The substance and goals of this article are contained in its title and sub-title: it uses the philosophy of science known as “critical realism” to develop a theory of causal mechanisms, both natural and social, in the hopes of clarifying certain ongoing debates within comparative historical sociology and comparative politics, but also in the social and historical sciences more generally. It is in four parts. By way of preface, I begin by outlining some of the key tenets of critical realism. Then, in the second part, I discuss a number of fallacies that arise when we think about causal mechanisms too mechanistically, using two paradigmatic mechanisms—the clock and the pin factory—as illustrative examples. In the third part, I introduce my own definition of mechanisms as emergent causal powers of related entities within a system, which I refer to as the ECPRES model. In the fourth section, I compare the ECPRES model with other models, specifically those developed by rational-choice theorists and structuralists (a.k.a. “historical institutionalists”), arguing that these models are ontologically inadequate and/or logically incoherent, even in their most developed and nuanced forms. Finally, in the conclusion, I enumerate and reflect on some of the issues facing a mechanistic approach to social science.

1. Critical Realism: A Brief Overview

The philosophy of social science known as “critical realism” is anchored by the work of Roy Bhaskar, particularly his path-breaking book, The Possibility of Naturalism, but must be seen as part of the broader resurgence of realist approaches that began during the early 1970s (Harré 1970; Mackie 1974; Harré and Madden 1975; Bhaskar 1979; Salmon 1984; Miller 1987; Salmon et al. 2005). The implications of critical realism for the social sciences have been most fully worked out by a group of English sociologists centered around Margaret Archer, whose seminal
treatise, *Critical Realism: The Morphogenetic Approach* is probably the most nuanced and comprehensive treatment of this position to date (Collier 1989; Archer 1995; Archer 1998; Collier et al. 2004; Sawyer 2005).

Like modern, Western philosophy as a whole, the philosophy of science has been dominated by debates about epistemology—about what we can know, and how we come to know it. Realist philosophy of science, by contrast, involves a return to the question of ontology—about what we know, the actual objects of our knowledge. One of the things that sets critical realism apart from other realisms, particularly in the social sciences, is its emphasis on *emergent powers and properties* (Harré and Madden 1975; Sawyer 2005). The principle of emergence is well captured by the old adage that the whole is greater than the sum of its parts. It is not difficult to think of examples from the natural realm. Water, for example, can be used to extinguish a fire; applying hydrogen and oxygen to a fire, on the other hand, will cause an explosion. Thus, the causal properties and powers of water—e.g., its power to extinguish a fire—cannot be derived from those of its constituent elements. Critical realists contend that this same principle applies to the social world as well. Consider Adam Smith’s pin factory. When one divides a complicated task up amongst a group of individual workers—the manufacture of a pin, say—their collective output as a group will be higher than their aggregate output as individuals.

A second important principle of critical realism, which follows directly from the above, is *ontological stratification*. This principle is a familiar one for social scientists, who often speak of the various “levels” or “dimensions” of a particular “system” or “phenomenon.” But critical realism provides a basic principle for identifying these levels: namely, the principle of emergence. Consider the pin factory example once again. A modern manager or engineer could undoubtedly increase the output of the factory’s workforce simply by making various kinds of organizational or technical adjustments—to the sequencing of tasks, the spatial layout, the introduction of new tools or machines, and so on. From the perspective of critical realism, then, the factory qua organization or institution is an autonomous reality.

This is not to deny that the output of the pin factory could also be increased by changing the composition of the workforce—e.g., by hiring more skilled or dextrous or energetic workers. The principle of stratification should not be confused with the principle of holism. To say that the whole is greater than the sum of its parts is not to say that the composition of the parts is of no consequence. This brings us to