Unity Within Psychology, and Unity Between Science and Practice

John F. Kihlstrom
University of California, Berkeley

The unity of psychology as a science is to be found in its definition as the science of mental life, and its explanation of individual behavior in terms of mental states. This disciplinary focus will help negotiate psychology's relations with other disciplines, such as neuroscience and cognitive science. The unity within psychology between science and practice is to be found in a focus on scientific evidence as the source of the status, autonomy, and privileges of professional practitioners. Psychology should avoid the temptations of reductionism, and assert (and enjoy) its twin status as both a biological science and a social science. © 2004 Wiley Periodicals, Inc. J Clin Psychol 60: 1243–1247, 2004.

Keywords: unity of psychology; mentalism; behaviorism; cognitive science; clinical psychology; reductionism

Psychology started out as a unified field, namely psychophysics, but already a century ago (more or less), the unity of psychology was challenged by a proliferation of "schools": structuralism, functionalism, behaviorism, Gestalt, psychoanalysis, and so on. The hegemony of behaviorism created a new unity at midcentury, and toward the end of the century psychology was split and then unified again by the cognitive revolution. At present, the unity of psychology is newly threatened by a centrifugal tendency to carve itself up into new disciplines. We have cognitive psychology, but we also have cognitive science; what used to be biological psychology is now cognitive neuroscience (not to mention affective neuroscience). How many psychologists have left their home departments to work in business schools teaching judgment and decision-making as "behavioral economics," personality as "personnel selection," and group processes as "organizational behavior"? A great deal of clinical training has now been relocated to freestanding schools of professional psychology whose allegiance to scientific psychology is, for the most

Correspondence concerning this article should be addressed to: John F. Kihlstrom, Department of Psychology, MC 1650, University of California, Berkeley, 3210 Tolman Hall, Berkeley, CA 94720–1650; e-mail: kihlstrm@socrates.berkeley.edu.

JOURNAL OF CLINICAL PSYCHOLOGY, Vol. 60(12), 1243–1247 (2004)
Published online in Wiley InterScience (www.interscience.wiley.com). DOI: 10.1002/jclp.20066

part, rhetorical at best. I suspect that this is not exactly what Miller (1969) had in mind when he talked about "giving psychology away."

Unity Within the Science of Psychology

Against this background Henriques in his article "Psychology Defined" (this issue, pp. 1207–1221) suggests that psychology's "epistemological woes" (this issue, p. 1208) can be solved, and psychology unified, "[by] linking life to mind from the bottom and mind to culture from the top" (Henriques, 2003, p. 150)—and, for good measure, that such a unified psychology can heal "the long-standing conflicted relationship between science and practice" (Henriques & Sternberg, in press). Henriques is certainly right about the unifying centrality of mind: psychologists seek to understand the cognitive, emotional, and motivational processes that underlie human experience, thought, and action. Psychology would be unified instantly and permanently, and distinguished from all other disciplines, if everyone would embrace this simple definition. Psychology is, as James (James, 1890/1980, p. 1) said it was, "*the* science of *mental life"* (emphasis added). It is *a* science of behavior too, but it is *the one* behavioral science that explains individual behavior in terms of mental states—as opposed to genes, hormones, and neurons, or social and cultural structures that exist in the world outside the individual.

Even this strict doctrinal orthodoxy would not save psychology from some tension and disunity, however, for a reason that Henriques identifies in his "Tree of Knowledge" metaphor: psychology has intimate connections to both the biological and the social sciences. Insofar as it is concerned with the relation between mental processes and brain processes, psychology is a biological science, seeking observer-independent laws of nature. But insofar as it is concerned with mental content, it is a social science, seeking observer-dependent laws relating the individual's intentionality or meaning to the facts of the social world (Searle, 1995). Some psychologists will attempt to connect psychology "down," to the other biological sciences, and even to chemistry and physics, while others will attempt to connect psychology "up" to the other social sciences, and even to the arts and humanities (Gould, 2003; Kihlstrom, 2002). There will always be tensions between these two groups. Sometimes the tensions will be so unbearable that psychologists will, regrettably, divide themselves into separate departments, as happened once at Harvard when Experimental Psychology split from Social Relations (Hilgard, 1987). Harvard's psychologists eventually came to their senses, although some of the protagonists had to die before it could happen. Like them, we can find unity within the discipline if we retain a focus on mental life.

Still, more recently, some psychology departments (you know who you are!) have succumbed to the temptation to split. Henriques (this issue, pp. 1207–1221) himself verges on schism, when he divides psychology into a "science of mind" that "corresponds to the behavior of animal objects" (this issue, p. 1211) and a "human psychology" concerned with "human behavior at the individual level" (this issue, p. 1208). There is considerable irony, I think, in a discussion of the unity of psychology that immediately divides the field into two pieces, one of which is concerned with *animal* behavior. Psychology is a big enough tent to provide a home for ethology and behavioral biology as well as neuroscience, but it is first and foremost a science of *human* mental life. In the field's early days psychologists studied animal behavior mostly on grounds of convenience; but as Hilgard asserted at the height of the behaviorist hegemony, "Only if a process demonstrable in human learning can also be demonstrated in lower animals is the comparative method useful in studying it" (Hilgard, 1948, p. 329). Admittedly, some 20th century psychologists assumed that human consciousness, intel-

ligence, language, and culture counted for nothing in the search for universal laws of behavior. That was a mistake, and it would seem an even bigger mistake, now that we know better, to give their intellectual descendants their own departments—or half of ours.

The Relation of Psychology to Other Fields

A focus on the mind will also help psychologists to negotiate their relations with larger interdisciplinary efforts in which they participate. Given the hegemony of behaviorism in the 1950s and 1960s, establishing a separate field of "cognitive science" was probably a necessary tactical step on the way to the revival of cognitive psychology. But so far as understanding the workings of the human mind is concerned, there is little or nothing that cognitive scientists do that psychologists could not; and there is a great deal that psychologists can do that cognitive scientists cannot do without overreaching—such as understanding the nature of emotion and motivation. Insofar as they do empirical research on human mental life, cognitive scientists are psychologists. But there are some cognitive scientists who are not interested in human minds at all—such as those who promote a "pure" view of artificial intelligence, devoted to understanding how machines might acquire, store, and use knowledge, without regard to how humans perform these same activities.

Similarly, there is nothing that cognitive (or affective) neuroscientists do that physiological psychologists did not do before them. Psychologists are free, as psychologists, to explore the relations between mind and body. But there are some neuroscientists who are interested in how the nervous system works, without necessarily being concerned with the relations between these mechanisms and mental life. This is neuroscience—it used to be called neuroanatomy and neurophysiology—but it is not psychology. The current penchant for brain imaging sets out clearly the relation between psychology and neuroscience, for without a clear theoretical understanding of what the subject is doing, worked out at the psychological level of analysis on the basis of performance data, PET or fMRI images are nothing more than illuminated pixels. As someone once said, physiology is a tool for psychology, but it is not an obligation. Perhaps the same person said that psychology is not just something to do until the neurologist comes. In any event, psychology without neuroscience is still psychology, but neuroscience without psychology is just neuroscience.

Unity Between Science and Practice

If unity within the science of psychology is achieved by a disciplinary focus on the mind, unity between the science of psychology and the practice of psychology will be achieved by a professional focus on science. At its creation, during and after World War II, clinical psychology as a profession was dominated by the scientist–practitioner model (Routh, 1994; Routh, 2000), but in recent years—especially since the late 1970s—we have witnessed a steady pulling away of professional psychology from its scientific roots, as indexed both by the development of alternative models for training and practice, and the proliferation of freestanding graduate schools of professional psychology. The result is that professional psychology has been largely set loose from its scientific moorings. This is unfortunate, because the status of clinical psychology as a profession, its autonomy from psychiatry, and its claim on third-party payments for services depends critically on the assumption that its practices rest on a firm scientific base.

Although I was trained under the scientist–practitioner model, I now doubt that it is the best way to train either clinical scientists or clinical practitioners (Kihlstrom, 2004).

And there is nothing inherently wrong with freestanding graduate schools of professional psychology, either. To take an example, the University of California, San Francisco (UCSF) is for all intents and purposes a freestanding medical school, but it is not inferior to Stanford or Yale because it lacks departments of classics or comparative literature (it doesn't even have an independent psychology department). But UCSF is a world-class medical school precisely because it supports, as an integral part of its mission, a world-class cadre of basic and applied scientists—including psychologists and other social scientists. If clinical psychology is to compete with psychiatry, and psychotherapy is to compete with pharmacotherapy, clinical practices have to be supported by the best evidence we can produce—not the weakest. By working to produce that evidence, and training practitioners to conform their practices to those that have been scientifically validated, the science–practice wars will cease, and professional psychology will enjoy the same unity with its basic science that exists between medicine and biology.

Trees and Bushes

Henriques finds the definition of psychology, and the grounds for its unification, in a "Tree of Knowledge" that specifies the relations among the physical, biological, psychological, and social sciences, and frames psychology as existing in an epistemological region bounded by Skinner on the one hand, and Freud on the other (this issue, p. 1209). Skinner and Freud wouldn't be my choices for psychology's defining figures: Skinner wasn't really a psychologist, in that he wasn't interested in mental life (Kihlstrom, 2003; Skinner, 1977, 1990); Freud was interested in the mental, to be sure, but he got every detail wrong (Kihlstrom, 1994; Macmillan, 1991/1997). To be honest though, I'm not sure whom I would suggest as alternatives. Perhaps James and—James again? James classified psychology as a biological science, and he made brain functions the focus of the first substantive chapter of the *Principles* (James, 1890/1980)—a tradition that continues in introductory textbooks to this day. Although the social sciences were not yet well developed in his time, James's emphasis on intentionality in his chapters on consciousness suggests that he would not have found them to be foreign territory. James didn't think about professional practice, but he was trained as a physician and took a great interest in psychopathology.

More substantively, perhaps, as depicted in his Figure 1 (this issue, p. 1210), Henriques' tree looks a lot like a century plant, which (according to legend) grows for 100 years, blooms once, and then dies—perhaps an unfortunate visual metaphor. I would have preferred a bush instead, with branches emanating from a common root structure: one each for the several types of science, and two more for the arts and humanities, maybe even one for religion (let's not get into that!), with other, smaller, branches emanating from these. A tree, being a vertical structure, suggests reductionism—if not the reductional of Ernst Rutherford, who asserted that "All science is either physics or stamp collecting" (cited in Gallagher & Appenzeller, 1999), then the reductionism of E.O Wilson's (1998) *Consilience*, which seeks to unify human knowledge through biology. But psychology does not rest on biology, any more than it rests on physics; if it is not a strictly independent science—no science can be independent of others—it is not a dependent one either. The unique identity of psychology is that it is the science of mental life, and it is with the mind, and with science, that psychology finds its unity.

References

Gallagher, R., & Appenzeller, T. (1999). Beyond reductionism. Science, 284, 79.

Gould, S.J. (2003). The hedgehog, the fox, and the magister's pox: Mending the gap between science and the humanities. New York: Harmony Books.

Henriques, G. (2003). The tree of knowledge system and the theoretical unification of psychology. Review of General Psychology, 7, 150–182.

Henriques, G. (2004). Psychology defined. Journal of Clinical Psychology, 60, 1207–1221.

Henriques, G., & Sternberg, R. (in press). Unified professional psychology. Journal of Clinical Psychology.

Hilgard, E.R. (1948). Theories of learning. New York: Appleton-Century-Crofts.

Hilgard, E.R. (1987). Psychology in America: A historical survey. New York: Harcourt Brace Jovanovich.

James, W. (1890/1980). Principles of psychology. Cambridge, MA: Harvard University Press.

Kihlstrom, J.F. (1994). Psychodynamics and social cognition: Notes on the fusion of psychoanalysis and psychology. Journal of Personality, 62, 681–696.

Kihlstrom, J.F. (2002). Memory, autobiography, history. Proteus, 19(2), 1–6.

Kihlstrom, J.F. (2003). On B.F. Skinner—Who, had his theory been true, wouldn't have been B.F. Skinner. Journal of Consciousness Studies, 10, 48–54.

Kihlstrom, J.F. (2004, July–August). Training for science, training for practice. Paper presented at the American Psychological Association, Honolulu. Available from http://socrates.berkeley.edu/~kihlstrm/APA2004Training.htm.

Macmillan, M. (1991/1997). Freud evaluated: The completed arc. Cambridge, MA: MIT Press.

Miller, G.A. (1969). Psychology as a means of promoting human welfare. American Psychologist, 24, 1063–1075.

Routh, D.K. (1994). Clinical psychology since 1917: Science, practice, and organization. New York: Plenum.

Routh, D.K. (2000). Clinical psychology training: A history of ideas and practices prior to 1946. The American Psychologist, 55(2), 236.

Searle, J.R. (1995). The construction of social reality. New York: Free Press.

Skinner, B.F. (1977). Why I am not a cognitive psychologist. Behaviorism, 7, 1–10.

Skinner, B.F. (1990). Can psychology be a science of mind? American Psychologist, 45, 1206–1210.

Wilson, E.O. (1998). Consilience: The unity of knowledge. New York: Knopf.