

BIOLOGISM IS BEHAVIOR: A COMMENTARY ON WONG AND WYATT AND MIDKIFF

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ABSTRACT: In response to Wong (2006) and Wyatt and Midkiff (2006), we argue that behaviors related to biologism—i.e., believing that biological explanations are more explanatory than they really are—and other aspects of biological psychiatry are susceptible to behavior analysis, and we explore the possibility of such an analysis with special attention to the interests of clinicians and clinical researchers. We also propose that behavior analysis, biology, and science in general may best be served by the adoption and promotion of a more philosophically and scientifically rigorous view of the interaction between biological and behavioral factors. Such a view would promote rational integration rather than opposition of theoretical systems.

KEYWORDS: biology, behavior analysis, antidepressant medication

In this commentary on Wong (2006) and Wyatt and Midkiff (2006), we argue two main points, both related to the broader discursive frame within which debate—whether scientific, clinical, or political—about the relative merits of biological and behavioral approaches takes place. The first point follows from Wyatt and Midkiff's statement that a "paradigm shift" away from the biological perspective would represent progress. For "paradigm shift," we read behavior change. We therefore discuss the nature of such a behavior change, focusing on concerns relevant to our own backgrounds and aims as clinicians and clinical researchers. This perspective emphasizes a pragmatic and humanistic application of behavior analytic principles in service of optimum clinical outcomes.

The second point we wish to argue concerns the handling of the duality of biology and behavior itself—even when we recognize that duality as merely discursive, and especially in light of the massive complexity of the phenomenon that this duality tries to model. While this point elicits yawns from undergraduates, who are subjected to it again and again, we wish to repeat it here. Maintaining a simple duality of biology and behavior is simply not scientifically or philosophically responsible, and as clinicians and researchers (whether behavior analytic or not) guided by the super-ordinate principles of scientific method and pragmatism, we ought to articulate, carefully and consistently, a more rigorous view of their interactive union. Such a view does not exclude exposing the fallacies of the reigning biologism. But beyond these excesses, a more healthy dialogue,

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rather than opposition, with biology will benefit behaviorists and biologists (who have much to learn from each other) and clients alike.

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A joke is sometimes heard in behavior analytic circles: How do you make a behaviorist into a non-behaviorist? Answer: Ask them to explain why behaviorism isn't more popular. This joke jabs at the difficulty of implementing behavior analytic principles in a culture that derides them—and the susceptibility of even behavior analysts to the influence of that culture. In Skinner's utopian visions, principles of learning were applied from the top down: Frazer started his community from scratch (Skinner, 1976) and *Beyond Freedom and Dignity* (Skinner, 1971) is addressed to those with the power to legislate or otherwise implement change. It is more difficult to conceive of working from the bottom up or the outside in.

Yet that is the position we are in. In particular, as clinicians and as clinical researchers, we are among the primary representatives of the behavioral (and often the biological) perspective—and, perhaps more importantly, of a scientific perspective in general—in those contexts in which such dispositions have the highest stakes on the most regular basis for individual persons. Critique of biologism focused on methodological flaws in so-called biological research (e.g., Hayes, 1998) may be effective in some contexts, but advocacy of a behavior analytic perspective in the clinic—as well as in case conferences, policy meetings, and popular mediums—may require additional tactics, including empathy, respect, and collaboration. Understanding the controlling variables will make an empathic approach more effective.

As a field, we already possess a rudimentary behavior analysis of biologism. Biologism has a long history. Kindled by novel technologies (including those used for marketing) and economic forces, the current boom is—like global capitalism in general—unprecedented, yet retains fundamental elements from that history. In other words, the marketing campaigns of drug-makers and psychiatry amplify (and sometimes exploit) existing contingencies.

Inner Causes: Biologism and Mentalism

Since Skinner, behaviorists have pondered the persistence of biologism despite a relative paucity of unequivocal scientific evidence for the role of what is called biology in determining behavior. At a general level, biologism falls in a class with mentalism. Both involve "...the almost instinctive tendency to look inside any system to see how it works" (Skinner, 1978, p. 81) and both provide "culturally appropriate" accounts of behavior (Hineline, 1990)—meaning that they result in the social reinforcement attending conformity.

Not surprisingly, then, the history of biologism coincides with a history of observing the body: descriptions of physiology and attribution of causal (etiological) roles to observed mechanisms. Contemporary biologism also coincides with the development of powerful methods for observing the inner workings of the nervous system—the presumed

seat of mental disorders. The flickering fMRI image is now a ubiquitous image of mental health science. Such images convey a thousand words.

For many diseases, of course, physiological research has lead to effective interventions. Useful causal theories include infection and, in some cases, genetic disorder. The paradigm for such understanding involves some physiological mechanism that may be understood in isolation from behavior (though not necessarily from environmental influence, as in infection or lung disease). Accordingly, the ideologies formed around these paradigm cases are less effectively applied to behavior problems in which there are no unequivocal biological markers and in which environmental factors are clearly, if not predominantly, implicated. Depression and schizophrenia are prime examples. Thus, while a focus on physiological determinants has been strongly reinforced in some domains (perhaps even correcting harm conveyed through adherence to non-physiological theories, such as demonic possession in the case of epilepsy), in other domains it remains a poor fit leading to poorer outcomes.

In light of this history and novel technologies, contemporary models of biological causation in the area of mental health arose in concert with the development of medications that can be effectively presented as treatments for behavior problems, thus further bolstering a generalized biologism. Several points are important here. First, as the target articles effectively document, the influence of biologism in some treatment contexts exceeds any empirical justification. This excess is particularly damaging to the extent that biologism detracts from other approaches. Second, it is nevertheless important to recognize that there is great variability in the degree to which different medications are effective for different problems for different people (regardless of the active mechanism—a point that we discuss below). Thus it is difficult to talk with any great validity about “psychopharmacology in general.”

Why should biologicistic treatments of questionable worth persist in areas where alternative treatments may be superior? An unfortunate result of positing inner causes is that examination of environmental variables is stymied. Biologism may be reinforced positively through the presentation of socially acceptable explanations and negatively through avoidance of the labor that environmental manipulation requires. For instance, as Wyatt and Midkiff comment (2006, p. 22), citing Phelan (2002), genetic explanations of etiology may serve to relieve the individual of responsibility for their problem. At the same time, however, patients accepting such explanations are more pessimistic about their prognosis (Phelan, Yang, & Cruz-Rojas, 2006). That is, medical states and causes are distinguished from willful (or manipulable) states and causes. And unfortunately, the prospect of environmental control is all too often contaminated by notions of will and responsibility.

On the positive side, the rise of medicalization may have corrected the injustices that occurred under the influence of so-called moral theories of disorder (e.g., Sieger & Osmond, 1974). Biologism as a new form of inward-looking has distinct advantages over the earlier one. For example, with some complex exceptions (e.g., psychopaths), we no longer deliberately punish as criminals those labeled mentally ill (though diagnoses of mental disorder still entail many negative social consequences).

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While supplanting moral accountability, however, the discovery of biological causes also continued to eclipse the role of environmental factors. Behavior is thus inscribed in two separate domains: a liberal domain in which the will remains free and the 'subject' is the privileged ontological point, the bearer of rights, responsibility, and personality; and a biological domain, in which diseases impinge on behavior through the alternative route of embodiment. Diseases are something that the body has and thus conflict with the person, who also, so much the worse for him or her, acts through the body. In the biological model, biology may interact with behavior, but the cause lies ultimately beyond behavior. For instance, if I smoke two packs of cigarettes every day for thirty years, I have acted irresponsibly; however, it remains the proximal fault of my lungs that I develop emphysema. When the proper cure for emphysema is produced, my freedom and my body will be improved.

Similarly, biological explanations of etiology relieve society of responsibility for disorders. Biological causation elides the role of social factors (since it is not social factors alone, but ultimately biological susceptibility that leads to disorder). Thus biologism works in conjunction with the normative fallacies operating in our society, maintaining the various social status quos: that things ought to be how they are because that is the way that they are. These insidious attitudes radically limit the perceived scope of possibilities for enacting social change by management of contingencies.

Functional Analysis of Drug Treatment

Biological explanations of treatment may be similarly motivated. Pharmacological treatment is attractive because it implies that effort, beyond that necessary to obtain and consume the drug, is unnecessary for treatment. Drug-taking may reinforce (and be reinforced by) avoidance of aversive experiences—e.g., the often psychologically uncomfortable process of psychotherapy.

A behavior analytic approach to pharmacological treatment raises numerous questions. Why does a person take a medication? For example, why do they seek treatment from a psychiatrist or physician? Why do they continue to take the drug after it is prescribed? Why do they decide to stop? How does taking the drug relate to other behavior change? Can a functional account of behavior that systematically incorporates the stimulus functions of biological events improve our understanding of how medications work (beyond pharmacological mechanism)? For example, the process of taking a drug as a treatment for depression necessarily involves many behavioral and biological processes. To insist that the drug is a biological treatment, and that it works or does not work to the degree that a specific biological mechanism is effective is ultimately simplistic. Biological theories about how drugs work (e.g., the neurotransmitter theory) posit specific mechanisms of action, but the actual mechanisms may involve complex interactions of physiological effects with behavioral processes, encompassing but transcending so-called belief and expectation; moreover the active mechanisms may vary between persons. The actions of drugs—to the extent that they are effective—might be more constructively formulated from a perspective that integrates the behavioral (e.g., so-

called voluntary) and biological aspects of the treatment process. To the extent that debates about the relative benefits of psycho-pharmaceuticals and psychotherapies lose sight of the fundamental interaction of biology and behavior—and instead represent a conflict of ideologies—they are likely misguided.

To return to our original point, as clinicians and clinical researchers, we value exploration of the application of behavior analytic principles to understanding and changing biologicistic behavior. Some researchers have begun to examine, for instance, the influence of attitudes and expectations on adherence to psychiatric medications (e.g., Wagner et al., 2005; Aikens, Nease, Nau, Klinkman, & Schwenk, 2005). Similarly, Joshua Greene (2003) has inquired about the effects of information about neurobiological states on moral decision-making. The direction of this work holds considerable promise. What can a more rigorous behavioral perspective contribute?

Finally, in connection to our call for a sensitive, pragmatic, and humanistic approach to changing behavior related to biologism (and behaviorism) in the clinic, it is important to consider the ethics of proponenty and aggressive research dissemination to clients. Such a discussion, however, must wait for another time.

THE BROADER FRAME

If biologism is behavior, then changing this behavior becomes a technical and pragmatic problem for the behavioral scientist/clinician. We believe that an issue of broader concern, however, is the relationship between the conceptual worlds of biology and behaviorism. In the terms of the target articles (Wong, 2006; Wyatt and Midkiff, 2006), there is a conflict of paradigms between the biological perspective and the behavioral perspective, and it is argued that the behavioral perspective ought to be more widely instantiated than it is. We would question, however, the validity and value of this dichotomy.

The biologism of drug companies, consumers, and writers in popular media is not biology—just as popular characterizations of behaviorism are not our behaviorism. As scientists, then, we have a responsibility to advocate a sophisticated biology as much as a sophisticated behaviorism. At this point, as well, the dominance of this dualism of behavior and biology likely contributes to the continued marginalization of the applications of behaviorism. Habits of thought make bridging explanations difficult.

What is the relationship between biological and behavioral understanding? Are they incommensurate explanatory systems—like mechanism and contextualism (Hayes, Hayes, and Reese, 1988)—or are they interactive in a different way? Our answers to such questions will dictate how we advocate the differing perspectives—and pragmatic applications—that science encompasses. Both Skinner and Freud issued prophecies about the eventual integration of biological and behavioral sciences (Skinner, 1978, p. 123). Skinner proposed that a science of behavior would at some point dictate the important questions for the physiologist. However, for both Skinner and Freud, these dreams remained deferred. With the advent of so much biological technology in the past few

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decades, have the prospects for an integration changed at all? Are we monitoring these prospects appropriately?

Integration, progress, and pragmatic ends likewise demand appropriate openness and humility with respect to our theoretical commitments as behaviorists. This is a lesson endlessly illustrated in the clinic, where behavior analysis has an invaluable practical application. But does it help us to empathize with a client? To establish an alliance based on trust and respect? To be sure, there are messages in behavior analysis that beget useful clinical attitudes (e.g., that behaviors develop as adaptations), but history produces clinicians; behavior analytic theory does not. Likewise, a perfect theoretical system alone will not solve the world's problems.

This point raises a problem for the creation of cultural change from a behavioral (or indeed any theoretical) perspective: the value of the perspective in scientific terms is not an indication of its capacity to influence the rest of the culture. A behavioral analysis of many of the things that concern people in their everyday lives would appear relatively unwieldy and thus unattractive. If the utility of the behavioral analysis is not apparent—if it does not yield any additional predictive power over my common sense notions (at least none that I can detect)—then it is unacceptable on pragmatic grounds, regardless of its theoretical superiority. In comparison, a biological explanation (in the sense of prediction and control) is lacking. Yet currently these explanations function as explanatory to the extent that their solutions (e.g., anti-depressant medication [ADM]) appear effective. (Arguably, the biological perspective is comprehensible and attractive, often without being valid, though perhaps being comprehensible and attractive is useful in itself, as in the placebo effect.)

CONCLUSION

The biological perspective is deeply fascinating in our culture at this time. Yet biologism is also rife with controversy. Why should it be, for example, that ADM are so easily accessible yet still carry considerable stigma? The popular culture of mental health contains a variety of messages, many of which contradict the messages of ADM manufacturers. And, as anybody who has studied ADM knows, management of ADM is a conflict-ridden business. Many patients are unwilling to take ADM; of those who do take it, many do not respond, while others who do respond develop intolerable side effects; finally, of those who respond with tolerable side effects, a good portion have their own ideas about how to take the medication and when to stop (Bolling & Kohlenberg, 2004).

It is to this arena of considerable conflict and complexity that behavior analysis may contribute most effectively, we have argued, both by applying its principles to understanding individual clients' and our culture's engagement with biological (and behavioral) reasoning; and by helping to reframe the opposition of biology and behavior in terms that are philosophically and scientifically rigorous and that yield the richest applications from both traditions.

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