Kant's Second Antinomy and Hume's Theory of Extensionless Indivisibles

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I. *The Divisibility of Extension*

The idea that extended things may be divisible ultimately into simple or indivisible atomic units is a perennial thesis of metaphysics. Immanuel Kant, in the *Critique of Pure Reason*, A 434 – 435/B 462 – 463, presents three antinomies or paradoxes of reason, the second of which, the 'Second Conflict of the Transcendental Ideas', is supposed to demonstrate *a priori* that there must and that there cannot possibly exist indivisibles or simple atomic constituents of extension.

The antinomy consists of two propositions, thesis and antithesis. *Thesis:* "Every composite substance in the world is made up of simple parts, and nothing anywhere exists save the simple or what is composed of the simple." *Antithesis:* "No composite thing in the world is made up of simple parts, and there nowhere exists in the world anything simple."[1] Whatever the status of the thesis, the antithesis in Kant's second antinomy, that there cannot exist simples or indivisible atomic parts of composites, is unsound. This is shown after reconstructing the argument in detail by introducing David Hume's theory of sensible extensionless indivisibles. Hume's concept of indivisibles avoids the negative conclusions of Kant's antithesis in the antinomy by contradicting one of the proof's essential assumptions about the extension of things in space.

Kant's argument and its resolution in Hume's theory of indivisibles is philosophically and historically important because Hume offers his doctrine of sensible extensionless indivisibles deliberately to circumvent the kind of objection made in the antithesis to Kant's second antinomy, in response to similar considerations that had previously been raised by Pierre Bayle in his *Dictionary Historical and Critical*. Kant's philosophy is known to have been influenced by Hume's writings on metaphysics, but surprisingly Kant evinces no appreciation of the implications of Hume's extensionless indivisibles in forestalling the antithesis of the second antinomy.

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[1] Immanuel Kant, *Critique of Pure Reason*, translated by Norman Kemp Smith (New York: St. Martin's Press, 1965), A 435/B 463.