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# Regulation: Integrating Concept or Epistemological Red Herring?

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## Abstract

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For some time, I have been studying four areas: the history of biology; the relationship between scientific practice and government policy in the sphere of pharmaceuticals; the history of early forms of government regulation, for example of transportation; and the intellectual foundations of sustainability thought. All of these spheres share the word "regulation" to indicate significant processes of mediation and modulation, in many cases based on some set of quasi-scientific arguments. In biology, "regulation" has been deployed conceptually since at least the early twentieth century to describe systems that appear to operate as feedback mechanisms. In many branches of public policy, the concept similarly emerged in the nineteenth century to describe processes of management and oversight of economic activity based on law but carried out through executive prerogative. Since ca. 1970, environmental policy has grown rapidly into a significant and controversial sphere of government-industry mediation – and arguments about the stability and sustainability of (biologically related) 'regulatory' processes in the natural world have become a substantial part of 'regulatory' processes in public policy. Where this terminological overlap becomes more than an analogy, I propose, is in its epistemological stakes. 'Regulation' and 'control' often appear as (often misplaced and misleading) synonyms in both biology and public policy. This affinity indicates that a hierarchy of causes and effects appears to operate in the systems. I suggest that the troublesome element in any making-equivalent of regulation and control is that it hides the sources of interventions in and perturbations to those systems.

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