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Mind Regained. Edward Pols. Ithaca and London: Cornell University Press, 1998, 151 pages, \$29.95 hardcover.

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Mind Regained by Edward Pols contains an excellent analysis of what the concept of mind would signify if it were not for the historical biases emanating from philosophy and especially science. What I like best about this analysis is the fact that Professor Pols appreciates the important role played by our interpretation of causation in all this. Science has found the concept of mind to be superfluous thanks to its diminished understanding of causation. Pols makes it beautifully clear that to regain its significance in human action, mind must be understood as a real cause of things and not merely as an *effect* of other antecedents that thrust it lawfully or statistically along without telic drive (i.e., intention, purpose, etc.; see p. 10).

Pols relies on a pyramid metaphor to convey his suggestion that human beings are hierarchies of causal complexity. Just as pyramids are made up of stone blocks, each of which represents a separate "being," organized into a structural unity, so too are humans constituted of a complex infrastructure of cells joining into tissues, which in turn combine into organs like the brain, and so forth. Each of these separate beings acts as a cause of human functioning. Mind itself is pictured as the capstone of the pyramid, termed the "apex being" (p. 96). The apex being is a source of rational action which is as much a cause of events as any of the cellular or organic beings of the infrastructure (p. 8). This rational action is essentially what we mean by mind. Thus, "mind itself stands at the apex of a hierarchy of causes" (p. 125). There are higher and lower causes involved in the over-all embodiment of the person.

Mind thus has the (higher) power to order events purposively or rationally, and such causes are as legitimate as any other causes in the infrastructure. Here is where a problem arises, for science refuses to attribute such causal power to the mind (p. 126). That is, the received scientific doctrine of causality holds that an adequate explanation of mind demands that it be seen as due to lower-level influences in the hierarchy — as an upwardly caused *effect* rather than a cause in its own right (p. viii). Pols discusses the philosophical origins of the causal concept, taking up Plato, Aristotle, Descartes and others. What he makes clear is that science has dismissed formal and final causation in favor of material and especially efficient causation to

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explain things (the breakdown here is Aristotelian, see pp. 60–61). So it is assumed that all causes flow upward, from the lowest to the highest functional levels of the pyramid, a unidirectional flow of influence on the order of a string of dominoes bumping sequentially to fall over in a line.

An important characteristic of mind, which is not easily accounted for based on such efficient causation is *reflexivity*, the capacity for rational thought to turn back on itself and grasp what it is doing. Indeed, Pols observes that: “When you try to list the functions of mind you are already in a reflexive mode. Some functions of mind must be brought into play to discriminate and identify the functions” (p. 97). Through use of this *reflexive turn* it is possible to identify the many functions of mind, such as that it knows, thinks, creates, understands, conceives, perceives, remembers, anticipates, believes, doubts, attends, intends, affirms, denies, wills, refuses, imagines, values, judges, and feels (p. 98). There is a unity to mind, so that these functions can and do overlap, as when in knowing we are also involved in understanding (p. 99).

An important feature of causation in the hierarchy of beings that make up the person is that it follows two directions — upward and downward. Each being in the hierarchy has its own unique pyramidal structure that follows this bidirectional causal influence. Thus, Pols says to the reader:

Each being in the multiplicity of your pyramid contributes its power “upwards” by virtue of its own causal authority (its own determining power) to the causality you exercise in acting rationally. Massive as that causal contribution is, you in turn exercise your own causal authority “downwards” over each of these entities, determining some of its career in a way sometimes incidental, as when by moving your hand you move the molecules that are parts of it, and sometimes profoundly fundamental, as when by saying or deciding this rather than that you produce this rather than that pattern of electrical firing in your central nervous system. (pp. 126–127)

Such downward causation is not limited to the mind (apex being), for each entity in the pyramid — even a single neuron — has its own pyramidal structure and hence deploys its causal influence downward as well as upward: “Thus, the cell determines ‘downwards’ at least some of the career of a macromolecule that contributes to the cell’s being that particular cell” (p. 127). Pols has now given equal causal status to all aspects of the human pyramid, whether physical or mental in nature. There is a great deal more taken up in this work, of course, such as the matter of direct and indirect knowing, or the paradox of a science in which the mind is downplayed on the one hand yet expected to solve science’s problems on the other. I also found his analysis of lawfulness in science important. Laws capture the order in events, but it cannot be said that they actually produce this order (p. 87). In other words, a law is not a cause even though it is often treated so in scientific explanations.

In reading this book I could not help but be reminded of Roger Sperry, who also came to the conclusion that in order for science to fully understand the mind a *two-way causation model* is called for (Sperry, 1993, p. 880). Sperry has this to say: “Subjective agency may thus be viewed as a special instance of downward control, a special case of emergent causality in the reciprocal up–down paradigm for causal control” (1993, p. 882). I think it is important to mention Sperry, for his account stemmed from many years of doing empirical research on split-brain patients. There are those who feel that a philosophical analysis of the type Pols offers is without

merit unless we have some empirical basis on which to make such analyses. I do not agree with this, feeling that Pols has done a magnificent job of teasing out the many problems associated with a strictly mechanistic philosophical view of the human being. But for the incurable scientific reductionist in our midst, I have Sperry to offer.

This is an important book and should be read by all those interested in broadening the understanding of a human being — or, “beings” as the case may be.

Reference

Sperry, R.W. (1993). The impact and promise of the cognitive revolution. *American Psychologist*, 48, 878–885.