledge, Truth and Mathematics Hamilton College
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Reading Guide #6: Kant
Prolegomena, §1-§2
Selections from *The Critique of Pure Reason*

From the *Prolegomena*

1. Distinguish analytic and synthetic *a priori* judgments. How do analytic judgments rely on the principle of contradiction?
2. How can empirical concepts admit of *a priori* analysis? Provide an example.
3. Are any judgments of exeprience analytic? Are any *a priori*? Explain.
4. How does Kant argue that mathematical judgments are *a priori*?
5. How does Kant argue that arithmetic is synthetic?
6. How does Kant argue that geometry is synthetic?
7. Are any mathematical principles analytic? Explain.
8. Why do some people think that mathematical, and other apodeictic, judgments are analytic? Why is this argument mistaken?
9. What is Hume's error, concerning mathematics? How did it affect his larger project?
10. How is metaphysics, like mathematics, synthetic *a priori*?

From the *Critique*

11. What is logic? How is it limited?
12. Distinguish between theoretical and practical knowledge of reason.
13. Describe what Kant calls the true method of mathematics which was discovered by the ancient Greeks.
14. What is the relation between analyticity and identity?
15. How does experience contribute to synthetic *a posteriori* judgments? What problem arises in accounting for our knowledge of synthetic *a priori* judgments?
16. Describe synthetic *a priori* principles of natural science.
17. What does Kant call the proper problem of pure reason (B19)?
18. Distinguish a critique of reason from a dogmatic employment of reason.
19. What is intuition? What is the relation between thought and intuition?
20. What are appearances? How are they divided into matter and form?
21. What is a pure intuition? What are the pure forms of sensible intuition? Why are they important?
22. What is a transcendental schema? Why do we need it?
23. How is a schema both a product of imagination and not an image? How does this distinction faciltate our understanding of geometry?
24. "Number is therefore simply the unity of the synthesis of the manifold of a homogeneous intuition in general, a unity due to my generating time itself in the apprehension of the intuition" (A143/B182, p 12). Explain.
25. How are the schemas, generally, *a priori* determinations of time?
26. How is mathematical knowledge gained by reason from the construction of concepts? How does this process facilitate the universality of mathematical claims?
27. Distinguish our knowledge of the shape of a cone from our knowledge of its color.
28. How does intuition guide mathematical reasoning? How does the use of intuition distinguish mathematics from philosophy?

29. In what ways can concepts of space and time be constructed *a priori* in intuition?
30. "Mathematics is the only science that has definitions" (A279/757, p 19). Explain.
31. How are spatial intuitions extensive magnitudes? How are temporal intuitions extensive magnitudes?
32. Do all geometric truths hold of empirical intuitions? Explain.
33. "Although all sensations, as such, are given only *a posteriori*, their property of having a degree can be cognized *a priori*" (A176/B218, AW 767b). Explain. What does this mean about the continuity of space?
34. Can experience give us knowledge of modality? Explain.
35. Is the possibility of a figure enclosed by two straight lines contradictory? Explain.