

Neither Ghost Nor Machine: Kant, Epigenesis, and the Life of the Mind

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Kant's longstanding interests in science have been well documented. There are numerous studies devoted to Kant's early work on cosmology in his *Universal Natural History and Theory of the Heavens* (1755), and of course also to his interests in physics and his work on forces (1747), axial rotation (1754), the ages of the earth (1754), fire (1755), earthquakes (1756), winds (1757), and even to his discussion of volcanoes on the moon (1785). It is well known, moreover, that part of Kant's work in the *Critique of Pure Reason* (1781) was to ground the certainty of scientific claims against Hume's skepticism, and that Kant's program for securing our experience of the natural world extended to his later account of the *Metaphysical Foundations of Natural Science* (1786). Less well known, however, is the realization that Kant's apparent bias toward the hard sciences has lain rather more in the interests of Kant scholars, than in Kant himself. Kant taught a course on Physical Geography every year for 40 years, for example, and he taught Anthropology for 24 years; between Kant's own writings and student lecture notes from these courses, researchers have in fact close to 3000 pages worth of material to consider. The aim of *Kant's Organicism*, therefore, was to provide a broader portrait of Kant by focusing, in my own case, on the important role played by the life sciences in his intellectual development.

I began this investigation by following the course of life-science debates regarding organic generation in England and France between 1650 and 1750 before turning to a description of their influence in Germany in the second half of the eighteenth century. With this background established, the remainder of *Kant's Organicism* moved to the influential role played by models of embryological development for Kant's approach to understanding the cognitive processes responsible for the generation of knowledge. I closed the book with a reinterpretation of Kant's transcendental deduction in the *Critique of Pure Reason* since Kant's organic approach to reason, I argued, could alone make sense of the work needing to be done by the deduction itself.

Throughout *Kant's Organicism* I had a number of audiences in mind. The first was the community of Kant scholars whose interpretations have shaped my understanding of Kant's epistemology as much as they had my knowledge of Kant's scientific theories. It was to this audience that I spoke in terms that were familiar within the terrain of Kant's metaphysics and epistemology, even as I sought, at every instance, to position traditional arguments against the backdrop of the life sciences, and to provide textual resources provided by Kant himself in support of the new vantage point. The second audience I had in mind for the book was composed of historians of science, for it was these scholars, above all, who had done the most work to recover Kant's remarks regarding generation theory, and who had looked most closely at his essays on the variation of species, and his theories connecting teleology and mechanism in the case of organic life. While I had learned a great deal from these discussions, I also saw that I could add to them in light of my own specialization in Kant's epistemology. Finally, I was interested in introducing this 'new' Kant to those versed in post-Kantian Continental philosophy, since I believed that part of their greater attraction to German Idealism lay precisely in the manner in which they had taken Kant's conclusions one step further than the Critical philosophy seemed prepared to go. My hope here was that once Kant was seen from a broader vantage point, a set of fresh connections and new opportunities for investigation would be opened up.

With these preliminary remarks made, I want to turn now to the heart of the challenge facing my account of Kant so far as my three interlocutors have positioned it. By way of background, I can just say that I understand the Kant of the mid-1760s, the young Kant, the one still in search of a guiding problematic to pursue, whose self-described 'eclecticism' so inspired the young Herder, to have been in fact already on the cusp of greatness. For by then Kant had understood two important things. The first was that metaphysics, which is to say the 'dogmatic' metaphysics practiced since the Scholastics, had overstepped the boundaries of its own investigations, and that it had done so to its own detriment. The second productive insight, the one leading to 'the great light' of 1769 which Kant described but did not explain, was the sense that neither the Empiricists nor the Rationalists could finally come up with a defensible account of the origin of ideas. If it was the case, however, that ideas must be said to have come neither from the sensible, material world of things in the manner that Locke had understood it, nor from the divine and unalterable substance, as the promoters of innate ideas had believed it, then from whence had they sprung? Kant's first effort to provide an answer was both novel and brief, appearing, as it did, in the short "Inaugural Dissertation" he had been asked to present upon his taking up the long-sought-after Chair in Logic and Metaphysics at the university in Königsberg in 1770. In this piece, Kant argued that intellectual concepts were originally generated—or 'originally acquired,' as he put it—by the mind itself. When it came to sensible data, the mind provided space and time as

mental ordering concepts; a claim that brought Kant all sorts of trouble given that most of his readers considered the mental independence of space and time to be unquestionable. When the *Critique of Pure Reason* appeared in 1781, Kant was clear by then that it was not just space and time, and not even just the other mental categories of the understanding—reality, substance, necessity, causality, etc.—that were originally produced concepts, but that indeed the mind generated itself!

To make sense of this claim, I argued, we had to take stock of the life sciences and, in particular, of the careful attention Kant had paid to debates taking place between generation theorists. By late 1769 Kant began to make notes regarding the different positions staked out by the preformationists, on the one side, and the epigenesists on the other. By the early 1770s Kant had started to identify these with the competitors engaged in an account of cognition: Leibniz was a preformationist, Locke believed that matter could turn into an idea, a kind of ‘physical influx’ theory, according to Kant, and as for Kant’s own emerging theory, by then he had anointed it as a theory of the ‘epigenesis of the mind.’ If this seems surprising, then let me just add that I too was not only surprised, but concerned regarding the direction my research was taking, given that Kant had stated in a number of places that he was not engaged in a project aimed at ‘naturalizing’ the mind; indeed, it was his rejection of such a project that led him to reject both the nascent psychology of the 1770s and, in particular, Tetens’s own efforts to synthesize generation theory and an account of cognition. How then were we to understand his identifying the account of epigenesis with his theory of mind?

The answer, I believe, is to recognize that Kant was a metaphysician, that the ‘love affair’ with metaphysics he’d described in the 1760s was real, and that the first *Critique*—glossed variously as his ‘response to Hume’ or Kant’s ‘defense of science’—was in fact just what he had announced it to be in the Preface: an effort to restore metaphysics, the onetime ‘Queen of the Sciences,’ to her throne. This restoration required, as is well known, a distinction between a mentally conditioned world of experience and the unknown, but hoped-for moral universe. But instead of rehearsing any of that, I want to shift our focus back to Kant. To Kant the metaphysician who was interested in a metaphysical portrait of the mind. In this picture, we find reason described as ‘self-born,’ ‘spontaneous,’ and ‘epigenetic.’ Reason gives birth to logic, to categories, to postulates, and ideas. Reason is a whole; it contains faculties which arise as needed to understand, to determine, to make judgments that are logical, or speculative, or teleological and reflective. Reason has needs, Kant tells us, it is daring, it is receptive, it contains a germ of the good, it is vulnerable to self-love, it orients, it feels, it is fated, and above all, it is free.

In light of this, it should be clear that I agree with Diego Bubbio’s comment regarding the proper understanding of metaphysics as a discipline concerned with its own products. Michael Olson, for his part, has joined me in struggling to articulate just what it means to say that Kant provides us with a metaphysical account of

epigenesis. As Olson works to tease out Kant's position, he draws a helpful distinction between a view of it along the lines of substance metaphysics—something he rightly says Kant would have rejected—and a view that moves past any effort to discover the kind of *thing* the mind might be, in favour of Kant's attention instead to “how potentialities inherent in reason realize, express, and develop into actual representations in the face of a diverse array of environmental conditions.” It was these inscrutable potentialities that could alone be said to be innate to reason, and it was no accident, therefore, the Kant resisted further explanation, referring to their emergence only in terms of reason's ‘vulnerability,’ ‘susceptibility,’ ‘receptivity,’ and the like. Thus while I share Dalia Nassar's worry that Kant seems to have smuggled in a set of innate characteristics after all, I want to resist the need to embrace intellectual intuition as the only means by which a genuinely autochthonous reason could also contain the stable grounds or internal constraints required for cognition. Kant was forever clear that intellectual intuition must be rejected at all costs, assigning its use to precisely those actors most responsible for the Queen's usurpation at the hands of dogmatic metaphysics. Thus while it is true that he struggled to explain his insights without trespassing barriers that he himself had erected between knowledge and speculation—and was forced thereby, to rely on odd couplings like ‘indeterminate perception,’ or ‘non-sensible feeling’ when referring to reason in his works—he never wavered in his dismissal of intellectual intuition as a possible mode of knowledge for humans, and he was comfortable in admitting the limits of our knowledge in these matters. How then, Nassar asks, was he able to know anything about the epigenesis of reason at all? A good question, but one I think to which he had a ready answer. From his first discussion of freedom in the third antinomy of the *Critique of Pure Reason*, Kant struggled to explain not just its possibility but, more precisely, our awareness of freedom as a cause whose effects could be recognized in the thoroughly determined world of experience we inhabit. Kant's moral psychology would take years to develop into the fullness we find in the 1790s, but Kant had worked out the key features by 1788. In these discussions Kant laid out a phenomenology of moral life, of a life whose witnesses could testify to having done acts out of duty versus inclination, and whose inclinations, moreover, led them to the good. Kant voiced great optimism in his portrayal of moral agency, arguing that we were naturally attracted to the good, that we, one and all, contained a ‘moral vital force,’ and that we all of us returned always to a state of innocence between deeds, ready to make ourselves anew each time we chose to obey the moral law. How, then, do we know that reason is epigenetic? In the same manner that we know we are free. If Kant was in love with metaphysics then he was in love with reason just as much, for reason led him to a state of continual amazement, it filled him ‘with ever new and increasing admiration and reverence,’ and this was the Kant that *Kant's Organicism* hoped to show.