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# Kant and Whewell on Bridging Principles between Metaphysics and Science

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## Abstract

In this essay, I call attention to Kant's and Whewell's attempt to provide bridging principles between a priori principles and scientific laws. Part of Kant's aim in the *Opus postumum* (ca. 1796-1803) was precisely to bridge the gap between the metaphysical foundations of natural science (on the *Metaphysical Foundations of Natural Science* (1786) see section 1) and physics by establishing intermediary concepts or 'Mittelbegriffe' (henceforth this problem is referred to as 'the bridging-problem'). I argue that the late-Kant attempted to show that the concept of 'moving force', an intermediary concept derived from a priori principles, could be given empirical content so that concrete scientific knowledge is arrived at. Thus, the late-Kant wished not only to show that proper scientific laws are necessary a priori (as he had shown in the *Metaphysical Foundations of Natural Science*) but also that intermediary concepts could be derived from a priori principles which, when interpreted empirically, resulted in the specific forces as established by physics (see section 2). Of course, William Whewell never knew about Kant's *Opus postumum* and his attempt to bridge the gap between the metaphysical foundations of science and physics. However, it is striking that Whewell had similar concerns about the *Critique of Pure Reason* and the *Metaphysical Foundations of Natural Science* as Kant himself. According to Whewell, the Kantian project was incomplete because it did not show how 'modifications' (in the sense of concretizations) of a priori principles could result in empirical laws (section 3). Next, it will be argued, by taking into account several of Whewell's philosophical notebooks which have scarcely been studied systematically, that Whewell's doctrine of Fundamental Ideas grew out of his dissatisfaction with the Kantian project with respect to the bridging problem and that his own philosophical position should be seen as an attempt to bypass the bridging-problem.

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