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An Examination of Kant's A Priori Knowledge

In the introduction of the second edition of the Critique of Pure Reason, Kant begins with the claim that "there can be no doubt that all our knowledge begins with experience" (41). He argues that our faculty of knowledge could not be "awakened into action" without objects providing "the raw material of the sensible impressions" (41). Experiencing this material reality is therefore completely necessary to build up the mental capacity for knowledge. Kant is making a very basic psychological argument: knowledge only develops through interaction with the sensory environment. If a person were enclosed in a sensory deprivation tank from the advent of their existence, they would not have any idea that a triangle has three sides or that its angles add up to 180 degrees. The lack of sensory stimulation would cause the person's brain to atrophy, preventing them from understanding anything at all. In this sense, Kant claims that "we have no knowledge antecedent to experience, and with experience all our knowledge begins" (41).

However, in the first sentence of the second paragraph, Kant argues, "though all our knowledge begins with experience, it does not follow that it all arises out of experience." (41). He labels knowledge that doesn't "arise" out of experience "a priori," and distinguishes it from "a posteriori," or knowledge based on empirical sensory information. While Kant believes that many judgments are "admixtures" of a priori and a posteriori knowledge, pure a priori knowledge is "not knowledge independent of this or that experience, but knowledge absolutely

independent of all experience" (43). A priori judgments are necessary and strictly universal, while with a posteriori judgments, we can only claim that "so far as we have hitherto observed, there is no exception to this or that rule" (44).

Kant continues to clarify his distinction between a priori and empirical judgments by breaking down a priori into two categories: analytic and synthetic. Analytic judgments are judgments in which the predicate is contained within the subject, for example: all black dogs are black. On the other hand, synthetic judgments are judgments in which the predicate is not contained in the subject, for example: every event has a cause. Kant argues that there are no analytic judgments that aren't known a priori, since "in framing the judgment I must not go outside my concept," and therefore "there is no need to appeal to the testimony of experience in its support" (49). However, this leads to a contradiction. How can a judgment like "the sun is a star" or "water is H2O," both of which contain the predicate within the subject, be known without appeal to the testimony of experience? There is no way I could ever know that the sun is a star without looking at it through a telescope, and I definitely would need to look at water through a microscope before realizing that it consists of two parts hydrogen and one part oxygen. These judgments are necessary, but definitely not a priori.

Kant's argument for the existence of knowledge independent of experience seems to blatantly contradict his assertion that "all knowledge begins with experience" (41). If cognitive capacity for knowledge is dependent on experiential interaction with the sensory environment, how can any knowledge be pure a priori? Kant argues that a perfect example of pure a priori judgments is mathematics. People have definitely developed mathematical propositions that are not experientially based: the angles of a triangle add up to 180 degrees, 10^10 multiplied by 10^10 equals 10^20, or proofs of the calabi yau manifold – a mathematical construction

of higher dimensional surfaces. None of this knowledge is understandable solely through our sensory reality. I have never seen a triangle with an angle sum that perfectly measures 180 degrees, but I can still justify its existence as necessary and universal. This would seem to prove the existence of Kant's idea of a priori knowledge.

However, two claims can be made to call the existence of pure a priori knowledge into question. First, many mathematical judgments may in fact manifest themselves in sensory experience. For example, the concept of 10^20, considered as a number so big I can't even understand its quantity, can be experienced through a variety of sensory environments – grains of sand on a beach, stars in the sky, blades of grass, leaves in a forest, etc. The impossibility of measuring these vast experiential quantities may have led people to develop abstract concepts like 10^20. However, the concept 10^20 did not exist before people saw the stars or sat on a beach. Similarly, while I have never seen a triangle with an angle sum that perfectly measures 180 degrees, I have seen a lot of triangles that are close enough for me to grasp the concept. Arguably, I wouldn't be able to understand concepts like 10^20 or 180 degree triangles without experiencing their sensory representations.

Second, even if these judgments aren't explicitly perceivable within our sensory experience, it does not mean that their formation is independent of experience. Even if I have never counted 10^20 of anything, my understanding of the number is still based upon the ability to differentiate and compile units, which is learned *through* sensory experience. To use another example, although unicorns are not sensible within material reality, this doesn't mean my knowledge of a unicorn is a priori. I can conceive of one only through my sensory knowledge of a horse and a horn. In this sense, a priori knowledge is a contradiction in terms, for the trajectory of knowledge begins with experience and uses sensory elements as building blocks to construct

concepts abstracted from our experiential reality.

In response to the critique that Kant's a priori knowledge is a contradiction in terms, Kant would have us look closer at his definition of a priori. In examining Kant's conception of knowledge that "begins with" but does not "arise" out of experience, a lot depends on what Kant means by "arise." Kant presents the possibility that our faculty of knowledge makes an "addition" to what we perceive through our senses based upon what it "supplies from itself;" sensory impressions serve "merely as the occasion" (42). In other words, once our cognitive faculties are adequately developed, we may be able "to extend the scope of our judgments beyond all limits of experience" (45). The calabi yau manifold provides an excellent example. As mathematical construction of higher dimensional surfaces, there is no way I could physically interact with this concept through sensory experience. However, it is completely justifiable "by means of concepts to which no corresponding objects can ever be given in experience" (45). In this way, Kant is arguing that, while all knowledge requires experience as a starting point, not all knowledge requires experience to justify its validity. Considering a simpler example, I don't have to count the sides of a triangle to know there are three, or measure the degrees of its angles to know that they add up to 180. Though this knowledge is achieved through sensory experience, it does not depend on it for justification, and hence can be considered a priori.

Works Cited

Kant, Immanuel. *Critique of Pure Reason*. Trans. Norman Kemp Smith. (New York, NY: Bedford/St. Martins, 2007).