Back to Our Philosophical Roots:
A Journal Review of
Transactions of the Charles S. Peirce Society

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Connections between behaviorism and the philosophies of William James, George Herbert Mead, and other late 19th and early 20th century American philosophers have been discussed in other works. The journal published by the Charles S. Peirce Society promotes the study of these scholars, and thus contains material of relevance to behavior analysis. Representative articles are described in (a) philosophy of science, (b) philosophy and psychology, and (c) history of philosophy and psychology.

Key words: radical behaviorism, pragmatism, philosophy of science, Charles S. Peirce, William James, John Dewey

Psychology sprang from philosophy, but the continuing relations between the two are seldom prominent in our field. Philosophers, however, can and do make important contributions to scientific thinking, including psychology. A welcome example is the Charles S. Peirce Society, which shares some of the views of behavior analysts. The Society, which meets annually at the American Philosophical Association convention, sponsors a refereed archival journal, *Transactions of the Charles S. Peirce Society: A Quarterly Journal in American Philosophy*. This paper will describe this journal and its relevance for behavior analysts.

Charles Sanders Peirce was a friend and contemporary of the better known (to psychologists) William James. Peirce, James, and John Dewey were the triumvirate who formulated and promulgated the philosophy of pragmatism, in which "the truth of a statement and the meaning of a concept are matters of their usefulness rather than abstract and transcendent properties of words" (Zuriff, 1985, p. 257; also see Coplestone, 1966, p. 337; Smith,

1986). As Day (1980), Smith (1986), and Zuriff (1985) have documented, pragmatism was and is a key foundation of behavioral psychology; according to Mendieta (1994), George Herbert Mead suggested that behaviorism was "one of pragmatism's main impetuses" (p. 962). Peirce was a systematist whose other contributions relevant to behavior analysts include logical analysis and the founding of semiotics (the theory of signs in verbal behavior). Although chiefly known now as a philosopher, Peirce also had impressive credentials in chemistry, geophysics, and astronomy.

Important as pragmatism was to psychology, it was more important to philosophy. Pragmatism was one of America's few major contributions to philosophy, and was soon adopted explicitly or implicitly by Europeans such as Wittgenstein in his post-*Tractatus* years, with continuing importance in America through the contributions of the likes of Harvard philosopher Willard van Orman Quine. (Quine, a friend of B. F. Skinner's, was a founding associate editor of the journal *Behaviorism*, now *Behavior and Philosophy*.) Anyone interested in pragmatism would thus be more likely to find relevant material in its home discipline of philosophy than in psychology.

Transactions of the Charles S. Peirce

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Society is devoted not only to Peirce but to all American philosophers of the period, including James, Dewey, Mead (e.g., Joas, 1990; Moran, 1996; Murphy, 1993), and others of interest to behavior analysts. Indeed, both James and Mead have been the subjects of several articles in behavioral journals (Baldwin, 1988; Blackman, 1991; Chakrabarti, 1975; Malone, 1975). Although Dewey and Peirce were mentioned in Skinner's autobiography (1979, 1983), they have been somewhat neglected. The journal would thus be a good resource for an interested behavior analyst who has a basic familiarity with these philosophers, easily obtainable through perusing the behavioral commentaries, the original sources, or biographies (e.g., Dewey, 1938; James, 1907/1975, 1909; Peirce, 1992; Perry, 1935).

Not all of the articles in *Transactions* are pertinent to behavior analysis, of course, and the philosophical terminology might be forbidding: "Peirce's Abductive Argument and the Enthymeme" (Sabre, 1990), for example. Even this article is of some interest, however: Abduction was a Peircean variation of induction, an enthymeme is a form of rhetorical argument tracing back to Aristotle, and the article can be considered a note on audience control.

Fortunately, most issues contain contributions both more comprehensible and relevant to behavior analysts. These articles can be divided into three categories, of which the first is the largest: philosophy of science, defined broadly to include, for example, truth criteria, the admissibility of metaphysics, and epistemology. Other categories are the relations between philosophy and psychology, including references to Skinner, and the history of philosophy and psychology; all three categories often involve pragmatism. A brief review of representative papers from each category will illustrate their relevance to behavior analysis.

Philosophy of Science

Dewey. In "Epistemology as Hypothesis," Putnam and Putnam (1990)

proposed that Dewey's philosophy of science supports value judgments such as the desirability of democracy, which Dewey strongly favored. Given the equally strong concerns of many behavior analysts with such social issues, and a shared philosophy of science, the topic is relevant. In expounding and expanding on Dewey's ideas about science and values, the Putnams debate much that psychologists have debated, but only from a philosophical point of view. A quote from Dewey sets the stage:

Since scientific methods simply exhibit free intelligence operating in the best manner available at a given time, the cultural waste, confusion and distortion that results from the failure to use these methods, in all fields in connection with all problems, is incalculable. (cited in Putnam & Putnam, 1990, p. 407)

A commentary on this article by R. W. Sleeper (1990a), author of *The Necessity of Pragmatism* (1986), adds to its interest.

Sleeper's review (1990b) of an analysis of Dewey noted that Stephen Toulmin

urged us to stop thinking of Peirce, James and Dewey as members of a single "school" of pragmatists. He proposed that we start by recognizing how different Dewey's arguments are from those of his predecessors, and how much closer they are to those of his younger contemporaries, Ludwig Wittgenstein and Martin Heidegger. (p. 256)

Because Wittgenstein has probably been the most discussed philosopher among behavioral psychologists, perhaps we should learn more about Dewey (also see Coplestone, 1966, chap. 16; Mesthene, 1989; Moore, 1961, p. 8). For example, according to Flower's description of Dewey, "epistemology, biologically oriented, makes knowing a part of the natural process of adjustment in a natural environment; thus knowledge and action cannot be divorced" (cited in Sleeper, 1990b, p. 257; cf. Smith, 1986). Dziemidok describes Dewey's view similarly: "Experience and reality are terms which, from differing points of view, describe one entity that is a contextual field"

(1992, p. 605). Sleeper's brief summary of Dewey's epistemology concludes with encouragement about "the background in the physiology, psychology and even the sociology of perception that Dewey . . . possessed and deployed in his forays into logic and epistemology" (Sleeper, 1990b, p. 260)—thus giving psychologists an advantage over the philosophers in understanding Dewey (also see p. 258; Flower & Murphey, 1977).

Pragmatism and science. In common with Skinner's approach to verbal behavior, Misak "aptly notes [pragmatism's] affinity to Wittgenstein's rejection of the possibility of a private language" (Skagestad, 1992, p. 313). The search for truth necessarily entails modes of inquiry, and "naturally (if not inevitably) leads to the adoption of the scientific method as the one method that offers the best chance of success" (p. 315). The review concludes with a discussion of whether science can legitimately be considered to be gradually converging on "the truth," citing Quine and Popper as well as Peirce (also see Staab, 1994; Wells, 1994).

Such views toward science are characteristic of pragmatism, and are explored in the journal in many ways. For example, Hookway (1993) offers a Peircean challenge for applied scientists: The degree of stringency required to establish principles in a science should be less than that demanded to justify their application. Peirce likewise considered scientific terminology highly important, and alterable only with great caution (Stewart, 1994, pp. 318–319; cf. Hineline, 1984). Challenges to pragmatism's elevation of science are also covered in the journal (e.g., postmodernism in Nielsen, 1993). Such philosophical issues have been and continue to be of concern in behavior analysis (e.g., the list of such works in Catania & Hineline, 1996).

Mach and science. Stewart (1991) offers an in-depth discussion of Ernst Mach's views that is similarly relevant for behavior analysts: Skinner's ac-

knowledgment of Mach's influence is well known (e.g., Skinner, 1979), and the philosophical connections between the two have been traced (Day, 1980; Marr, 1985; Smith, 1986; Zuriff, 1985). Stewart's article focuses on economics and its place in philosophy of science, and we learn in this context that Peirce referred to Mach's *Science of Mechanics* as "that pearl, brilliant, well-rounded, exquisite" (Peirce, cited in Stewart, 1991, p. 506). The article's comparison of Mach's and Peirce's views focuses on "the crucial question [of] how to govern the activities of scientists so as to produce the most valuable addition to knowledge with a minimum investment of the finite stock of scientific resources" (p. 508; see also Stewart, 1994, p. 323). Similarly, Hookway (1992) discusses what laboratory science is or should be.

Philosophy and Psychology

As in philosophy of science, philosophy and psychology interrelate in diverse ways. One of the journal's references to contemporary philosophers confirms the view of Quine held by behaviorists: "Epistemology . . . simply falls into place as a chapter of psychology and hence of natural science" (Quine, cited in Karimsky, 1992, p. 658).

Returning to the turn of the century, Cunningham (1995) reminds us that Dewey, like James, was a psychologist as well as a philosopher; moreover, both took a functionalist orientation heavily dependent on Darwinian theory. Dewey's position on emotions took up where Darwin (1872/1979) and James (the James-Lange theory, James, 1884; Lange, 1885/1887) left off. The cognitive, behavioral, and physiological aspects of emotion are discussed, including recent work in neuroscience, and Cunningham concludes that Dewey was on the right track in deemphasizing cognition—in contrast to current philosophy of mind.

In a broader paper, Manicas (1988) begins with an analysis of Peirce's

views on philosophy of science. Manicas notes that one of Peirce's essays is "usually read as the earliest—and clearest!—expression of the 'operationalist' theory of meaning" (p. 182). This might be a useful lead for anyone interested in operationism and its place in our science. The place of Ernst Mach is noted in the course of a discussion of the beginnings of positivism and philosophy of science and their effects on Peirce.

Later, Manicas (1988) focuses on psychology, featuring a long section analyzing William James's *Principles of Psychology* and, among other topics, defending the unorthodox opinion that it had little influence on American psychology. There's also a quote from John B. Watson's famous 1913 paper, "Psychology as the Behaviorist Views It."

However, a major function of Manicas' (1988) article is to attack the anti-metaphysical stance taken by many pragmatists and psychologists: "It was the fear of metaphysics which . . . led the behaviorists to redefine the goals of a scientific psychology" (p. 196). Similarly, concerning Dewey, "His theory of inquiry was a naturalist epistemology, but it was incomplete because he finally rejected 'the problems of an external world' and 'the mind/body problem' as non-problems" (p. 204)—and Dewey's view was shared by Skinner, mentioned here. Behavior analysts may agree with Dewey and Skinner and disagree with Manicas, but it is nonetheless useful to hear about the relations between psychology and philosophy from a philosophical viewpoint—and sometimes to be forced to reexamine our assumptions. On the same topic, Wells (1994) contributes the thought that, according to Peirce, although "we have good pragmatic grounds [albeit without certainty] for believing the independent existence of universal generals, we do not, however, have pragmatic warrant for thinking that such universal generals are static or changeless" (p. 858; cf. Skinner's views on metaphysics, Zuriff, 1985).

B. F. Skinner's name appears only occasionally (e.g., Adams, 1988, p. 23; Brodsky, 1994, p. 1015; Campbell, 1990, p. 390; two neutrally and one negatively), despite the relevance of his work to many of the articles. If Skinner is misrepresented or, worse, ignored in psychology (e.g., Todd & Morris, 1992), what can we expect of philosophy? Watson fares no better (e.g., Mendieta, 1994). Perhaps this is another reason to establish stronger connections with organizations such as the Peirce Society: The more mutual understanding and support all scientific psychologists share, the better.

History of Philosophy and Psychology

Mutual understanding and support between philosophy and psychology go back a long way: Petry (1992) and Forster (1995) refer to an intriguing study conducted jointly by Peirce and psychologist Joseph Jastrow, one of the founders of American psychology. The research was classic psychophysics on just noticeable differences (jnds), with Peirce and Jastrow themselves as the subjects (Peirce & Jastrow, 1884). Unfortunately, there were a few methodological flaws, and the conclusion contradicts Weber's law—but it is still interesting to see a philosopher perform empirical work, and is a reminder of our common heritage. In fact, this experience with Peirce led Jastrow to become the first American psychology PhD (Boring, 1950, p. 541; R. Watson & Evans, 1991, p. 382); he went on to be a strong voice for scientific psychology, and thus one of Watson's predecessors.

Because of the journal's focus on the turn of the century, historical items of interest such as these are common. In a previously unpublished manuscript by George Herbert Mead (1992), William James is movingly described. Mead, who attended Harvard, also comments on the students of the time "feeling for a scientific psychology" (p. 588), like Jastrow. Further, Mary Whiton Calkins, known as a female

psychology pioneer who researched human memory and was the first to use the term *radical behaviorism* (Schneider & Morris, 1987), is revealed as making "broad contributions . . . to ethics founded on a carefully worked out philosophical psychology" (Miller, 1995, p. 930).

As these examples illustrate, many of psychology's roots can be traced back to the tree of philosophy, and we tend to think of philosophy as well established for centuries. American *professional* philosophy is apparently a different matter:

The discipline is said to have undergone a crisis of confidence in [the early 1900s]—a crisis which can only have been sharpened by the removal of other areas of investigation, notably psychology, from its scope. . . . Its status as a discipline was in doubt. (Mathien, 1991, p. 380)

The joint dissatisfaction of philosophers and psychologists with the presence of a large number of philosophers in the American Psychological Association . . . is said to have contributed to the organization of a distinct American Philosophical Association in 1901. (Mathien, p. 385)

For our part, "Psychology's emergence from philosophy and continued administrative subordination to it adversely affected its scientific progress" (O'Donnell, 1985, pp. 220–221). The divorce was not entirely amicable, but it was eventually accomplished. Our joint history, however, still has its effects on our discipline, and the journal helps make that clear.

Conclusion

Transactions of the Charles S. Peirce Society covers a period of philosophical history that is of special relevance to behavior analysis: the era of classical pragmatism, which was inopportunistly succeeded by the school of logical positivism (see Smith, 1986). The journal thus contains articles of interest to behavior analysts, samples of which have been described. It also provides a potentially fruitful field for collaboration and an improved mutual understanding between behavior analysis and another discipline, as Hineline and

others have urged (e.g., Hineline, 1990).

Philosophy taken more broadly also has relevance for behavior analysis, and for many more reasons than those touched on here. Behaviorism, after all, is not a science: It is the philosophy of our science (Skinner, 1974). As *Behaviorism* coeditors Graham and Killeen (1985) wrote,

Willard Day recognized the importance of involving both philosophers and scientists in analysis of the philosophical bases of behaviorism. By so doing, we believe that he facilitated the secure growth of our field. . . . Philosophy offers the chance for continual inspection and adjustment of our premises. (p. 1)

For those who wish to delve a little more deeply into the philosophy behind our science, the Peirce Society and its journal may offer a worthwhile resource.

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