

Lawlessness and Reduction

I examine two notions of lawlessness and two and a half ensuing problems that stand in the way of standard accounts of reduction of higher level laws, properties, or causal relations to the fundamental level of physics. The first notion of lawlessness refers to the possibility of lawless behavior in a deterministic world; the second stems from multiple realization and what Davidson has called anomalous monism. Both constitute difficulties for standard reductionism. The remaining half-problem arises within physics and pertains to the definition of entropy: Entropy, I argue, is not reducible to the fundamental level of physics in the way that pressure and temperature are. The connection between this problem and the previous ones will be explained. Davidson's anomalous monism (also known as non-reductive physicalism) has been claimed to clash with the causal closure of physics, a claim I seek to rebut. Having defended Davidson against this major objection, I will suggest a number of modifications and extensions of his position. From the above failures of reductionism I will draw the following conclusions: 1. Levels of reality must be distinguished from levels of description. 2. Causal efficacy is not limited to the fundamental level of physics. 3. We can salvage a limited notion of freedom applicable in a deterministic world.

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