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Recent Calls for Jamesian Pluralism in the Natural and Social Sciences:

Will Psychology Heed the Call?

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Abstract

William James' *A Pluralistic Universe* (1909) was not very influential in his day; 100 years later, however, calls for a Jamesian-style pluralism are increasingly common in the natural and social sciences. We first summarize James' critique of monism and his defense of pluralism. Next, we discuss similar critiques of monism and calls for "strong" pluralism across the natural and social sciences, even in traditional bastions of monism like physics, biology, and economics. We then argue that psychology is also in need of this pluralism, but the discipline is mired in uncritical, monistic assumptions, most notably operationism. We describe the problems this particular assumption presents, and also suggest some solutions we believe James would proffer, in the context of this monistic requirement.

Recent Calls for Jamesian Pluralism in the Natural and Social Sciences:

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When William James published his *A Pluralistic Universe* lectures in 1909, the intellectual climate was not ripe enough for his ideas to bear immediate fruit. James was widely criticized at the time, and he worried his ideas were a failure (Richardson, 2006, p. 513). Now, however, it appears that James was visionary. One hundred years later, there is increasing general concern with what James pejoratively labeled “monism” and an increasing number of calls for what he considered “pluralism.” Indeed, this Jamesian concern seems to be occurring in various degrees across the scientific disciplines. Increasing calls for pluralism are reverberating across the natural as well as social sciences.

The primary purpose of this article, then, is to explore whether the case can be made for a Jamesian pluralism in James’ own discipline of psychology. Some may suppose that psychology is already pluralistic, as evident by the diversity of its many theories and methods. We argue, however, that psychology is not pluralistic in the deep sense of James. We describe how the discipline is mired in important monistic methodological assumptions that are held uncritically. Thus, if psychologists are to take the call for pluralism seriously, they need to evaluate these assumptions in light of pluralistic alternatives.

To begin, we summarize the major themes of James’ *A Pluralistic Universe* (1909/1987), especially his conceptions of monism and pluralism. Next, we briefly describe the many scholars who are calling for a Jamesian-style pluralism throughout the natural and social sciences, including traditional bastions of monism like physics, biology, and economics. We then argue that psychology should consider such a pluralism, but the monistic positivism of its methodology stands in the way. We specifically address these issues in terms of psychology’s nearly universal

requirement of operational definitions (operationism). We conclude by offering suggestions that we think James would himself provide psychology in the context of this monistic requirement.

James' Monism and Pluralism

The major purpose of *A Pluralistic Universe* is James' "defence of the pluralistic view against the monistic view" (1909/1987, p. 649). His particular interest was to critique the popular monism of transcendental (Hegelian) idealists who were common in his day. These philosophers and scientists insisted on the ontological primacy of "the absolute," typically conceived as a divine reality that transcends time and space (pp. 651-52). In this regard, the absolute sublimely transcends and unifies the transitoriness of human experience and allows for the world to be rationally unified. Here we briefly discuss how this monism is contrasted with pluralism, including a brief introduction to some important categorical distinctions for James: intellectualist logic, the Thick and the Thin, and reified abstractions.

Monism and the Absolute

James acknowledges the peace that absolute transcendentalism can bring—that one can escape the imperfections of mortal life by yielding to "the perfect whole," to use Emerson's words (1909/1987, p. 652). Because the absolute is perfect, James recognizes, what is most true and most real is that which is most timeless and most stable. Change, then, is conceptualized as a lesser reality, a "mere appearance" (p. 652). What "goes on" takes a back seat to that which already "is" (p. 652). Yet, James argues, this traditional preference for the timeless is part of a philosophical worldview, not a determination of empirical data. In fact, as we will see, it is an assumption that is widespread in psychology.

To contrast this monistic idealism with his pluralism, James uses the terms "all form" and "each form." The monistic ideal is committed to an "all form" of reality that unifies everything

according to a grand explanatory theory. On the other hand, pluralism is tentatively committed to an “each form” of reality, in which “each part of the world is in some ways connected, in some ways not connected, with its other parts” (p. 666). This pluralistic view holds that “there may ultimately never be an all-form at all, that the substance of reality may never get totally collected, that some of it may remain outside of the largest combination of it ever made” (p. 645).

Of course, one could argue for the future possibility of an all-encompassing grand theory, but James (1909/1987) contends that such a theory is simply a statement of faith or hope, because, again, the hope of monism is a philosophical assumption, not an empirical conclusion. In this regard, James’ chief complaint with monism is not the possibility of the absolute, but the dogmatic affirmation that the absolute is the only worthy goal. This criticism applies equally to one grand theory or a diversity of grand theories. In other words, the mere presence of diversity does not necessarily entail pluralism in the Jamesian sense, especially if the theories aspire to universality.

Pluralism and Radical Empiricism

Pluralism, in contrast, does not have the luxury of aspiring to universality; all it can do is take human experience seriously in all its messy and multitudinous varieties. In this way pluralism grows out of James’ radical empiricism, for which experience, broadly speaking, is the grounds in which “all epistemic, ontological, and moral claims must be settled and must compete for our attention and our convictions” (Robinson, 1993, p. 639). Rather than beginning with a top-down “all” position, the pluralist proceeds from the bottom-up “eaches” of human experience. These “eaches” certainly may converge, but this convergence is neither inevitable

nor necessarily desirable. As for now, according to James, it appears that some experiences are connected and some are not (1909/1987, pp. 665-666).

James' argument, at this point, may resonate with many psychological practitioners. Indeed, there is a striking resemblance to the rationale of eclectic psychotherapists—arguably the dominant practical orientation among psychotherapists today (Slife and Reber, 2001). These therapists view themselves as embroiled in so many varieties of human experience that they are not easily captured by a universal theoretical approach (e.g., psychoanalytic, humanist, cognitive-behavioral), and therefore a diversity of techniques needs to be utilized. Unfortunately, as we explore James' pluralism further, it will become evident that eclecticism is a poor substitute for pluralism.

Intellectualist Logic

To understand the depth of monism's problems, one needs to recognize that James' radical empiricism is a scathing critique of the "intellectualist logic" (1909/1987, p. 724) that dominated the academy (and *still* dominates the traditional empiricism of psychology). This intellectualist logic can be conceptualized in many ways, but for our purposes it is sufficient to define it as the translation of temporal, concrete experiences into a system of atemporal abstractions. There is, according to James, nothing wrong with abstractions per se; they are necessary for any kind of scientific endeavor. Language itself is a kind of abstraction that orders, simplifies, or unifies experience (Slife and Williams, 1995).

James recognized the abstract nature of his own lectures, joking that his first two *Pluralistic Universe* lectures are "shiveringly thin wrappings for so thick and burly a world as this" (p. 691). Clearly, the same could be said of our own rather thin definition of "intellectualist logic" above, and in fact this entire article. But the person who engages in intellectualist logic

does not simply use abstractions pragmatically, as we have attempted to do here. Intellectualist logic, according to James, assumes the abstractions have an implicit ontological priority. It supposes a unified world of abstractions and presumes that this fabricated explanatory framework is more fundamental than experience.¹ In this way, abstractions are assumed to be more fundamental than the concrete world to which they refer.

The Thick and the Thin

James argues that reality is the other way around. The world of experience—“the Thick”—is more fundamental than the abstractions—“the Thin” (1909/1987, p. 691). The Thick refers to the world as it is experienced phenomenally, characterized by “its continuously changing character” or “temporal flux” (pp. 728, 746).² This engaged world is always in motion and is being continually laid down, not *already* laid down as a static object for one to detachedly observe. Thus, the “original sensible givenness” of reality—what is most real—is “momentary” and “particular” (p. 757), not atemporal and static. The problem with monism, then, is threefold: 1) it reduces the Thick and turbulent world to a Thin and static world of acontextual theories and concepts; 2) it treats the Thin as if it were the most real or fundamental; and 3) it fails to appreciate what is lost in the reduction.

The crux of this reduction problem, for James, is that abstract concepts are cut out of the context in which they are embedded and thus are presumed to have an ontological independence. Concerning the acontextual nature of abstractions, James (1909/1987) explains,

When we conceptualize, we cut out and fix, and exclude everything but what we have fixed. A concept means a *that-and-no-other*. Conceptually, time excludes space; motion and rest exclude each other; approach excludes contact; presence excludes absence; unity

excludes plurality, independence excludes relativity; ‘mine’ excludes ‘yours’; this connexion excludes that connexion—and so on indefinitely. (p. 746)

In the world of phenomenal experience, however, none of these things are independent, but have an “immediately given coherence” with each other (p. 663). Argues James, “In the real concrete sensible flux of life[,] experiences compenetrates each other so that it is not easy to know just what is excluded and what is not” (p. 746). The thick contextual nature of experience must be seen to include all three dimensions of time: the “past,” “present,” and “future” (cf. Slife, 1993). As thin abstractions, the past, present, and future may be theoretically distinct, but in reality they are experienced as “co-present” (James, p. 746):

The literally present moment is a purely verbal supposition, not a position; the only present ever realized concretely being the ‘passing moment’ in which the dying rearward of time and its dawning future forever mix their lights. Say ‘now’ and it *was* even while you say it. (p. 746)

Because experience is necessarily transitory, it simply cannot be captured by the static snapshots of abstractions.

The disconnection between an abstraction and experience, however, is not necessarily a problem for the radical empiricist. For the radical empiricist, thick reality is recognized as *already* connected and related, and abstractions are seen as useful ways of describing these connections when not mistaken as ontologically primary. In this way, the radical empiricist recognizes that abstractions, by themselves, do not exist anywhere; they are not the most real or the most fundamental. In James’ words, “neither abstract oneness nor abstract independence *exists*; only concrete real things exist” (p. 656).

Reified Abstractions

The problem with intellectualist logic, James (1909/1987) argues, is not just that its abstractions are ontologically primary, but that these abstractions are reified. In this regard, the philosopher or scientist is often seduced into thinking that the abstract is somehow more real or important than the concrete. The scientific quest for natural laws is a case in point. These laws may connect various experiences—by inference, not by observation—but the laws are not real entities; they are the postulated connections among the real (cf. Slife and Williams, 1995). The law of gravity, for example, never “falls on the retina” in the sense of strict observation; it is inferred through abstracting, intellectual logic. The law, then, is in the reified *theory*, not the *data*.

The reification of these connections, as we will discuss further, is common in psychology, and eclectic therapists are no exception. As Slife and Reber (2001) have shown, eclecticism itself is often underlain by an intellectual and monistic logic that assumes various universal theories can be united into a universal meta-theory (i.e., eclecticism). The result is a complex system of reified abstractions that are postulated to be unified with each other. Moreover, this thin eclectic system is rarely tested or justified because each therapist is permitted to have their private variety (Slife and Reber, 2001).

A reified monistic system is also doomed to distort or ignore aspects of experience that do not fit it. James (1909/1987) argues that monistic theorists do not appreciate how their intellectual logic typically selects for certain values while ignoring or downplaying others. Mechanical theories, for example, may seem to be the most rational if mathematical precision is the most valued, but these theories would likely unify the world differently than theories that prize aesthetics, morality, or practice (p. 680). “The rationality we gain in one coin,” argues James, “we thus pay for in another” (p. 681).

Summary

To summarize James' (1909/1987) argument in *A Pluralistic Universe*, monism is ontologically committed to an “all-form” grand explanatory theory or set of theories. This commitment, according to James, is informed by questionable philosophical assumptions, not empirical data, that ontologically prioritize and reify acontextual and atemporal abstractions. In this way, the reduction from the concrete to the abstract is not appreciated, resulting in the distortion or neglect of experiences and values that do not fit monistic ideals. Pluralism, by contrast, begins with human experience and does not automatically assume that monism is necessary or even desirable. In this way, the concrete and relational are ontologically prior to the abstract and self-contained, and abstractions are simply useful tools. The inevitable result of this radical empiricism, at least for now, is a pluralism of methods and theories.

Scientific Monism and Scientific Pluralism

Unfortunately, from James' perspective, science has been traditionally characterized as being properly driven by monistic assumptions, with an ultimate goal “to establish a single, complete, and comprehensive account of the natural world . . . based on a single set of fundamental principles” (Kellert, Longino, and Waters, 2006, p. x). Theoretically, scientific monism holds that there is an ontological structure to the world that allows it, at least potentially, to be explained by universal laws and principles (p. x). Methodologically, scientific monism holds that certain universal methods exist, or potentially exist, that can yield a monistic world if used correctly. Considering these goals of monism, it is not surprising that scientific theories and methods have been traditionally evaluated according to how close they can explain or yield such a monistic account (p. x).

Monism in the Natural and Social Sciences

These monistic goals have been evident in both the natural and social sciences. In the natural sciences, experimental laboratory methods have been traditionally used to isolate variables from their practical contexts and thereby discern a single, comprehensive set of causal laws (Bishop, 2007, p. 116). This search for universal laws is the classical project of physics, as reflected in the Newtonian paradigm of classical mechanics. This paradigm relies on the isolation of fundamental particles (e.g., the atom) and deterministic laws of motion (e.g., inertia) that reliably follow universal mathematical principles (Bishop, 2007, p. 116; Suppes, 1978). Similarly, biologists have traditionally searched for the isolation of fundamental materials (e.g., genes) and deterministic laws (e.g., natural selection; Dupré, 1993). Similar to the transcendentalists of James' day, these monistic approaches in physics and biology imply a metaphysics in which timeless laws and principles are most real—transcending the transitory, and therefore less real, complexities of radical empiricism (Bishop, 2007; Slife and Williams, 1995). The superiority of the timeless over the temporal should not be surprising, considering that Western modernism's Greek intellectual heritage has the same prioritization (Faulconer and Williams, 1990; Slife, 1993; Slife and Reber, 2001; Slife and Williams, 1995, p. 130, 135-36; Suppes, 1978, p. 14).

One might expect the social sciences to be more pluralistic, given the ever-changing cultural and linguistic complexity of its subject matter. This complexity is often underappreciated in the social sciences, however, because these sciences are historically modeled after the same monistic assumptions as the natural sciences (Bishop, 2007; Bohman, 1991; Slife and Williams, 1995). Just as natural scientists seek to isolate fundamental variables, so do “social scientists try to treat various aspects of human behaviour in as isolated a fashion as possible,” resulting in a similar prioritization of experimental methods and a search for

unchanging, fundamental laws of human nature (Bishop, 2007, p. 116). Economics, for example, has historically embraced monism well, as evidenced by its characteristic search for the unchanging “atoms” and “mechanics” of human behavior (Bishop, 2007, p. 259; Cartwright, 1999). Psychology also, as we will discuss, has not only participated in this tradition of monism but also reified a particularly problematic method practice that prevents pluralistic findings from occurring.

Calls for Scientific Pluralism

In recent decades, however, there has been both an increasing dissatisfaction with monism and increasing calls for pluralism in both the natural and social sciences. However, not all these “calls” have the same meaning as James’ original notion of pluralism, so we need to make an important distinction between weak and strong pluralism at the outset.³ Weak pluralists grant the *temporary* necessity of a diversity of theories but assume that all the theories and findings will ultimately be linked together in some type of monistic unity (Kellert et al., 2006, pp. xi-xii). In contrast, strong pluralists hold that monistic assumptions might not be ultimately correct or desirable, *whether now or in the future*. As we have described, James’ position is the latter, the strong concept of pluralism. For him, and increasingly for many contemporary natural and social scientists, as we will describe, a strong pluralism appears to be a more accurate description of the world in light of current scientific evidence (see, e.g., Bohman, 1991; Cartwright, 1999; Dupré, 1993; Feyerabend, 1993; Kellert et al., 2006; Suppes, 1978). In fact, social scientists may be surprised to discover that calls for strong pluralism are perhaps most prevalent in the natural sciences, *in spite of* their traditional monism

Calls for strong pluralism in the natural sciences. In physics, for example, arguably the traditional bastion of monism (Cartwright, 1999), calls for strong pluralism are perhaps the most

prevalent. First, there is a wide recognition in physics of the need for partial and perhaps even conflicting theories and methods (Cartwright, 1999; Dickson, 2006; Giere, 2006; Suppes, 1978). For some scholars, this recognition is grounds for only a weak pluralism (cf. Cartwright, 1999; Kellert et al., 2006), but others increasingly contend that the precise and complex experimental findings of physicists may, in principle, resist a monism (e.g., Cartwright, 1999; Dickson, 2006; Giere, 2006). As Cartwright (1999) argues, “The laws of physics apply only where its models fit, and that, apparently, includes only a very limited range of circumstances” (Cartwright, 1999, p. 4).⁴ From this argument, laws of physics can be inferred to work only in specific research contexts, and inasmuch as the current diversity of contexts are important, a pluralism of theories and methods may be necessary (Cartwright, 1999; Dickson, 2006).

The necessity of contextually situated findings and principles is prototypically exemplified in wave versus particle properties of quantum physics. In *some* experimental contexts, atomic matter exhibits wave-like properties; in *some* experimental contexts, particle-like properties (Bohm, 1981, p. 128). In neither case does it make sense to describe atomic matter “as if it were separate from the entire experimental situation in which observation takes place” (p. 155). Indeed, many quantum physicists assume that the different contexts are *inherent in* the phenomena (e.g., Wolfe, 1989), giving them what James would call an each- rather than an all-form. And because these two general experimental situations rely on arguably incommensurate epistemological assumptions—in principle rather than empirical issues—strong pluralists argue that hopes for a future monistic unity may be seriously misplaced (e.g., Dickson, 2006; Giere, 2006; Suppes, 1978).

This type of contextually-situated pluralism can be taken further to describe the current state of affairs in physics as a whole. Just as wave and particle manifestations rely on seemingly

incommensurate epistemological assumptions, so do the two dominant physics paradigms, relativity and quantum theory (Bohm, 1981; Dickson, 2006; Giere, 2006). Bohm (1981) explains that the continuity and determinism of relativity “directly contradict” the discontinuity and indeterminism of quantum theory. As a result, Bohm continues, “it is hardly surprising that these two theories have not been unified in a consistent way,” and “it seems most likely that such a unification is not actually possible” (p. 176). Even if a future monistic account *could* reduce these laws under a single umbrella, such an account would likely be highly abstract, removed from the specific contexts in which physicists actually work, and therefore failing to account for many empirical particularities (Anderson, 1972; Bohm, 1981; Cartwright, 1999). Even on the basis of empirical particularities, then, strong pluralists argue that a Jamesian pluralism is perhaps inevitable (Cartwright, 1992; Dickson, 2006; Giere, 2006).

Similar calls for strong pluralism have been issued in biology. In light of biology’s “central task” of classification (Dupré, 1993), several critical observers of biology argue that biological matter, behaviors, and even species are too complex to fit a monistic classification scheme (e.g., Dupré, 1993; Fehr, 2006; Waters, 2006). For example, two organisms may be categorized as the *same* species in one classification scheme (e.g., reproductive isolation) but categorized as two completely *different* species in another (e.g., morphological properties). This type of contradiction in seminal classification schemes is often touted as evidence of at least a weak pluralism in biology (cf. Dupré, 1993; Kellert et al., 2006).

An increasing number of scholars, however, argue that a monistic unity among these classification schemes is unlikely even in principle. The primary reason is that these schemes spring from and best apply to qualitatively different, yet crucial investigatory contexts of biological investigation (Dupré, 1993; Fehr, 2006; Waters, 2006). Dupré (1993) argues,

There is no God-given, unique way to classify the innumerable and diverse products of the evolutionary process. There are many plausible and defensible ways of doing so, and the best way of doing so will depend on both the purposes of the classification and the peculiarities of the organisms in question. (p. 57)

In other words, biological kinds seem to exhibit a type of unity akin more to the “family resemblance” of Wittgenstein (1953) than the common characteristics necessary for monism. Each kind is connected to other kinds, just as a brother may have freckles like his sister, but this does not mean that there is one characteristic common to everything—family members or organisms. As Dupré goes on to clarify, the purposes and peculiarities of the organisms appear, at least at this juncture, to indicate an *in principle*, and thus a strong pluralism.

Some may agree that perhaps a pluralism of natural kinds is inevitable but that biology will ultimately be rooted in the unity of fundamental laws (cf. Mitchell, 2003). Similar to physics, however, searches for fundamental, acontextual laws of biology have failed to deliver (Mitchell, 2003). Fehr (2006) argues, for example, that at least three mechanistic laws, each understood from a different epistemological context, are needed to account for crucial organizational processes of the evolution of sex. Moreover, Fehr explicitly rejects weak pluralism in interpreting the need for these differing contexts, arguing that “decontextualizing these mechanisms by uniting them under a single explanatory framework forces one to ignore the factors that made them satisfactory explanations in the first place” (p. 185).

If any of these rigorous examinations of the findings of physics and biology have merit, then a strong pluralist account is *at least* a consideration. This, of course, echoes James’ main plea: do not jump too quickly to the monistic conclusion. It could be completely misleading.

Calls for strong pluralism in the social sciences. If the natural sciences are opening up to pluralism, then it should not be surprising to see calls for pluralism in the social sciences. One reason for these calls is a greater appreciation of the “double hermeneutic” complexities that characterize the social sciences—unlike rocks and volcanoes, human subjects not only “talk back” but also are the same kind of being as the scientist (Bishop, 2007, pp. 53-57). For this reason, human complexities such as culture continue to evade monistic explanatory frameworks (Arnett, 2008; Bishop, 2007; Dupré, 1993). An increasing number of anthropologists and sociologists hold that many cultural phenomena cannot be reduced to a single theory without also removing what makes these phenomena worthy of investigation in the first place—suggesting that a strong pluralism is perhaps inevitable (e.g., Bellah, Madsen, Sullivan, Swidler, and Tipton, 1996; Bohman, 1991; Miller, 2001; Shweder and Sullivan, 1993).

Consider, for example, Miller’s (2001) critique of mainstream moral developmental theory traditions. Researchers from these traditions, according to Miller, retain monistic theories of moral development (e.g., individualistic justice morality is cross-cultural) in spite of considerable evidence of cultural variation (e.g., hierarchical relations that often contradict individualistic justice morality). Such variation is often overlooked, minimized, or distorted because monistic developmental theories require detached objectivity and therefore seek to control for or subtract cultural values (cf. Bishop, 2007; Christopher and Hickinbottom, 2008). The problem here, Miller argues—reminiscent of James—is that moral decisions are never *experienced* apart from cultural values. For this reason, anthropologists and sociologists utilize interpretive approaches like participant observation, which engage the ever partial, and thus seemingly inevitably pluralistic, particularities of human experience (Denzin and Lincoln, 2000; Fishman, 1999).

We suspect that some may acknowledge strong pluralism for “softer” social sciences, such as moral development, but not for “harder” social sciences, such as economics. However, even in economics—called by some the monistic bastion of the social sciences (Bishop, 2007; Cartwright, 1999)—there is an increasing recognition of the need for strong pluralist solutions to account for or describe the complexities of many real-world market phenomena (Cartwright, 1999; Sent, 2006). Sent (2006), for example, argues that recent empirical research “suggests that phenomena at the micro and macro levels in economics are so complex that one theoretical approach, such as microeconomics, does not have the resources to provide a complete explanation or description of them” (p. 93; see also Rizvi, 1994).

Some economists might suggest that this situation is temporary, that this is a weak pluralism. Other economics scholars, however, would ask where this hope for monism arises? They argue that this hope is not at all supported by empirical evidence and appears to rest on questionable assumptions that do not fit “the messy world that we inevitably inhabit” (Cartwright, 1999, p. 18; cf. Rizvi, 1994; Sent, 2006). Monistic models assume, for example, that market forces are reducible to individuals’ “rational” decisions to maximize profit (Bishop, 2007, p. 255; cf. Sent, 2006). These assumptions may be correct in some cases, but there is considerable research, including psychological research, to suggest that individuals sometimes—perhaps often or even usually—are not “rational” nor seek to maximize profit (Bishop, 2007).⁵

For similar reasons as other social sciences, there have also been calls for variations of strong pluralism in psychology (e.g., Fishman, 1999; Gantt and Melling, this issue; Howard and Christopherson, this issue; Longino, 2006; Miller, 2001; Slife and Gantt, 1999; Slife, Wiggins, & Graham, 2005; Viney, 1996; Wiggins, this issue; Yanchar and Slife, 2000). Like economics, the complexity of psychological phenomena is thought to resist reduction to monistic explanatory

frameworks. In this special *Journal* issue, for example, Gantt and Melling argue that psychology of religion research requires a pluralism of theoretical assumptions, and Wiggins argues in favor of a pluralism of methodologies. However, before such a pluralism can even be evaluated in psychology, a major methodological obstacle stands in the way—operationism. We will argue that this important research practice could be the key to both the underlying monism of psychology and its path to a more viable pluralism.

Psychology's Monistic Method Practice

We should first acknowledge, however, that the claim that psychology is monistic may be surprising to some. Many in the discipline suppose that psychology is pluralistic because of its diversity of theories and methods. After all, there is not a single reigning grand theory in psychology. There are, according to Longino (2006), *at least* four dominant theories of human behavior at work among psychologists: behavior genetics, social-environmental approaches, neurobiology, and developmental systems. Moreover, psychologists use a diversity of research methods: randomized controlled trials, naturalistic designs, case studies, and qualitative designs, for example (Kazdin, 2003). There are also several therapeutic orientations for practitioners, with the majority of practitioners drawing from an eclectic mix of theories, methods, and techniques (Slife and Reber, 2001). Finally, there is a strong commitment to multiculturalism and human diversity, including diverse worldviews (APA Presidential Task Force, 2006; Smith, 2004).

In spite of this diversity, however, psychology is not pluralistic in the deep sense of James. Although the discipline has strived to be as diverse as possible, this goal is seriously undermined by a single positivist logic of sensory empirical observation (Slife and Williams, 1995; Wendt and Slife, 2007). This logic is likely what most psychologists have in mind when they talk about *the* scientific method (Slife and Williams, 1995). Because psychology has no

generally endorsed universal laws, its main and perhaps only claim to scientific fame is its assiduous and rigorous application of method (Slife and Williams, 1995). From this view, psychology's monism is ensured by common training in an identical methodology; thus, it is no surprise that nearly all psychologists, in spite of their diverse interests, are trained in nearly identical method courses.

As anyone who has taken a research methods course in psychology in the past 50 years can attest, a crucial feature of this common methodological training is the use of operational definitions. As Green (1992) observes, "It is practically an article of faith among psychologists that in order to conduct empirical research each of the variables under study *must* first be operationally defined" (p. 291; italics added).⁶ This methodological dogma is unmistakably evidenced by the psychological literature—nearly all research articles proceed with the implicit assumption that operational definitions are *required* to do psychological research (Green, 1992). We refer to this requirement—that all meaningful knowledge claims in psychology *must* be operationalized—as *operationism*.

Operationism, of course, is simply one of many aspects of psychology's positivistic methodological monism (see Wiggins, this issue). We confine our presentation of this monism to operationism, however, because it is: (a) endemic to nearly all psychological findings (a discipline of operationalizations), and thus a key to the monism of psychology's "information," and (b) a helpful practical example in that it fits all of James' criticisms of monism, and thus is arguably the "epitome" of psychology's monism. As we will describe, we suspect that only by addressing crucial questions pertaining to the use of operational definitions can psychology extricate itself from the mire of monism and even have the potential to "heed the call" of a Jamesian pluralism.

Intellectualistic logic of operationism. The common assumption of operationism is that it is impossible to objectively study unobservable phenomena such as emotions, relationships, and personality, and so these objects of study need to be operationalized (or made observable). Anger, for example, is defined through presumably indirect observations, such as physiological symptoms (e.g., blood pressure) or self-reported survey ratings (Green, 1992, p. 291). In this way, psychologists can retain a seemingly rigorous logic of observation but not at the expense of the unobservable content that they care about (Green, 1992; Slife et al., 2005; Slife and Williams, 1995, p. 191).

An underappreciated problem with operational definitions, however, is their abstraction from the researcher's original object of inquiry (Green, 1992; Slife et al., 2005). Consider, for example, research on the therapeutic alliance, widely purported to be the most important common factor for predicting effective psychotherapy outcomes (Horvath and Bedi, 2002). The alliance, or working relationship between the therapist and client, is typically operationalized as therapist and/or client survey ratings concerning their feelings about their alliance. The feelings, of course, are not equal to the alliance (e.g., one can have a good feeling about a bad relationship), nor are the ratings equal to the feelings (Slife et al., 2005; Wendt and Slife, 2007). This operationalization—ratings to feelings to relationship—like many in psychology, is at least two steps removed from the alliance itself.⁷

Many psychologists may protest that this removal is a good thing, allowing for objective observation. One might argue, in fact, that operationism allows for fuzzy concepts, such as alliance, to be taken from their abstracted forms and made more concrete. This argument, however, is a remarkable manifestation of the intellectualist logic that James decried. James would argue that the objects of psychological inquiry are not abstract in their “original sensible

givenness” of “momentary” and “particular” experience (1909/1987, p. 757). The language used to refer to these experiences, to be sure, is abstract at some level, but not the experiences themselves. For example, it is certainly the *experience* of the therapeutic alliance that is most concrete (e.g., closeness, intimacy), not numbers on surveys about this experience. In fact, such numbers would be nonsense if they were not purportedly related to actual experiences. (No psychotherapy researcher of whom we are aware talks about the therapeutic alliance as if it were nothing more than a number.)

Abstractionism of operationism. Psychological experience, then, does not need operational definitions to be concrete—it is *already* concrete. Operational definitions have the opposite effect: they abstract temporal experience from its concreteness by reducing it to static concepts of behaviors. The roller-coaster richness of the therapeutic alliance, for example, is converted into a fixed array of sterile ratings. These ratings are further abstracted when they are aggregated and interpreted outside the context of the alliance—often by researchers who are far removed from the therapy. In fact, many seasoned researchers are completely removed from real-life participants, looking only at numerical data *about* the participants (Bem, 2000, pp. 4-5). The assumption here is that operational definitions allow for data to be detachedly understood apart from the original object in question (e.g., the alliance), which is the height of abstractionism for James.

Now James would hasten to assure psychologists that his position would not obviate the use of operational definitions. They can be illuminating, for example, when a therapist learns that alliance ratings are much lower than expected. However, James would suspect, we believe, that the *requirement* of operational definitions (i.e., operationism) has seriously restrained and perhaps even misled psychological inquiry. If research *requires* operational definitions, then

whatever does not fit the singular criterion of sensory observability is either translated or cast away as “metaphysical excess” (Stevens, 1935, p. 527; cf. Green, 1992; Koch, 1992). Again, because ratings and feelings can be quite different from the phenomenon being rated and felt about, psychologists cannot know what the findings mean.

The requirement of operationism is also a problem because unobservables continue to be an undeniable part of human experience. For example, as Norcross (2002) attests, therapists and clients *experience* the therapeutic alliance, even if this experience does not “fall solely on their retinas,” so to speak (Slife et al., 2005, p. 89). But if psychologists care about these unobservable phenomena—and they appear to be central to psychology’s existence (Bishop, 2007; Dupré, 1993; Slife and Williams, 1995)—then it seems logical that alternative methods, such as some interpretivist approaches to inquiry (e.g., Packer and Addison, 1989), would be used or created to investigate these unobservables.

Dogmatism of operationism. Many mainstream psychologists, however, have been gripped so long by the monism of operationism, they apparently assume there is no other acceptable way to conduct research. It is as if psychologists are like carpenters who are content with hammers only, rather than a toolbox of tools—a pluralism—that matches the task of constructing complicated buildings. We worry, in fact, that many psychologists have been uncritically committed to a “hammer-only” discipline for so long that they see everything as a nail to pound. Operationism, after all, has endured in psychology, with almost no rigorous defense, in spite of its failure in physics (where it originated) and its repudiation from “virtually every serious philosopher” (Green, 1992, pp. 296-297; 311), not to mention repeated criticisms from psychologists (e.g., Green, 1992, 2001; Green and Powell, 1990; Koch, 1992; Leahey, 1980, 1981, 1983, 2001; Rosenwald, 1986; Slife et al., 2005; Smedslund, 1991).⁸

We recognize that many psychologists may believe that psychology retains a critical investigation of unobservables through its psychometric assessments of convergent and discriminant validity of multiple operations (e.g., Cronbach and Meehl, 1955; Campbell and Fiske, 1959). In this way, it is argued, confidence can be gained about the degree to which operations are related to unobservable constructs of interest. There is a difference, however, between comparing operationalizations with *each other* and critically evaluating the relationship between operationalizations and the operationalized. Several therapeutic alliance measures, for example, might have high convergent validity, but this says nothing about whether they relate to the unobservable alliances that clients and therapists experience *in vivo*. In other words, comparisons between operationalizations tell us very little, if anything, about the validity of these operations in relation to the radically empirical world. Attempting to bridge this gap with more operations fails to appreciate the fundamental disconnection between the concrete (the Thick) and the discrete (the Thin). “Out of no amount of discreteness,” James argues, “can you manufacture the concrete,” and this problem is “essential and permanent, not temporary” (1909/1987, pp. 750, 745).

What Advice Would James Give to Psychology?

How would James advise we deal with this reification of operational definition in psychology? How can we respect this methodological innovation and yet keep it from misleading psychological researchers on the monism-pluralism issue? Although the popularity of operationism arose after James’ death, its monistic abstractionism enables us to predict recommendations that James might give psychology concerning its use. First, we believe James would certainly argue that operational definitions are not *required* for psychological research. Of this requirement, we suspect James’ (1909/1987) indictment of intellectualistic logic is relevant:

“It is but the old story, of a useful practice first becoming a method, then a habit, and finally a tyranny” (p. 728). Thus, we trust James would not be opposed to operational definitions as a useful method, but he would certainly oppose the “tyranny” of unity that *operationism* forces onto psychological phenomena and its study.

If the use of operational definitions is a researcher’s decision, rather than a methodological requirement, then it follows that James would hold that this use needs to be justified in light of the object of inquiry. Psychologists need to do more than merely assert that a phenomenon has been or can be operationalized, as if operationalizing is the obvious next logical step. Rather, the burden of proof is on the researcher as to whether operationism is desirable in the first place. Researchers should first ask, “What is the nature of the object of inquiry?” not “How can I operationalize it?” For this to occur, researchers would need to recognize that not all scientific research designs depend on operationism, and that those that do are limited and not automatically preferable.

If operational definitions *are* used, James would definitely argue that they not be mistakenly equated with unobservable objects of inquiry, regardless of the statistical convergence of many operations (e.g., meta-analyses). In fact, operationalized observables, such as behaviors, can be *completely* unrelated to the construct operationalized. Hugs and kisses, for example, are not love, because love can occur without hugs and kisses, and hugs and kisses can occur without love. Rather, psychologists should recognize not only the inherent abstraction of operational definitions but also the reduction between the operationalization and the operationalized—problems that cannot be resolved with more abstractions, or even a convergence of abstractions. James would advocate, instead, that psychologists “dive back into the flux” of the “living, moving, active thickness of the real” if they want to “*know* reality”

(1909/1987, pp. 746, 750). Psychologists must be engaged co-experiencers of the realities they wish to elucidate, not (merely) disengaged observers of behavior or aggregated data. This is the only way, according to James, that scientists can have confidence about the abstractions they employ.

As a final piece of advice from our disciplinary parent, we suspect James would encourage psychologists to better appreciate alternative modes of inquiry, such as qualitative (Denzin and Lincoln, 2000), case study (Fishman, 1999), and interpretivist methods (Packer and Addison, 1989). Considering their prioritization of concrete experience, James would likely champion these methods as revelatory in their own right, rather than merely supplementary to traditional modes of inquiry as they are commonly seen in psychology (Wendt and Slife, 2007; Wiggins, this issue). When used in conjunction with operationalized methods, these more experiential methods can help researchers more confidently gauge the relevance and fit of operational definitions. In any case, an increased appreciation and use of these experiential methods would almost certainly help researchers and practitioners to better experience, and thus better understand, the richness of a given object of inquiry.

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Footnotes

¹ Slife (2004) has made similar claims about how psychology has grounded itself in an ontological abstractionism.

² This, again, could be a reason so many therapists buck the current notion that they should be tied to one, universal theory. They need access, through eclecticism, to all the relevant conceptions to deal with the “temporal flux” of their practical concerns (Slife & Reber, 2001).

³ Strong pluralism should also be distinguished from relativistic interpretations of pluralism, which hold that there are inevitably multiple irreducible methods and theories, no one of which can be said to be better than another (Kellert et al., 2006, pp. *xii-xiv*). Strong pluralism does not preclude that there cannot be superior methods and theories, at least concerning a particular question or goal, nor does it deny a priori the possibility of any unification whatsoever.

⁴ Cartwright (1999) acknowledges that physics models occasionally work outside of specific models, but always only “where nature fortuitously resembles one of our special models without the enormous design and labour we must normally devote to making it do so” (p. 3).

⁵ According to Bishop (2007), some economists acknowledge these empirical realities yet nonetheless defend their monistic models on the basis of predictive success. The problem here, Bishop argues, is that many economic phenomena are overlooked or reduced to fit the demands of a single value (i.e., abstract prediction), and that these predictions cannot be considered to be sufficient because they are far from perfect.

⁶ According to Green’s (1992) assessment, “virtually no research methodology text is without its fairly extensive *but uncritical* treatment of operational definitions” (p. 311). To our knowledge, there has not been a more recent formal assessment of texts in regard to

operationism; however, Green's conclusion holds for each text in our informal review of over a dozen popular research methodology texts published since 2005.

⁷ We recognize that surveys from outside observers are also used to measure the therapeutic alliance. However, the two-step removal of these measures still applies. Because observers do not have transparent windows to the therapist-client relationship (see Slife et al., 2005), they still must rely on their feelings or interpretations about the alliance.

⁸ Few psychologists, in fact, have even attempted to defend psychology's continued operationism. An exception is Kendler (1981, 1983), who has defended the use of operationism against Leahey's (1980, 1981, 1983) criticisms. Kendler has argued that operationism is a necessary procedure for facilitating communication and eliminating ambiguity among scientists. His argument, however, fails to address the philosophical problems that Leahey and others have highlighted. Kendler largely dismisses the criticisms by asserting that empirical and philosophical concerns ought to be separate. We should also note Rychlak's (1983) commentary on Kendler and Leahey's conversation. Rychlak argues against what he calls a "naïve realist" use of operational definitions, in which operationism is a "sure-fire way in which to derive meanings from a source completely free of our intellects (points of views, assumptions, etc.)" (pp. 115-16). The problem, according to Rychlak, is not with operational definitions but with the larger metatheoretical assumptions from which operationism historically sprang (e.g., reductionism and determinism; see also Feest, 2005). Thus, the use of operational definitions is not a problem for those who think critically about their theoretical and methodological assumptions (which Rychlak admits is not usually done).