

NANCEY MURPHY'S NONREDUCTIVE PHYSICALISM

by *Dennis Bielfeldt*

Abstract. This essay examines Nancey Murphy's commitment to downward causation and develops a critique of that notion based upon the distinction between the causal relevance of a higher-level event and its causal efficacy. I suggest the following: (1) nonreductive physicalism lacks adequate resources upon which to base an assertion of real causal power at the emergent, supervenient level; (2) supervenience's nonreductive nature ought not obscure the fact that it affirms an ontological determination of higher-level properties by those at the lower level; and (3) the notion of divine self-renunciation, while consonant with Murphy's claim of supervenient, divine action, is nonetheless problematic. Throughout, I claim that the question of the causal efficacy of a level is logically independent from the assertion of its conceptual or nomological nonreducibility.

Keywords: downward causation; kenotic divine action; nonreductive physicalism; reductionism; supervenience.

Nancey Murphy has done perhaps more than anyone else in the theology/science conversation to hammer out a philosophical view consistent with the general goals of that discussion. In numerous important books and articles, she has developed positions in the philosophy of language, epistemology, and metaphysics that are clearly more congenial to fruitful dialogue between science and theology than were the "received views" in those areas (Murphy 1997a). Generally speaking, Murphy believes that adopting a postmodern perspective undermines traditional oppositions plaguing the relationship between science and theology. Indeed, not only theology but ethics is vindicated as well, the latter by subverting the "is-ought gap" separating the descriptive and normative (Murphy and Ellis 1996). In

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adopting her postmodern perspective, Murphy pushes for a unified worldview where the sciences are arranged hierarchically from physics up through ethics and finally theology—though one might argue that this hierarchical ordering is itself more consonant with the aims of modernity.¹ The vision animating Murphy's efforts is clearly pre-Kantian; she wants a unified view of the world wherein science, morality, and metaphysics are again subsumable under theology, the queen of the sciences.

The two articles here are characteristic of the breadth of Murphy's scholarship and the explicitly theological agenda that propels it. In one she argues for a nonreductive physicalism that does not "cede all causal agency to the purely physical level" (Murphy 1999b, 553). Understanding the deleterious consequences of reductive materialism for both religious experience and practice, Murphy suggests that "consciousness and religious awareness are [both] emergent properties [that] have top-down causal influence on the body" (p. 555). Accordingly, just as there is "bottom-up" determination of the whole by the parts, there is also downward causation from the whole back upon the parts (p. 554). Murphy knows what is at stake in the materialist assertion of causal reductionism. Given that consciousness and religious experience emerge only at the highest levels of physical organization, the claim that all events at the higher levels (encompassing wholes) are *caused by* events at the lower levels (constituting parts) precludes a satisfactory account of the self and its relationship with God. Murphy contends that an adequate theological account depends "not only on a concept of responsibility before God but also on the justification (not merely the causation) of our theories about God and God's will" (p. 556).

In the other article Murphy repeats her call to adopt the kenotic ethic she and George Ellis developed in *On the Moral Nature of the Universe* (Murphy and Ellis 1996). Murphy's commitment to the theology of the Radical Reformation is clearly apparent as she explains how Darwin's evolutionary theory was influenced by Malthusian notions of struggle and competition. Opposing the power ethic of the "survival of the fittest" is the image of the self-renunciation of Christ. Indeed, God himself renounces the use of interventionist power in luring the world toward deeper communion with him (1999a, 591). Human beings are physical beings who cannot escape their rootedness in nature by the claim that the soul has a capacity for disembodied existence. Science, a glorious activity that nonetheless falls short of the glory of God, is benefited by theological critique as much as theology is aided by scientific criticism. Theology can unmask hidden theological agendas infecting research programs (e.g., social Darwinism), and science can expose mistaken factual accounts assumed by theology (e.g., mind-body dualism).

I am a kindred spirit with Murphy in her motivations. I too long for a unified view of the world where theology is the queen of the sciences. I

too hope that developments in the philosophy of language, epistemology, and metaphysics might succeed in overcoming philosophical objections to the possibility of theological knowledge. Unfortunately, I am not as sanguine as she that her particular Anglo-American postmodern perspective will ultimately prevail, at least not to the degree required in order to carry out her project. Although I hope to be convinced otherwise, I must raise the following critical points:

1. The notion of top-down or downward causation is problematic. Nonreductive physicalism is philosophically unstable if it grants a causal efficacy to higher-level events, processes, entities, or properties. While Murphy elsewhere argues that downward causation by itself does not provide an adequate account of divine action (Murphy 1995, 339; Murphy and Ellis 1996, 240–41), these articles certainly suggest that the notion nonetheless occupies a central role in her project.
2. Although Murphy emphasizes the nonreductive character of the concept of supervenience, the latter notion actually claims a dependency relation more consonant with the reductive ideal of a hierarchy of the sciences in which physics remains foundational (and determinative). While Murphy realizes she is adopting a minority interpretation of supervenience (1999b, 560), it is unclear whether or not her argument can justify rejection of the majority view.
3. Murphy's God of self-renunciation is in considerable tension with numerous biblical images and with the classical Christian tradition in general. Moreover, on the assumption of nonreductive physicalism, it seems more honest to talk about God as "all-determined" rather than "all-determining" reality. Of course, this is not so if we construe the relation between God and the most basic microlevel dualistically and assert, as Murphy does elsewhere, that God is a necessary cause of each and every microevent (1995, 325–57).

DOWNWARD CAUSATION

Murphy rejects both reductive materialism (the claim that only entities at the lowest level are really real) and causal reductionism (the view that the behavior of the parts completely determines the whole), yet countenances ontological reduction (the assertion that there are no entities but physical ones). Her nonreductive physicalism allows both consciousness and religious awareness to be emergent properties that can then sustain top-down causal influences upon the body.

Murphy formulates supervenience both in terms of realizability and constitutibility. She claims the following:²

1. Property S is supervenient on property B if and only if something instantiates S in virtue of (as a noncausal consequence of) its instantiating B under circumstance c.
2. Property S is supervenient on property B if and only if something's being B constitutes its being S under circumstance c. (1999b, 558)

Murphy accentuates the significance of circumstance in these definitions. It is what permits talk of downward or top-down causality, for the "circumstance" supposedly causally influences whether instantiating B eventuates in the instantiation of S or of some other property. But how exactly is this supposed to work?

Murphy makes the uncontroversial point that two subjects induced to have different expectations will often have different perceptual experiences. A subject's mental set influences whether a sensation is interpreted as icy cold or burning heat. The supervenient property of experiencing heat is due to the instantiation of a set of nerve impulses and brain states realizing the sensation within the context of mental set c. Alternately, the supervenient property of experiencing cold is due to instantiating the very same nerve impulses and brain states, now, however, in the circumstance of mental set c_1 .

While this example is not problematic, the critical assertion follows. Because mental set c is multiply realizable, and because it cannot be given a reduction to neurostates via bridge laws—laws of the form that for all x, x has mental property M if and only if it has neurophysiological property N—the mental set itself acquires a capacity to downwardly cause the sensation of heat rather than cold. She expands this at the end of her paper, asserting that the mental set of participating in Christ's suffering can downwardly cause joy where depression would have otherwise been more likely (1999b, 566).

The problem with this strategy, in my opinion, is that it does not take seriously enough the supervenient status of mental set c itself. Because Murphy is a physicalist, set c must be physically realized and is thus supervenient. But if this is so, then there must be some neurostate B by virtue of which it is instantiated under some further circumstance c_1 . Because it is most plausible to construe this "by virtue of which" as sufficiency, we are forced, I think, to regard neurostate B, and not mental set c, as part of the real cause of actualization E. (To claim that it is not sufficient because of the existence of circumstance c_1 demands an inquiry into the basal conditions for c_1 . Plausibly, B_1 is sufficient for c_1 under circumstance c_2 . But now we must ask about c_2 . Obviously, B_2 is sufficient for c_2 under circumstance c_3 . Unless we want to sanction an infinite regress, we must allow sufficiency for the basal conditions at some point along the line—even if this point consists in the boundary conditions of the universe-as-a-whole.)

I do not believe Murphy adequately distinguishes causal efficacy and

causal relevancy. While it is no doubt true that mental set *c* is causally relevant to *E*, this does not entail its causal efficacy. While *c* can be causally relevant for *E* in that had *c* not occurred, then neither would *E*—this follows from the fact that the supervenient cannot vary without the subvenient also varying—it is not causally efficacious, for, as we have seen, the properties constituting *c* do not themselves *cause* *E*. Causal relevance is a logical relation; causal efficacy is a causal relation due to the distribution of powers and liabilities in the world.³

The crucial issue for advocates of downward causation is the causal status of the emergent qualities putatively arising at the supervenient level. Do these higher-level properties (the properties of the whole) themselves causally effect lower-level phenomena (the properties of the parts)? Can we follow Murphy and say that the mental set (the circumstance) plays a causal role in bringing about a certain experience? She seems to suggest that because the mental state is irreducible to neurostates, it possesses a causal power *qua* mental set that influences happenings at the lower level. But an argument developed by Jaegwon Kim convinces me that the higher-level, supervenient property group constituting the mental set actually lacks causal power altogether and is thus epiphenomenal.

Let *c* be the complex property of the mental set that supposedly forms part of the causal chain eventuating in the experience of burning *E*. How would this be possible? It is plausible to say that *c* causes *E* because there is some set of physical conditions *E** known as the realizer of *E*, and *c* somehow downwardly causes *E**. Following Kim, we might say that *c* causes *E* by causing its realizer *E** to be instantiated (Kim 1998, 231). This is a credible assumption and is entailed by an equally plausible but more general principle termed the *causal realization principle*: If *P*₁, *P*₂, . . . are the realizers of *Q*, then to cause *Q* to be instantiated, you must cause one of the *P*s to be instantiated (p. 231). To bring about the occurrence of the experience of burning *E*, you must bring about an instance of some neurostate, which, in conjunction with the neuroevents realizing the sensation interpretable as either burning heat or icy cold, realizes the experience of burning. But now the question is properly asked about how the instance of the relevant neurostate is brought about. Is it directly caused by *c*?

How would it be possible for a nonphysical mental set to directly cause neuroevents? Do we not with this assertion return to the intractable problematic of dualistic causal interactionism? It seems more probable to claim that *c* has some physical realizer *c** that itself causes the *E** realizing *E*. But notice the problem. While Murphy wants to have downward causation, we are stuck with lower-level, physical causation, for *c* is realized neurophysically, and it is the instance of a neurostate which is causally efficacious in bringing about the burning. There are not any new causal powers that *c* acquires over and above the powers of *c**. In Kim's words, "No new

causal powers emerge at the higher levels, and this goes against the claim . . . of the nonreductive physicalist that higher-level properties are novel causal powers irreducible to lower-level properties" (1998, 232).

In summary, although reductionism may fail to produce bridge laws nomologically reducing the higher to the lower level, its spirit is not thereby vanquished, for nonreductive physicalism still assumes that the foundational level "pulls the strings." The moral of the tale is that you cannot derive causal sufficiency from conceptual or nomological irreducibility. The question of reducibility is logically independent from that of causal efficacy.

SUPERVENIENCE

While Murphy trumpets the nonreductive nature of supervenience, the concept was initially developed in order to recapture the spirit of reductionism in the face of the multiple realization argument. It is enticing to emphasize supervenience's nonreductive features, and I admit to having also succumbed to this temptation (Bielfeldt 1995; 1999). I have consistently held, however, that using supervenience to legitimate top-down causality is misguided (Bielfeldt 1995; 1999; in press). In order to grasp the reductionist's fascination with supervenience, we must review the challenge of multiple realization to the reductionist program.

Reductionism claimed that properties of the reduced theory could be identified with properties in the reducing theory. For instance, the reductionist would hold that the mental set of expecting heat *just is* the occurrence of a certain neurostate. But such a type-type reduction of the mental to the neurophysiological is clearly problematic, for the expectation of heat can be neurophysically realized in different ways. As Murphy points out, the circumstances involved in the supervenient level are "multiply realizable" (1999b, 558). Perhaps an experimenter leaves burn ointment in sight; perhaps he or she suggests to the subject that this is an experiment in heat sensitivity. The nonreductionist holds that because there is no way to describe the (possibly infinite) disjunctive set of neurological states realizing the expectation of heat, there can be no law at the neurological level connecting the expectation of heat and the sensation with the experience of burning. Murphy seems to suggest that without such a law at the neurophysiological level, we must embrace the downward causation of the neurophysiological by the mental set.

The concept of supervenience is designed to allow for asymmetrical, ontological dependency of the higher upon the lower, while yet admitting a multiple realization of the higher in the lower. While many theorists now doubt that supervenience can properly capture the by-virtue-of relation required for robust determination, that does not minimize the fact that part of the original motivation of supervenience was precisely to assert such a determinacy.⁴ This ideal was stated nicely by Paul Teller more than fifteen years ago:

Imagine that in some given case or situation you get to play God and decide what's true. To organize your work you divide truths into two (not necessarily exhaustive) kinds. The first you call truths of kind P . . . and the second you call truths of kind S . . . You begin your work by choosing all the truths of kind P which will hold for the case. Then you turn to the truths of kind S. But lo! Having chosen truths of kind P, the truths of kind S have already been fixed. . . . This allegory presents the core idea of what people have described under the names of "supervenience" and "determination." (1983, 137)

Most contemporary theorists would follow Teller and claim that while supervenience asserts a metaphysical relationship between levels, it does not entail the ascription of new causal powers to the emergent supervenient properties (Enc 1995, 169–75). While the British emergentists suggested that higher-level properties could causally influence happenings at the lower levels, contemporary nonreductive physicalism has routinely downplayed such claims in favor of talk about the realizability of higher-level properties within physical events and processes and the token-token identity of particular instances of higher-level and lower-level properties.⁵ Although Murphy subscribes to the latter view, her use of supervenience to legitimate talk of human and divine action suggests a causal power more characteristic of the former. Does she want to assert a real inputting of causal power from the higher levels? Unless we can develop a theory about how divine action causes quantum actualizations,⁶ it seems we are left on the nonreductive physicalist view with a world where it is perhaps legitimate to speak *as if* God is at work, but where that God has no real causal power over and beyond the powers in the lower-level events and processes. Instead of Pannenberg's All-Determining Reality we are left with a God who is, in effect, an "all-determined reality."

THE SELF-RENUNCIATION OF GOD

Murphy advances the notion of the kenotic God of self-renunciation. Such a deity is both noncoercive and nonviolent, not intervening forcefully in the processes of the world. While this is an interesting (if somewhat controversial) theological claim, it does fit naturally with the suggestion that divine action forms a supervenient level of description. If, as Murphy suggests, the "descriptions of divine action supervene on descriptions of natural and historical events—without being reducible to them" (Murphy 1999b, 569), then that divine action must ultimately be determined by natural and historical processes. What could be a greater self-emptying than for God's very actions to be determined by God's own creation?

Obviously, supervenient divine action seems to get things backward. Theism has traditionally asserted that there is a God distinct from the universe who nonetheless creates the universe, sustains its being, and ultimately redeems it through the Incarnation. Certainly, supervenient, kenotic, divine action differs significantly from the great Christian tradition that

once assumed that the impassibility of God was so obvious that it did not even require argument (Pelikan 1971, 52). Classically, God certainly has not been considered to be dependent upon creatures as they are dependent upon God. But how could God not be dependent upon creation if divine action is determined by subvenient natural and historical processes?

At this point it is important to indicate that Murphy has been careful in some of her other work to distinguish top-down effects from full-fledged downward causation. While the latter asserts a causal power in the emergent properties of the whole sufficient to influence the behavior of the parts, the former assumes that the “macroscopic evolution of a hierarchical system is *completely determined by microscopic laws* . . . but [that the] conditions described at the higher semantic levels . . . determine the detailed evolution of the system” (Murphy and Ellis 1996, 24–25; emphasis added). Unless I have read her incorrectly, it seems apparent that Murphy advocates downward causation in these *Zygon* articles—as well as in much of her other work (1997b, 14, 36–37, 59–60).

But what if we were to jettison Murphy’s downward causation and embrace instead her claim elsewhere that the kenotic God acts ubiquitously in a bottom-up fashion (while protecting the “natural rights” of entities) by being a necessary cause in every quantum actualization (Murphy 1995)? Unfortunately, this speculation seems to raise a host of other philosophical and theological problems (all of which Murphy is well aware).

The claim that God acts in every quantum process is in principle nonfalsifiable. But if this is so, then we can legitimately suspect that the “claim” is not really asserting anything at all. (I still believe the old wisdom that if nothing can count against an assertion, it is not genuine.) Even if this philosophical objection can be met, however, an imposing theological one remains: Does not God’s activity in each and every event make God ancillary to all that happens in the world? But if this is so, then is not God implicated in evil?²⁷ Finally, there remains the empirical problem of the proper relation between the micro and macro orders, between quantum physics and the rest of science. Nonrelativistic macro bodies seem to obey classical laws regardless of quantum indeterminacy. All these questions need to be tackled, I think, before this view can become a serious contender for modeling divine agency.

I deeply appreciate the synthetic and suggestive nature of Murphy’s work. She struggles with genuinely difficult issues and offers new ways to think about them. I have not here addressed her postmodern appropriation of Lakatos for understanding the similarities between scientific and theological methods of knowing (Murphy and Ellis 1996). Nor have I discussed the way her postmodern position circumvents many of the controversies between theological conservatives and liberals (Murphy 1996). Instead, I have limited my remarks to what she says about downward causation, supervenience, and the self-renunciation of God within the context of these

Zygon articles. Obviously, I believe the general critique of downward causation developed here is applicable not merely to Murphy but to many in the science and theology conversation.

NOTES

1. It is important to point out that Murphy's Wittgensteinian-Austenian-Quinean, Anglo-American postmodern perspective differs significantly from the "postmodernity" trumpeted by deconstructionists and those whose intellectual moorings are in the continental tradition.
2. She opts for the majority view, *pace* Searle, that supervenience is not a causal relation.
3. This criticism parallels that of Jaegwon Kim against Davidson's anomalous monism (Kim 1993b, 23–24).
4. As Brian McLaughlin points out, the "by-virtue-of" relation is not definable in modal terms, for it is a relation of explanation, and the sufficiency of the lower-level instantiation for the higher-level instantiation of the supervenient property is not itself sufficient for explanation (McLaughlin 1995, 52 n. 9). In the absence of an account of supervenience's "by-virtue-of" relation, many theorists now prefer to speak of covariance (Savellos and Yalcin 1995, 3ff.).
5. There is disagreement about the relationship between the views of British emergentism and contemporary nonreductive physicalism. Generally, philosophers arguing the instability of nonreductive physicalism find the view alarmingly similar to the emergentists' position (e.g., Kim 1993a, 336–57; 1998, 227–29).
6. Murphy suggests that God is the "hidden variable" of quantum theory (1995, 342).
7. My theological uneasiness is not mollified by Murphy's assertion that God's control over elementary particles is "limited by his choice to cooperate with rather than over-ride created entities" (1995, 335).

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