

Adopting and Defending an Explanatory System: How and By What Criteria?

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Advocates of one behaviorism over another can easily cite personally compelling reasons for their preference. But do these reasons accurately identify the variables controlling theoretical preference? Furthermore, can theoretical superiority be determined based on premises neutral to the systems being compared?

In a previous student forum paper, Addis (1993) used the term *aesthetic appeal* to describe the attraction proponents of radical and cognitive behaviorism feel toward their respective explanatory systems. Addis chose this term in an attempt to describe the preference without using terms already adopted by cognitive or radical behaviorists. Our present concern is that the use of the term "aesthetic" may have been misinterpreted as communicating disregard for the consequences of adopting one system over the other (Callahan, 1994; Hawkins, 1994). Our goal in the current paper is not to defend the use of the term aesthetic, but to refine our points that (1) preference for a particular explanatory system is the result of complex individual learning histories, and (2) there is no neutral ground from which one explanatory system can be proven superior to the other. We will discuss the separate truth criteria of radical and cognitive behaviorism as examples of the untestable yet equally valid assumptions at the foundation of different explanatory systems. We will show how, given neutral criteria, neither system is more adequate than the other and why this is difficult to see. Finally, we will address the concerns of Hawkins and Callahan with regard to the important consequences of adopting one system over the other.

The Adoption of Criteria: Shaping a World View

The explanatory system we have adopted holds that the behavior of organisms, at the broadest level, is determined by individual learning history and the evolutionary history of the species. It is from within this system that we will discuss what determines whether someone calls him or herself a radical or cognitive behaviorist. As psychologists, our learning histories shape

the criteria by which we judge the adequacy, importance, and value of different explanations. We employ metaphors to describe behavior, we embrace a particular epistemology, and we begin to adopt criteria for measuring truth. All of these processes shape the goals we eventually pursue through our science (cf. Hayes, Hayes, & Reese 1988; Pepper, 1942) as well as the types of explanations we find most persuasive (Cordova & Koerner, 1993). In short, our histories form our assumptions about the world of behavior. Such collections of assumptions have been called "world views" (Pepper), "paradigms" (Kuhn, 1970) or the "hard core" of a research program (Lakatos, 1970).

The foundational assumptions of radical and cognitive behaviorism are irreconcilably different.

Graduate training provides a good example of this shaping process. Although different programs vary according to how explicitly they endorse a particular approach, the contingencies of graduate education nevertheless shape a student's preference for a particular explanatory system. Discussions with professors, debates with colleagues, clinical work with clients and supervisors, the process of writing and publishing, and a variety of other settings all provide the context within which certain explanations are reinforced over others. Although graduate students may experience this history as "choosing an orientation" the actual process is a subtle and complex shaping of verbal behavior. Competing contingencies assure that not all students from a single program adopt the same explanatory system. Nonetheless, our point is that this adoption is not determined by a rational analysis of the pros and cons of various systems, but by a complex learning history. Any rational analysis that does occur is simply one aspect of that history.

Justifying a Preference

Once one has adopted an explanatory system, it becomes tempting to justify this preference based on the premises of that system. Consider the different truth criteria of cognitive and radical behaviorism as an example. Cognitive and radical behaviorism subscribe to two very different conceptions of what constitutes a demonstration of truth. In general, cognitivists measure truth through correspondence. For them, the degree to which an internal representation corresponds with the real world is the degree to which it can be considered true (cf. Pepper, 1942). Internal representations are measured by verbal report, and to the degree that correspondence can be demonstrated between these reports and other measures of an encompassing construct, the boundaries of truth can be said to have been delineated. On the other hand, within radical behaviorism, the degree to which something works successfully is its measure of truth. This is referred to as the pragmatic truth criterion or the criterion of "comparative utility." This criterion assumes no ultimate truth to be searched for, but instead leads one to search for ways in which to interact effectively with the world. A demonstration of successful working is a demonstration of truth.

These separate truth criteria become part of the yardstick by which other systems are measured and by which the adopted system is justified. However, the legitimacy of these measures of truth is untestable. There are no experiments that can be conducted to falsify a hard core set of assumptions and thereby demonstrate one explanatory system superior to another (Lakatos, 1970). The legitimacy of these separate truth criteria must be assumed and cannot, therefore, be used to argue for the superiority of the system of which they are a part. Such arguments are circular.

Comparing the Adequacy of Separate World Views

We have used truth criteria to exemplify the type of assumptions that separate radical and cognitive behaviorism. Since such assumptions are untestable, and since a world view cannot be argued for from within, we must turn to neutral criteria in order to judge the adequacy of each explanatory system (cf. Pepper, 1942). We will consider three such criteria, (1) scope, (2) precision, and (3) utility in directing future inquiry.

Scope refers to the ease with which an explanatory system can account for most known phenomena. Given the range of known psychologi-

cal phenomena, does one behavioral system account for dramatically more of those phenomena than the other? At this point all we can say is "no." Both systems are quite broad in scope and can easily provide explanations for most behavioral phenomena.

Precision refers to the specificity of an explanatory system. To what degree does the system allow for only one or a limited number of interpretations of any one phenomenon? Although both cognitive and radical behaviorism have strengths and weaknesses with regard to precision, once again they are each comparably adequate for dealing with most behavioral phenomena.

Finally, since these systems are advocated as means through which to develop our field, they can also be evaluated based on their utility in directing future inquiry. Once again however, neither system is obviously superior to the other by this criterion. Simply observing the behavior of scientists adhering to each system tells us that both are quite capable of shaping, directing, and motivating continued behavioral research. In sum, based on these three neutral and therefore legitimate criteria for judging the adequacy of explanatory systems, neither cognitive nor radical behaviorism can claim clear superiority.

"I Don't Believe It for a Minute"

What makes this a bitter pill to swallow is that from within the framework of each system the other system seems clearly inferior. The foundational assumptions of radical and cognitive behaviorism are irreconcilably different. These basic assumptions are just different enough to assure that these two approaches will always argue about fundamentals. Cognitivists will continue to see radical behavioral conceptions of verbal behavior as simplistic, and radical behaviorists will continue to see cognitivists as unabashed dualists. Once someone has adopted the criteria of one or the other camp, the explanations proffered by adherents of the other system will always seem inadequate or bizarre. Since proponents of neither system can easily step outside of their own framework, partisan rhetoric will probably continue to dominate discussions between the two camps.

The Final Arbiter

Our position is that one's status as a cognitivist or a behaviorist is determined by one's individual learning history. Ultimately what is shaped is an inclination toward one type of explanation over the other. If neither system

can claim superiority on philosophical, theoretical, or empirical grounds, then when asked why we are radical or cognitive behaviorists, all we can legitimately say is "because that is the system toward which I am inclined" or in short "because it appeals to me." The final and most legitimate arbiter between the two systems is, perhaps unfortunately, simple preference.

In Response

Our concern is that this can be misread as saying that the consequences of choosing one system over the other are less than profound. We wholeheartedly agree with Hawkins (1994) and his students that whether one pursues knowledge from a radical or cognitive behavioral framework has profound implications for the questions that will be asked, the way in which answers will be pursued, and "the multigenerational enterprise we call the *science of behavior*" (Hawkins, p. 85). Our point is not that the choice is frivolous, but that it can only be legitimately defended as a preference. On the other hand, if Callahan (1994) is arguing that there are legitimate criteria (e.g., comparative utility) by which one can prove one orientation clearly superior to the other, then we disagree. If by comparative utility he is referring to the pragmatic truth criterion, then we have shown why that assumed criterion cannot be used to measure the adequacy of alternative systems. If he means utility in directing research, then we have argued there is no clear winner. Direct observations, controlled manipulations, and interpretations devoid of hypothetical constructs are clearly invaluable means of pursuing knowledge. However, they are neither the only means nor, as we hopefully have demonstrated, the most defensible means of doing so.

We have argued throughout this paper that adopting and defending an explanatory system are the results of individual learning histories. Furthermore we have stated that arguments for one system over another cannot be legitimately defended over and above personal preference. Recognizing this is the first step towards tolerance of alternative systems and the identification of irreconcilable arguments. That proponents of a chosen system passionately defend it from derision is to be expected, is warranted, and should be encouraged. That proponents of alternative systems bicker with each other may even be healthy in that it forces growth and accommodation. However, if such bickering destroys the potential for collaboration, then it is an unfortunate disservice to the field.

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AABT News

The Central Office has been bombarded in recent months with nearly 500 requests for referrals and information pertaining to panic attacks and related disorders from California, Texas, Florida, and several other states.

The high volume of calls and requests was sparked by an article, distributed by United Features Syndicate to a dozen or so newspapers nationwide, that examined the causes of a panic attack, some of the therapies used to treat such attacks, and panic disorder in general. The article, which ran with several different titles, including "Panic Attack Brought on by Stress, Breathing," was written by M. R. Hiller and placed in the column entitled "Medical Adviser," which is a column that 30 or so publications subscribe to, according to Christopher Hull, the editor of this column.