On The Alleged Incompatibility of Analysis and Application: A Response To Pierce and Epling

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Recently, concerns have been expressed in the literature of applied behavior analysis regarding the divergence of field-based technological applications from basic, theoretical principles (Birnbrauer, 1979; Hayes, 1978; Hayes, Rincover, & Solnick, 1980; Pierce & Epling, 1980). The very discussion of these issues in open forum attests to both the health of the discipline, and further to the belief of some of its practitioners that applied behavior analysis should continue to be "self-examining, self-evaluating, and discovery-oriented" (Baer, Wolf & Risley, 1968, p. 92). This ongoing process of internal assessment has turned up interesting (though in some respects, disturbing) trends in the development of the field. Certain of the observations do indeed reveal genuine sources for concern. However, some particular criticisms seem to be based upon questionable assumptions about the fundamental nature of applied behavior analysis.

The article "What Happened to Analysis in Applied Behavior Analysis?" by Pierce and Epling (1980) refers to an alleged "distinction between a helping, problem-oriented approach and an analytic approach to applied behavior analysis" (p. 1). The separation between application and analysis is carried through in the authors' classifications of research reports in a recent volume of *JABA* and in misgivings that

"... Even prominent behavior analysts have turned to the cure-help approach and have seemingly rejected the analysis of behavior which Skinner envisioned..." (p. 3).

Finally, at one point in the manuscript, the authors suggest that the "analytic behavior" of the behavior analyst is *incompatible* with those behaviors reinforced in the applied field! These are indeed serious charges and they seem to derive from a conviction that a relationship of mutual exclusivity exists between "application" and "analysis." Baer, Wolf & Risley, (1968) in discussing "applied" work state that

"... The label applied is not determined by the research procedures used, but by the interest which society shows in the problem being studied..." (p. 92).

In this sense, "applied" conveys a meaning which is situational, having little to do with actual principles or methodology except inasmuch as certain situations (characterized as "applied" ones) carry with them obvious methodological limitations (Baer, Wolf & Risley, 1968). Hayes, Rincover, and Solnick (1980) have recently refined the meaning of the term "applied" to differentiate its functional from its structural connotations—a perspective which holds potential for even further extending the methodological possibilities in applied research.

Like the word "applied," "analysis" can have different connotations. "Analysis" should be taken to represent the operative component in what Hayes, Rincover, and Solnick (1980) termed "systematic applications": applications that "show an effort to advance our basic knowledge of some behavioral phenomena." (p. 278). That the number of studies undertaking the challenge of "systematic application" is declining is undisputed. Both Pierce & Epling (1980) and Hayes, Rincover, & Solnick (1980)

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have exposed that disturbing tendency clearly and convincingly. However, Pierce & Epling (1980) seem to be suggesting something more; namely that a "systematic application" is a logical or practical impossibility.

The origin of this belief may (surprisingly) lie in an early statement by Baer, Wolf & Risley (1968):

"... In application, the theoretical importance of a variable is usually not at issue. Its practical importance, specifically its power in altering behavior enough to be socially important, is the essential criterion..." (p. 96).

Such an assertion does not coexist comfortably with an appeal for relevance to principle. Hayes, Rincover, & Solnick (1980) recognized this inconsistency, describing it as an instance of having "overstated the case" (p. 283) in differentiating applied from the experimental analysis of behavior. This in itself may be something of an understatement. In any case, (notwithstanding the current *practice* of applied behavior analysis) there need not exist a fundamental incompatibility between application and analysis.

If we accept that there is not a basic and fundamental incompatibility between conceptually systematic analysis on the one hand, and application on the other, we must still acknowledge (with regret) the declining tendency of the two to be found together. Pierce & Epling (1980) point that the bulk of research published recently seems to call upon a limited number of basic principles is indeed well taken. This observation is corroborated by Hayes, Rincover, & Solnick (1980) who however go on to recommend separate outlets for work of theoretical and applied interest. This suggestion carries the seeds of an even more serious divergence of field-based technological applications from basic theoretical principles. Baer, Wolf, & Risley (1968) cautioned us against the development of a collection of tricks as opposed to a discipline. As they phrased it, "relevance to principle" within an integrated concep-

tual framework can be seen as nothing less than a necessary condition for the systematic expansion of applied behavior analysis. To arbitrarily differentiate theory from application in our discussions (or indeed, the professional literature) would be to abandon this very fundamental precept. A better course would be to encourage the conduct of more research in the area designated by Hayes, Rincover, & Solnick (1980) as "systematic application."

Popper (1968) speaks of "basic statements" in the same sense as was meant by Baer, Wolf, & Risley (1968) in discussing "basic principles" and Kuhn (1970) in discussing "paradigms":

"... Basic statements are accepted as the result of a decision or agreement; and to that extent they are conventions. The decisions are reached in accordance with a procedure governed by rules. Of special importance among these is a rule which tells us that we should not accept stray basic statements—i.e. logically disconnected ones—but that we should accept basic statements in the course of testing theories; of raising searching questions about these theories to be answered by the acceptance of basic statements..." (p. 106).

One can scarcely imagine a more elegant parallel than is evident here between Baer, Wolf, & Risley's (1968) "collection of tricks" on the one hand, and Popper's (1968) "stray basic statements" on the other.

Popper later goes on in the same volume (Popper, 1968) to make an argument which I put forward in support of Hayes, Rincover, & Solnick's (1980) appeal for more "systematic applications." This argument serves equally well in supporting my main thesis; that application and theory must, for the sake of continued advancement, remain wholly integrated.

"... Agreement upon the acceptance or rejection of basic statements is reached, as a rule, on the occasion of applying a theory; the agreement, in fact, a part of an application which puts the theory to the test. Coming to an agreement upon basic statements is, like other kinds of applications, to perform a purposeful action, guided by various theoretical considerations... A theory is a tool which we test by applying it, and which we judge as to its fitness by the results of its applications..." (Popper, 1968, pp. 106, 108).

The foregoing viewpoint—one which has been eloquently articulated in our own field (cf. Baer, Wolf, & Risley, 1968) seems to have considerable generality throughout the scientific community. This fundamental unity of principle and applied experimentation (if maintained) will guarantee the future of applied behavior analysis as an evolving, self-examining, self-evaluating, and discovery-oriented discipline.

REFERENCES

- Baer, D. M., Wolf, M. M., & Risley, T. R. Some current dimensions of applied behavior analysis. *Journal of Applied Behavior Analysis*, 1968, 1, 91-97.
- Birnbrauer, J. S. Applied behavior analysis, service and the acquisition of knowledge. *The Behavior Analyst*, 1979, 2, 15-21.
- Hayes, S. C. (Chair), Some current dimensions of applied behavior analysis; Ten years later. Symposium presented at the annual meeting of the Midwestern Association for Behavior Analysis, Chicago, May 1978.
- Hayes, S. C., Rincover, A. & Solnick, J. V. The technical drift of applied behavior analysis. *Journal of Applied Behavior Analysis*, 1980, 13, 275-285.
- Kuhn, T. S. *The Structure of Scientific Revolutions* (2nd. ed.) Chicago: University of Chicago Press, 1970.
- Pierce, W. D. & Epling, W. F. What happened to analysis in applied behavior analysis? *The Behavior Analyst*. 1980, 3, 1-9.
- Popper, K. R. *The Logic of Scientific Discovery*. New York: Harper & Row, 1968.