

Implicit Ontological Reasoning:

The Problems of Dualism in Psychological Science

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This chapter describes a theoretical meta-analysis in which the literature of science itself, especially psychological science, provides the data that ground its examination. Specifically, the chapter focuses on one portion of the implicit scientific reasoning or assumptions that psychologists use in conducting their scientific investigations – their ontological reasoning.

Few psychologists are likely to be familiar with the notion of ontological reasoning, even though they engage in it every day. They are more likely to be aware of their epistemological reasoning, where their assumptions about what can be known pervade their method decisions. We chose to focus on ontological reasoning for two reasons. First, ontological assumptions are typically viewed as even *more* fundamental than epistemological assumptions, and thus are considered more fundamental in the implicit reasoning of scientists (e.g., Richardson, Fowers, & Guignon, 1999). Epistemology may concern the nature of knowing, but ontology concerns the nature of what is. Ontological reasoning is reasoning done in terms of particular ontological assumptions that are usually implicit. Second, the ontological reasoning we identify in psychology's research methods has been highly criticized. In fact, we outline what seems to be a growing consensus, across a diverse set of contexts, that this particular ontology is deeply problematic. Yet, because many psychologists are generally unaware of it, they embrace this ontology as if it were problem-free.

As our analysis will show, part of the reason for this lack of awareness is that current method practices seem to be the “only game in town.” That is to say, psychologists are so

familiar with one form of ontological reasoning in their methods that they have taken it for granted. One way to combat this over-familiarity is to introduce an alternative form of reasoning, and thus a methodological point of comparison. Indeed, one of the reasons psychologists' consciousness has been raised about epistemologies is that they are now aware of *rival* epistemologies in qualitative methods. Consequently, the latter portion of this chapter describes a highly successful program of research that uses alternative ontological reasoning. We hope that this contrasting research program helps psychologists not only consider other options but also gain greater awareness of their current ontological reasoning.

The Nature of Ontological Assumptions

Identifying ontological assumptions in our discipline requires knowing more about them. Philosophers have not always been consistent in the way they have used the term ontology, but here we mean assumptions about the nature of what is. The question “What is fundamentally real?” is an ontological question, as is the question “How are the fundamental things of reality in relation?” In psychology, for instance, “what mind truly is” is a pivotal question (Shwartz & Begley, 2002 p. 35; Kalat, 1992), along with related issues, such as “Is there a mind different from the brain?” and “Is there an objective realm that is independent of a subjective realm?” These latter questions raise the most fundamental issues of ontology: is there only one fundamental reality (ontological monism), or are there two (ontological dualism)? We could, of course, consider the possibility of *many* fundamental realities or ontological pluralism, but historically monism and dualism have, for one reason or another, been the more compelling alternatives (Viney & King, 2003).

The pervasive influence of dualism, especially in Western culture, is widely acknowledged (Searle, 1997). For almost 300 years, as Solomon (1988) chronicles, each

succeeding major thinker has recognized the problem of dualism and tried to offer a solution, unsuccessfully, at least until philosophers such as Heidegger (2010) offered nondualistic accounts. Descartes, whom many consider the “Father of Modern Philosophy,” is credited with conceptualizing a version of dualism that continues to be pervasive in scholarly and popular culture (Noë, 2009, Damasio, 1994). Consider John Searle’s (1996) depiction of this pervasiveness:

It’s a striking fact that we continue to pose and answer questions in terms that Descartes really popularized, in terms that he would have found completely comfortable and completely familiar to him. And in particular, this distinction between the mental and the physical, the mind and the body, spiritual and the material, and the idea that all of reality must divide in those two categories (audiotape).

Essentially, from Descartes’ perspective the mind, which he takes to be identical to subjectivity, not only works differently from the body or the objective world; the subjective realm is *independent* of the objective realm in many important and real ways. In other words, Cartesian dualism presumes that the subjective and objective are two fundamentally distinct realities, each with its own ontic or reality status.

Descartes supposed that this dualism is a matter of the mind on one side and the body on the other, but his mind-body assumption is unnecessary to dualism. All that dualism requires is the presupposition that there are, in some sense, two distinct realities to be dealt with. Mind-body dualism does make this assumption, but it is not the only form of two distinct realities. Indeed, dualism has hung on as long as it has in the modern world *because* it is not the same as mind-body dualism. As we will see, dispensing with mind-body dualism does not mean that we have dispensed with dualism itself. Actually, subjectivity and objectivity are the most common ways

of thinking of two ontological realities in the modern world, and we can understand the world in those terms without assuming mind-body dualism (Searle, 2004; Solomon, 1988; Jones, 2010).

According to subject-object dualism, the subjective world consists of our opinions, feelings, and meanings, whereas the objective world consists of the objects and laws of the world. These two “worlds” are generally considered to have distinctly different qualities. The meanings of the subjective realm are thought to be more changeable and value-laden, whereas the objects and laws of the objective realm are viewed as less changeable and less value-laden. Physical laws, for example, are typically considered unchangeable and ultimately free of values.

These differences in quality do not mean that the two realms are not thought to interact. Dualists do consider them to interact, but from different origins, meaning that the subjective and objective worlds are ontologically independent of one another. Objects, such as a ring made of gold, can be *given* meaning and thereby become a wedding ring, so the dualistic logic goes, but this meaning does not come from the ring’s objective properties. We endow the ring with meaning from our subjective realm, but being a *wedding* ring is not among its objective properties. Of course, a particular subjective meaning or idea about the objective world can be *grounded* in objective reality. As we will see, this grounding is considered one of the functions of a dualistic science, objectively grounding the subjective theories of the scientist. Paraphrasing Kant’s famous couplet, theory without data is empty; data without theory are blind. Still, these meanings and theories are not actually *in* the objective world; they are subjective explanations or hypotheses *about* the objective world that can change as we obtain new information from the objective realm. From the dualistic perspective, the unchangeability of the objective world is generally thought to be more fundamental and truthful than the changeable meanings of the subjective world.

The Rejection of Dualism

If this approach to ontology sounds familiar, it is probably because this ontological dualism is often viewed as *the* primary interpretive framework of traditional quantitative research. As Donald Jones (2010) puts it in his treatise on dualism, our Western method practices “take a particular [Cartesian] picture of the world as a starting point or foundation for everything that is done within those practices” (p. 6). In one of the best discussions of the problem of dualism, John Searle (2004, chs. 2-4; see also 1996, 1997), argues that the problem can be understood by recognizing that consciousness has only a first person ontology, yet scientific analysis of the brain requires a third-person ontology. According to Searle, traditional researchers consider themselves in the first person, as they subjectively view their personal world and even their research purposes, but they cast their results in the third-person. As we will describe, this dualistic interpretive framework includes many mainstream psychological understandings of research. In fact, as we will attempt to show, these research practices are some of the more formalized manifestations of this dualistic ontology.

“So what?” many psychologists might ask. Why should research psychologists care about these ontological issues, let alone the domination of a particular ontology in their research practices? Our answer is a simple one: they should care because these ontological issues pervade their scientific reasoning and methodological practices in a number of potentially *problematic* ways. As we will show, many psychologists have recognized this problematic status in the mind-body problem, perhaps most conspicuously in neuroscience. However, philosophers too, as we will document, have argued that dualism(mind-body or otherwise) simply does not work. Our argument is that psychologists should recognize the validity of these

philosophical and neuroscientific conclusions and question not only mind-body dualism specifically but also ontological dualism generally.

Psychologists are probably most familiar with the critiques of mind-body dualism in neuroscience. As Garza and Fisher-Smith (2009) put it, “dualism. . .[is] a specter that haunts the conceptual and theoretical landscape in psychology, neurology, and cognitive neuroscience” (p. 520). Neuroscientist Antonio Damasio (1994) is, of course, noted for his pointed critique of Descartes’ separation of mind and body, which he refers to as a significant and often unrecognized “error” that has misled many cognitive scientists and neuroscientists (see p. 248-252). Noë (2009) is also clear that the last 25 years have led a growing number of neuroscientists to abandon the Cartesian dualism of mind and body for “an embodied, situated approach to mind” (p. 186) in which “we are dynamically coupled with the world, not separate from it” (p. 181). Rand and Llardi (2005) echo the same conclusion: “to the degree that a scientist subscribes to the still-widespread Western belief in mind-body dualism . . . , his or her ability to investigate the relationship between mental events and brain events may be compromised” (p. 9).

We submit that the arguments against mind-body dualism apply equally to dualism more broadly understood, ontological dualism. Along with Taylor (1995) and Solomon (1988), we argue that the ontological categories of mind-body dualism continue “beyond the demise of dualism in the contemporary demand for a neutral, objectifying science of human life and action” (Taylor 1995, 5-7). Consider how this broader dualism is itself rejected by a qualitatively different discipline – philosophy. This rejection is particularly impressive because philosophers are famous, or rather infamous, for not agreeing on much of anything. Indeed, this lack of agreement is part of the reason that psychologists, and perhaps psychologists of science, have declined to include philosophical issues in the mainstream of our discipline: they have presumed

that philosophical issues are intractable, an ideological whirlpool that ultimately provides no help for practical matters. How striking, then, is the consensus among normally quarrelsome philosophers that dualism of any variety is wrong?

Consider, for example, two philosophers across the divide of Continental and Analytical philosophies, perhaps two of the more subsuming camps of professional philosophy. Ludwig Wittgenstein (1981), who spans both camps depending on the work you read, views dualism as “one of the most dangerous ideas” of Western philosophy (p. 104). John Searle who typically disagrees with everything Wittgensteinian nevertheless agrees on the pernicious influence of dualism. He makes clear in several books that the most significant intellectual problems of our contemporary world are the consequences of Cartesian dualism (Searle, 1996, 1997, 2004). As Taylor (1995) has chronicled in some detail, the last four-hundred years of philosophy have been an ongoing struggle to escape from the problems created by Cartesian dualism. Indeed, he declares the whole dualistic approach to knowledge “to be mistaken” (Taylor, 1995, p. 12). Passmore (1970) may best sum up this philosophical consensus about dualism in any of its forms: “the rejection of dualism is indeed one of the few points on which almost all the creative philosophers of modern times have agreed” (p. 38).

Other fields have become similarly resistant to this problematic ontology, from biology to religion. For example, it may be of interest to note how many theologians have disputed dualism recently. Theologians are often viewed as advocates of dualism, because it supposedly helps them to give supernatural meanings some credence. Perhaps it is surprising, then, that many prominent religions and theologians avoid or directly oppose dualism. For example, one of the Four Noble Truths of Buddhism is that suffering stems from the creation of illusory dualisms, especially the creation of an independent reality such as objectivity. Islam also resists this type

of dualism, opting to move away from divisions between self and world (Nelson, 2009, p. 366-367). Christianity has historically championed some types of dualism, but as James Nelson (2009) explains, recent scholarship in Christianity explicitly rejects dualism and emphasizes the “unitive state” of life (p. 90).

The Basic Problem of Dualism

So what is going on? Why are so many writers across so many divergent disciplines and modes of inquiry so adamant about the rejection of dualism? Why is dualism, in all its forms, viewed as so profoundly problematic? These questions can, of course, thrust us into deep waters, but let us note in passing a few of the “in principle” problems that are at the heart of ontological dualism. The first, and perhaps the best-known, issue with dualism has been variously termed the *problem of interaction* (Griffin, 2000; Leahey, 1992; Viney & King, 2003). This problem involves the difficulties of explaining how two fundamentally different realities, subjective and objective, mind and body, . . . can be unified in any way, whether that means how they interact or work together, or whether it means how a human being can understand them as a unity. The problem of interaction is one of the primary reasons that many neuroscientists have abandoned mind-body dualism, but the problem of the unity of mind and brain continues (Noë, 2009).

As a second in-principle problem for dualism, the ultimate subjectivity of experience highlights the question of *where to draw the line* between subjective and objective realities (Griffin, 2000; Viney & King, 2003; Slife & Richardson, 2009). If we can never get outside our subjective experience of objective reality—i.e., if we only know the objective world through our subjective experience—then how do we really know where our perceptions end and the external reality begins? Indeed, what are our grounds for believing in an objective reality at all? This problem in drawing the line between the two realities highlights or compounds a third problem

of dualism: how do we correct our subjective meanings (Griffin, 2000; Viney & King, 2003)? As any dualist knows, “objective” observations are subject to problematic “subjective” influences, such as selective attention, demand characteristics, and confirmation bias (Nickerson, 1998). If objective observations fall prey to these types of supposedly subjective influences, how can we correct our subjective theories about objective reality? How can we measure the influence of our subjectivity on perceptions of an external objective world that cannot be directly known in the first place?

The bottom line here is not only that these “in principle” problems of ontological dualism are difficult to overcome but also that no historical remediation in these disciplines, from neuroscience to philosophy, has seemed to provide sufficient traction to solve these dualistic difficulties. Of course, there is a much longer story in these disciplinary efforts, including interactionism, parallelism, and emergentism, but the short story is that none of these efforts has mitigated dualism’s difficulties. These efforts at remediation have not diminished how much dualism continues to dominate Western intellectual culture, as treatises such as Solomon (1988), Taylor (1995), Searle (2004), and Jones (2010) describe.

The Implications of Dualism for Epistemology

Does ontological dualism also dominate the logic of mainstream psychological research? To answer this question, we need to reflect on at least three of the epistemological implications of these “in principle” ontological problems that bear directly upon psychological research. First, the notion that subjective reality is separate from objective reality suggests the possibility that the subjective might interfere with us gaining knowledge of the objective. Specifically, subjective experiences such as values, preferences, beliefs, and interpretations could distort an objective rendering of the world. In fact, there is a sense in which there is no such thing as

“objective experience” because our experience of the objective world is always through our subjective “lens,” and thus is viewed by ontological dualists as a representation of that world *by* the person rather than an appearing of the world *to* the person.

A second epistemological implication of dualism: observation is typically considered to be the closest subjective experience we have to the objective world. Observation is still part of our experience, and thus is ultimately subjective from the dualist perspective. Still, it is at least a portion of our experience that deals with the external world, a portion in which careful method can attempt to control for subjective distortion. Thus, according to dualism, observation is scientifically superior to our experiences with our subjective thoughts and feelings. Consequently, empiricism and its emphasis on sensory experiences, is usually the chosen epistemology of the dualist.

Given that experiences of the external world can be distorted by subjective factors, such as biases and values, the third epistemological implication of ontological dualism is that it implies an ongoing methodological task: dualists must constantly seek correction of their subjective representations of reality. This correction requires rigorous attempts both to eliminate the distortion of subjective biases and to seek the correspondence between subjective or intersubjective representations (theories) and objective reality (data) (Fishman, 1999; Stiles, 2009). (It also requires ignoring the epistemological question of how such correspondence is possible.) Gauging this corrective correspondence is frequently considered the province of the scientific method—the logic for gathering systematic, bias-minimized observations.

The Dualism of Psychological Research

How might these epistemological implications of a dualistic ontology manifest themselves in psychologists’ ways of conceptualizing and conducting research—what we would

call in this book, the implicit reasoning of scientists? Consider, in response, our “Top Ten” methodological manifestations or practices of this reasoning. As you will see, this list does not require a *personal* subscription to ontological dualism (much less mind-body dualism) for the researcher to engage in dualistic method practices. In other words, no personal, formal, or conscious assumptions are necessary for one to reason in terms of ontological dualism. All that is required is to follow conventional training in psychological methods, as the method texts (cited below) evidence.

1) *Theory versus data.* Consider, first, our usual way of conceptualizing and dividing methodological inquiry. On one side of method is theory, which reflects the psychology researchers’ subjectively agreed upon ideas, models, and assumptions about the objective world. On the other side of method are data, which supposedly map onto the properties, quantities, and regularities of the objective world. Consistent with the first epistemological implication discussed above, theory and data are often thought to have the characteristics of each of the two separate realms of dualism. In a widely adopted methods text, Schweigert (2006) describes the characteristics of theory and data this way:

To avoid being swept away by either unfounded speculations or biased perceptions, scientists tie their beliefs to concrete, observable, physical evidence that both independent observers and skeptics can double-check. Scientists look for *independent* evidence of their claim: objective evidence that does not depend on the scientist’s theory or personal viewpoint (p. 2).

Schweigert’s point is logical from a dualistic perspective. Data could not be the “test” of theories, in the conventional sense, if the data were originally dependent on such theories.

In other words, the issue for the dualist is not whether theory and data interact, but whether they originate from separate sources or reality.

2) *Data as objective.* As noted in the second epistemological implication, sensory observation is considered to be closer to the objective world than subjective thoughts and feelings or subjectively agreed upon ideas, like theories. Consequently, data are thought to provide the grounding for theory because they are collected through systematic, standardized, and repeatable empirical observations, and thus—in themselves—are supposedly uninterpreted indications of the value-free world of objects. Data collected in this manner, as Dyer put it in his methods text, “ground theories in reality” (p. 13). This is the reason, according to methodologists Mitchell and Jolley (2007), that empirically derived data are often referred to as “objective evidence” (p. 2). The data are the facts about objects beyond our subjective experience. Of course they must be interpreted if they are to have meaning beyond the merely factual. That requires the subjectivity of theory. But empirical science begins with the difference between the subjective and objective in order to bring them together in an orderly way in the intersubjective (i.e., theoretical) interpretation of objective data.

3) *Avoiding subjective bias.* As close to objectivity as empirical data may be, the dualist views them as potentially susceptible to subjective interference. In Dyer’s (2006) words, “the information acquired by the senses always requires some degree of interpretation by the person whose senses they are. Sensory information cannot, therefore, ‘speak for itself’ but always requires a reasoned act of interpretation by the observer” (p. 4). Given that subjective distortion is possible, it is imperative that the objective researcher attempt to avoid any bias in his or her methods of data collection and

interpretation (Mitchell & Jolley, 2007). Indeed, any indication of subjective biases in the data is a sure sign of problems with the researcher's objectivity, because the objective world is itself presumed to be free of subjectivity, and thus bias-free. As Schweigert tells us, "this approach is adopted so that the results of the research will be meaningful, unambiguous, and uncontaminated by the biases of either the participants or the researcher" (p. 2). In this sense, dualism manifests itself in the clear injunction to strive to separate the subjective (biases) from the objective (information) for the sake of valid knowledge.

4) *Correcting for subjectivity.* If, as the first epistemological implication indicates, all scientists experience the world (including their data) subjectively, then psychology researchers must be constantly on the lookout for subjective distortions, and as the third epistemological implication enjoins, must constantly take corrective actions to remove those distortions. Indeed, this is the primary value of the scientific method; it is the systematic corrector of problematic subjective factors in the light of supposedly value-free, objective data. This correction supposedly ensures a clear and undistorted correspondence between the objective and subjective worlds. As Stiles (2009) writes, "Researchers creatively modify their theories by (abductively) adding to them or altering them so that they correspond to accumulating observations" (p. 1).

5) *The objectivity of scientific method.* Of course, this corrective function would need to extend to the logic of the scientific method itself, which must also be as free of values as possible. If the scientific method were itself biased and value-laden, it would be systematically biased, and thus yield to subjectivity. It would not be objective, and thus not an accurate rendering of the objective world. True to form, and despite much analysis on the value-ladenness or interpretive nature of the scientific method (e.g.,

Griffin, 2000, Gadamer, 1993; Kuhn, 1970; Slife & Williams, 1995), method texts almost never identify these values and interpretations. Instead, the dualistic presumption is that the scientific method, with the logic of its procedures, is a relatively fair and unbiased means of mapping the world. For the psychological researcher, according to Mitchell and Jolley (2007), the scientific method is “our most objective way of knowing” (p. 16).

6) *The objectivity of researchers.* The presumed corrective objectivity of this dualist ontology is frequently thought to ensure the objectivity of the community of researchers. As Marczyk, DeMatteo, and Festinger (2005) stated it, “scientific knowledge is not based on the opinions, feelings, or intuition of the scientist. Instead, scientific knowledge is based on objective data that were reliably obtained in the context of a carefully designed research study” (p. 4). This is the reason no biases, personal or professional, are typically admitted or reported in research publications. Indeed, these reports are nearly always written in third-person, as if the researcher is absent or irrelevant to the gathering or interpreting of the data. Objective data and subjective biases are two different realms of thought and experience, and their separation must be maintained.

7) *Theory as universal propositions.* Despite the subjectivity of theories, from the dualist perspective the best psychological theories are nearly always framed in terms of postulated, universal propositions or principles. This is the case primarily because the natural objective world is assumed to consist of universal and unchangeable laws (Heiman, 1999). Thus, the truly superior theories in psychology are those that provide mechanistic, and more recently, computational models of human thoughts, feeling, and actions that are thought to parallel the lawfully determined and

mathematically derivable processes of human life (Wyschogrod, 2002). The closer the parallel between the universal model and the objective world, the greater the confidence psychologists can have that their theories represent the universal principles of the world, with as little subjectivity as possible.

8) *The replication of findings.* The presumed presence of these objective laws implies that our findings need to be replicable. Laws, and thus objective findings that reflect those laws, should occur across contexts, and be repeatable in this sense. Ray (2006), for example, reflects this assumption in his methods text: “it must be possible for different people in different places and at different times using a similar method to produce the same results” (p. 7). Supposedly this repeatability occurs only in dealing with the objective realm, hence the perceived need for reliability, standardization, and stability (Cohen & Swerdlik, 2005).

9) *The need for prediction.* Replication provides a consistency to research findings that strengthens researchers’ confidence that their subjective hypotheses accurately reflect the natural laws acting in the objective world (Heiman, 1999, p. 21). It also leads to an increased confidence in the power of subjective hypotheses to predict the behavior of objects in the objective world under specified conditions. Such predictions can only be made probabilistically, of course, because they are always hampered by the inescapable subjectivity of our experience (Okasha, 2002). Researchers can never be sure their predictions are undistorted and actually realized in the objective world. It is for this dualistic reason that researchers avoid terms like “certainty” and “proof” in their findings and predictions.

10) *The enhancement of objectivity.* The reduction of subjective biases, and thus the increase in probability, is generally understood as accuracy in gauging the objective realm. Because, given the assumption of dualism, the objective realm is presumed to be independent of the subjective realm, the best way to gauge the objective is through the elimination of the subjective (biases). This elimination is achieved, in part, by developing observational devices and instruments that enhance sensory observation and standardize measurement (Cohen & Swerdlik, 2005). The reduction in bias, and thus in dualistic error, increases researcher confidence that the observations are as close to the objective world as possible.

We could add to this list of dualistic conceptions and practices, but we think the point has been made: ontological dualism is central to contemporary psychological research. Indeed, the dualism of psychological theory and practice is like water for fish—so dominant and so pervasive in the discipline that many mainstream psychologists might ask: how else could they be? In other words, many psychologists may not know of another way to think about investigation.

The Dominance of Dualism

The obvious question about the overwhelming dominance of a potentially problematic conceptualization is “why?” Why does dualism have such swaying and staying power in psychological research? Why don’t at least some researchers see its difficulties and search for an alternative? Like all complex issues, the answers to these questions are themselves complex, with a myriad of factors contributing to this dominance. Space constraints prohibit the full development of all the factors here. Clearly, as Taylor (1995) and Searle (1997) describe, there are numerous social and institutional supports for the dualistic status quo. Clearly, also, there

has been a long and complex history of dualism, particularly during the rise of science and especially when psychologists took their cues on the identity of science from early manifestations of the natural sciences. .

We believe that many psychologists would defend their use of dualistic methods with a twofold rationale: 1) it works, and 2) it is the “only game in town.” Actually, we think these two defenses are part of the same issue: psychologists really do not have an alternative nondualist approach, either to explore or to compare to the current approach. Claims that current method practices are successful are shallow in this regard because they have not been compared to nondualist forms of method reasoning. Historic rivals for this reasoning, such as introspectionism, have been dualist themselves, merely favoring the subjective side of the dualism (Viney & King, 2003). Moreover, the historic dislike of the radical behaviorist and neuroscientist for dualistic theory has rarely transferred to their methods, which partake of the same method practices just reviewed (Packer, 2010).

The assumption seems to be that the denial of mind-body dualism implies the denial of dualism generally, but, as we have described, one can deny one type of dualism while embracing another. The dominance of dualism is so pervasive in psychology that the nondualist philosophies of many qualitative approaches are often conducted in a dualist manner and judged according to dualist criteria (e.g., Packer, 2010; Stiles, 2009; Slife & Richardson, 2009). For example, qualitative findings are often viewed as too subjective to be objective knowledge (Shek, Tang, & Han, 2010). Given this dominance in the methodology of the discipline, how would we know if the “only game in town” truly works? Surely we wouldn’t judge its working solely by our ability to play the game successfully. We would need other “games” – other logics of investigation – with which to compare it.

Unfortunately, the need for a nondualist methodology does not make it magically materialize, especially when dualism is so institutionalized. As this chapter argues, psychologists are just now beginning to discern the dualism of their methods. Other steps are required to even begin to reform our methods, such as seeing this dualism as problematic, seeing where it makes its appearances, and then desiring alternatives. But desiring alternatives is not sufficient either, especially if psychologists assume that viable nondualist alternatives are not possible. Thus, an important first task in even identifying this dualistic reasoning of psychological scientists is to identify nondualistic methods in *any* sphere of inquiry. Without successful alternatives, dualistic methods really are the only game in town, and nondualism is a convenient and perhaps interesting philosophical point, but a practical methodological fiction.

As it happens, there are many individuals working to develop nondualistic modes of inquiry, or what is sometimes called *interpretive approaches to inquiry*. Martin Packer (2010), Paul Ricoeur (1965; 1981; 1991; 1992; 2004), Charles Taylor (1994), Hans-Georg Gadamer (1993), and Frank Richardson (with Fowers & Guignon, 1999) are just a few of the persons who are, in our view, providing the most promising conceptual bases for this new approach to psychological investigation. However, a summary of these efforts is beyond the scope of this chapter, and the work of these thinkers remains largely theoretical. Consequently, it may be more instructive to offer a practical, real-life example of a fully-fledged and currently working program of nondualist research. We think many psychologists may be pleasantly surprised by how relatively easy it is to understand and deploy such a program.

A Nondualist Alternative: Consumers Union

Consumers Union (CU) is a non-profit organization founded in 1936 to inform consumers about the quality and safety of the products they use. Their more recognizable

publication, *Consumer Reports*, is CU's primary outlet for providing this information to consumers. CU has a long history of a widely praised research program for gauging the quality of particular consumer goods, including cars, which will be our exemplar of a nondualist approach to inquiry (Slife & Richardson, 2009).

We should note at the outset that the CU project can be interpreted, we believe erroneously, in a dualistic manner. CU, for example, regularly characterizes its car ratings as "unbiased." This characterization would seem, at first blush, to fit with a dualist approach to car investigations. The dualist would want investigators to strive to eliminate as many subjective biases as possible, so that only the objective truth of the cars would remain (method practice #3). For this reason, CU investigators should seek to eliminate CU's own values and biases, among other subjective factors, because subjective values and biases would presumably distort the investigators' "corrective experiences" of the cars themselves in their pristine objectivity (method practice #4).

A closer look at CU's car rating program, however, reveals that this elimination is not what they do. When CU claims to be unbiased, the notion of bias refers to the possibility of undue influence rather than subjective values. Specifically, CU takes no revenue or samples from car-makers because it fears that consumers will wonder whether its ratings are influenced by these kinds of financial considerations. CU's fears in this regard could also be the result of their awareness of prominent dualist interpretations of their ratings, and thus consumer anxieties about subjective biases.

Still, CU does not attempt to eliminate or even minimize its supposedly subjective values in formulating its assessment of cars. CU's rating system, like all rating systems, presumes a general moral framework to formulate their criteria for devising the rating system, which

includes values like justice, fairness, and consumer protection (see CU mission statement, 2010). In rating cars specifically, CU values factors like reliability, drivability, and owner satisfaction, but they put the greatest premium on safety. CU's car ratings, in this sense, are partially constituted by CU's biases and values. We say "partially" because the cars themselves are an important part of the ratings; the construction and functioning of the cars influence what kind of ratings can be reasonably made and whether the cars get high or low ratings.

In this sense, the data produced by CU's investigation of the cars is neither objective nor subjective. CU's car ratings—as helpful as they may be for understanding cars—are not a bias-free description or map of the cars as they exist in their objective relations with other objects in the objective world. Neither are they merely a report of the subjective meanings that researchers have imposed on the world they investigated. Rather, CU's car ratings are explicitly value-laden ratings of the cars' quality and performance. Another moral framework with a different set of values would lead to a *completely different* set of car ratings. For example, if another rating organization valued drivability over safety, some cars ranked at the bottom of the CU's safety-first list might now appear at the top of the other organization's ratings. Two different rating organizations, perhaps CU and a racing association, could even evaluate the *exact* same set of cars but reach an entirely different set of car rankings, just because different values guided the ratings. This means that values are a vital constituent of ratings; ratings do not exist without them. In terms familiar to the dualist, they are inextricably "subjective objectivities;" the subjective and the objective have never been and can never be separated. In nondualist terms, they are *meanings*, expressions of a human historical and cultural situatedness.

Dualism and the Truth of Car Ratings

The *methodological dualist* might understandably challenge this contention of the inseparability of subjectivity and objectivity in meanings, and the exploration of this challenge will help us to clarify why so many disciplines have abandoned a dualist approach to inquiry. The general thrust of a dualist approach to car ratings would be to formulate methods that attempt to move the ratings to greater objectivity (method practice #2). In other words, the main goal would be to move *closer* to the supposedly objective world of the cars and *farther* from the presumably subjective world of beliefs and values (method practices #1 - #3). The problem with this dualistic approach is that there is never a time in which the ratings are closer or farther from this subjective world, because the ratings require the values even to exist.

The methodological dualist might say that the truth is approximated when our subjective beliefs *correspond* to the objective world (method practice #4). The problem, again, is that no such truthful ratings exist in the objective world, i.e., there are no objective, value-free ratings for CU's ratings to correspond to. The cars are necessary to the ratings, of course, but they are never sufficient alone to account for the ratings. The cars exist in the *ratings* only insofar as the cars are revealed by the values of safety and drivability. (Recall how different values would mean different ratings.) Indeed, the values lead to certain measures, such as crash tests, that help to form the ratings. From this perspective, the truth of the car *ratings*, as distinguish at this point from the cars themselves, can never be objective or unbiased in the dualist sense that they pertain *only* or even *more* to this objective world, or that they are determined by value-free judgments. Even financial independence from the car-makers does not make the ratings any less dependent on the value-laden criteria used to rate the cars. Financial independence may help us to put more trust in the *criteria* or values used as well as the tests that embody those values. However, this

type of independence does not make the ratings any less value-laden or bring us any closer to a value-free, objective description of the world.

A methodological dualist might attempt to avoid the ratings altogether and try to access the different subjective and objective worlds that supposedly form the truth of the ratings (method practice #5). This tack assumes that the values and cars themselves, the supposed subjectivities and objectivities of this example, would each need to be evaluated for their proximity or correspondence to the objective world. But how can the dualist evaluate how true to the objective world CU's values are? If these values are inherently subjective, and thus unrelated to the objective world by definition of their separation from this world, then dualists cannot evaluate the truthfulness of this subjectivity because, in principle, it can never be closer to or farther from objective reality. This is part of the reason that objective science doesn't attempt to evaluate moral systems: they are thought not to be part of the objective world. Even positive psychology, in this sense, only gathers data *about* moral systems; it does not and cannot evaluate their truthfulness empirically (Slife & Richardson, 2008). For the methodological dualist, then, the objective facts are one thing, and human valuing is something completely separate.

"Wait a moment," asks the *nondualist*, "are CU's values really subjective in a strict sense?" Are they really independent of the presumed objectivity of the cars themselves, as the dualist would hold? What could the specific value of "drivability" mean, except in its relation to the objects called "cars"? This CU value, from a nondualist perspective, *comes from* as much as it is *applied to* the world of cars. The value of safety, though not unique to cars, is nevertheless related to our experience with fast-moving, death-dealing modes of transportation. In other words, CU's particular values *matter* because of the nature of the cars themselves and our relation to them. In this sense, it is difficult to understand CU's values as subjective in the

conventional dualist sense of *unrelated* to the cars as objects. These values have a status similar to the ratings from the outlook of a nondualist: they are neither subjective nor objective, but a unitary, interpreted reality or meaning.

What about the cars themselves? From a dualist's perspective, the cars make up the objective, material things to which everything truthful about the ratings should correspond (method practice #2). This perspective implies that the cars are unrelated in some original sense to the values CU uses to evaluate them. But is this strictly true, asks the *nondualist* again? As mentioned, car-makers clearly attempt to manufacture cars that fit the values of car-buyers. Weren't cars, and all their components, invented and shaped, in fact, because of the values of the people who desired them? If this is true—that cars themselves cannot be fully understood except in relation to values—then even the so-called objective portion of the car ratings is not objective in the methodological dualist's sense.

At this point, the nondualist could conclude that the car ratings cannot be dualistically understood because they are meanings “all the way down” (Held 2007 p. 283). That is, all aspects of the ratings are expressions of cultural and historical embeddedness, with neither the supposedly subjective nor the supposedly objective aspects of these meanings separable from one another. This nondualist position, sometimes referred to as *hermeneutic realism* or *ontological relationality*, assumes that the world consists of relational meanings rather than isolatable objects (Bernstein, 1983; Fishman, 1999; Richardson, et al., 1999; Messer, Sass & Woolfolk, 1988; Packer & Addison, 1989; Slife, 2004).

Some readers may infer from this conclusion that we are arguing for a kind of idealism, i.e., the only real things are ideas, or at least the only things we can investigate are ideas. That inference comes from assuming that scientific investigation has the character that the

methodological dualist assumes—the existence and separability of objective facts and subjective values. With that assumption, anyone who argues against the existence of objective facts, as we have done, appears to be arguing for subjectivity, an abandonment of the real from a dualist’s perspective (i.e., the objective). In other words, “real” and “objective” have been so confounded in dualism that an argument against the latter is perceived to be an argument against the former.

But nothing could be further from the truth. Interpretive or hermeneutic realism *is* realism rather than idealism. For example, CU’s measurement of “braking distance” and “miles per gallon” is real to the hermeneuticist, but it is not real in the objective sense; hermeneutics is a different ontology (a different understanding of what is real). Braking distance and miles per gallon are meanings not objects, in which case they cannot be understood except in relation to us in our historical and cultural situatedness. Still, *this relationship does not imply that these meanings have to be subjectivities or unreal*, except from a dualist perspective. Nor does hermeneutics assume that reality is ideal. Rather, it supposes that human valuing is inseparable from scientific investigation. Without these valuing, for instance, we would not care about braking distance or gas mileage, and we would not measure them, or even invent ways to measure them.

Methodological dualists might admit that the selection of such factors for measuring cars reflects the values of people, but they might reject the notion that the *measurement* of these factors is itself value-laden (method practice #10). Here, we could certainly refer to historic battles concerning the standards for measuring braking distance and gas mileage, which were all, ultimately, battles over particular values. However, we suspect methodological dualists are more concerned about measurement in the sense of the scientific method (method practice #5 above). In other words, they might concede that the *discovery* context of science is value-laden (i.e., the

generation of hypotheses), but dispute the value-ladenness of the *justification* context of science (i.e., the actual testing of the hypotheses). Given our limited space, we can only refer the reader to the number of articles and books that make clear the values inherent in the justification context of the scientific method (Bernstein, 1983; Fishman, 1999; Gadamer, 1993; Griffin, 2000; Heidegger, 1962; Messer, Sass, & Woolfolk, 1988; Packer, 2010; Ricoeur, (1981); Taylor, 1995). Indeed, the first author (Slife, 2008) took part in a special issue of the journal, *Counseling and Values* (2008), where many authors explicated the values involved in counseling research, including those involved in the context of justification.

The point here is that such valuing is not irrelevant at *any* point in the process of investigation. There are not two ways of understanding the world, the objective and the subjective; there is only one, from the hermeneutic perspective. Psychological researchers must choose the topic of investigation (some of which have been mistakenly described as “objective” and others as “subjective”), choose the methodology or philosophy of science (e.g., positivism, hermeneutics), choose the procedures or methods from that philosophy which best investigate the topic at hand, choose the best approach to analyzing the data generated (which have their own assumptions), and then choose how to best interpret the findings. Values are involved at every step. The only question is whether they are acknowledged, monitored, and accounted for in the process of knowledge advancement. If this nondualist position is correct, then dualist notions of truth are not correct and can only yield the truth coincidentally. This is, in fact, the conclusion of the many disciplines we cited previously.

Nondualism and Psychology

What about psychology in this regard? Could a nondualist method, like that of CU, really work as a viable alternative for psychological research? Not only have several scholars

answered this question affirmatively, many believe that psychology's successes are actually *already* due to nondualist practices that have been unwittingly smuggled into the dualist story of psychological method (Slife & Richardson, 2009). For example, the instruments and measures used in psychological research could be understood as value-laden ratings designed to study those aspects of human beings that the discipline views as morally significant. Consider the many self-esteem instruments used in various psychology studies and therapeutic assessments (Mruk, 2006). For the dualist, the data collected using these instruments map some feature of the objective human world about which subjective theories have been formed.

For the nondualist, on the other hand, self-esteem is much like the value of safety for the CU. It is part of psychology's moral framework and has long been valued as an important contributor to health and well-being, two core values of the discipline. Recall that a value-free, objective evaluation of a car (in the dualist sense) would never reveal or disclose the safety of the car. Conventional scientific instruments and scientific observations, such as through a microscope, might tell us many things about cars, but they could *never* disclose a car's safety or drivability. To disclose these meanings, one must devise procedures for evaluation that embody these values, such as crash tests. In other words, *the values themselves are necessary for the car to disclose this meaning*; values and cars cannot be understood apart from one another in arriving at a meaningful truth. As Heidegger (1926/2010) put it, disclosure takes place *within* our concerns and involvements with the world, not *outside* them.

Similarly, an objective, value-free study of persons would never disclose their self-esteem because there is no self-esteem out there in the objective world to which the subjective idea corresponds. Rather, self-esteem, like safety, is a meaning that is no less real but cannot be understood apart from the values of health and well-being and is disclosed only by procedures

for evaluation that embody these values. Consequently, study procedures are designed and instruments are developed that tend to focus researchers on participants' self-esteem in relation to obesity, stress, heart disease, and many other issues that reflect the core values of the discipline (Mruk, 2006). In this sense, self-esteem, the values of psychology, and the broader society that inform and are informed by self-esteem cannot be understood apart from each other.

A second implication of CU's nondualistic method for psychology is that the logic and design of the scientific method are themselves inseparable from the values of the scientists who practice them. As described previously (method practice #5), the logic of science for the dualist is presumed to be relatively free of values and thus capable of providing a relatively undistorted tool for mapping the objective reality of the world. However, this presumption is held in spite of, rather than because of, scholarship on psychology's research methodology. As enumerated above, many analyses of this methodology have noted the abundance of pre-investigatory assumptions and values that are implicit in our research methods (Bernstein, 1983; Fishman, 1999; Gadamer, 1993; Griffin, 2000; Heidegger, 1962; Messer, Sass, & Woolfolk, 1988; Packer, 2010; Ricoeur, (1981); Taylor, 1995).

For the nondualist, science is viewed from the outset as a value-laden set of procedures designed to test for the values scientists endorse. The question is not whether scientific research is value-laden, but which values are and ought to be at play. Just as the CU designs its crash tests, consumer surveys, and driving evaluations to illuminate the meanings of car safety, consumer protection, and drivability, so too psychologists develop their methods, procedures, hypotheses, and analyses to bring to light the values they find important for human beings, such as predictability, generalizability, and reliability. As suggested, this could mean that psychology's methods are *already* value-laden, through and through, and thus *already* nondualist

in nature, despite their dualist depiction and description in method texts and psychology's journal articles.

What then is the problem? The problem is that psychologists teach these methods and conduct their studies as if the ten dualistic practices we described are correct. Instead of identifying their assumptions and values, and monitoring their effects on studies, budding and veteran investigators assume they can and should eliminate or reduce them. This method practice means that one of the most vital ingredients in any study from a nondualist perspective, its root values, is not only left unexamined but thought to be in need of elimination. This is just one of the ten dualistic method practices that a nondualist would call into question. There is no question that the other nine are just as impactful, with their continuing uncritical exercise just as consequential for our understanding of investigations.

Implications for the Psychology of Science

What does all this mean for the psychology of science (as apart from psychology more generally)? The ontological issues we have described could be understood as more philosophy than psychology, but are they? We contend that they are just as much about implicit scientific reasoning as they are about philosophical frameworks. As we have shown, dualism and nondualism inform the logic of practical method decisions just as much as they inform philosophy. Why not identify them as some of the assumptions of scientists' methods and permit them to yield their insights into the minds of scientists when conducting these methods? As psychologists of science, we do not have to avoid the philosophical just because dualistic reasoning is conceptual rather than empirical. We realize that most psychologists have been trained in empirical methods only, and these methods are what is familiar, but many

psychologists have been doing conceptual analyses for years (e.g., Slife, Reber, & Richardson, 2005).

If we limit ourselves to only one type of investigation, such as empiricism, we run the risk of overlooking key components of our subject matter. We could be analogous to the proverbial drunk who is searching for his car keys where the light is better, though he dropped them somewhere else. In other words, just because we have a light, in the sense of our empirical methods, does not mean that everything we need to know in the psychology of science is discoverable with that method, especially if we endorse a deeply problematic logic of method like dualism. And why wouldn't we welcome the grounding of methods on alternative assumptions? The historical case is that we have endorsed dualism and empiricism for philosophical reasons, not because we have systematically compared them to nondualist and nonempirical methods and found them to be more effective. The effectiveness of CU's project should be a cautionary tale here. Why not acknowledge our *philosophy* of science and allow it to help us with our *psychology* of science?

Some psychologists of science, such as Gregory Feist (2006), agree that "it is of utmost importance to understand the history of science, the philosophy of science, and the sociology of science" (p. 33). But if these are seen only as allied studies of science, alongside the psychological study of science, there will be little appreciation for the important philosophical, historical, and sociological issues and insights that bear upon our *own* scientific study of scientists' thoughts and behaviors. Indeed, shouldn't we consider the bootstrap problem involved in using a method of reasoning to examine a scientist engaged in the same method of reasoning? What is the impact of using empirical and dualistic methods to examine the act of scientists using empirical and dualistic methods? What is ignored? Shouldn't we consider

alternatives in such a study? When is the philosophy that guides the reasoning of the empirical scientist itself discussed and explored for the insights it can yield in understanding the psychology of science?

We are not advocating the rejection of dualistic methods in the psychology of science, or psychology for that matter. We are advocating a type of methodological pluralism where the pros and cons of particular types of method reasoning are evaluated in the light of particular investigative questions. Although we cannot develop this pluralism fully here (see Slife & Gantt, 1999), our main point is that we should develop alternative methodological resources, so that we have not only other method options at our disposal but also greater awareness of our implicit methodological reasoning. Just like a carpenter, we could evaluate the advantages and disadvantages of all the tools in our tool chest and use the best mode of inquiry for the job at hand.

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