

Oxford Handbook of the Psychology of Religion & Spirituality
Chapter One--Theoretical and Epistemological Foundations

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I. Introduction

The state of theory in the psychology of religion and spirituality (PRS) is a study in contrasts. William James, the founder of the field, was one of the greatest theoretical psychologists of all time. His writings not only provide a fine legacy of thinking about religious experience, but also include many profound works on the nature of knowledge and human inquiry. Given this history, one would expect the field of PRS to have a rich body of discussions about the theoretical foundations of the discipline.

Sadly, the current state of affairs does not match these expectations. Recent commentators (e.g., Hood, Hill & Spilka, 2009) have noted the need for theory in PRS. Some have complained about the lack of an overarching theoretical model to help tie together results in the field (e.g., Kirkpatrick, 2005). It is also the case that PRS depends heavily on theory from other branches of psychology such as psychodynamic thought, social psychology, evolutionary thought and cognitive neuroscience, but has contributed little unique theory of its own.

We believe that these theoretical problems are a symptom of deep philosophical difficulties in PRS. In particular, we believe that most PRS researchers operate using an antiquated and inadequate philosophy of science, and that this deficiency inhibits progress in our field. In this chapter, we attempt to outline and illustrate these problems, and provide some ideas about possible solutions.

II. Definitions and concepts

Many researchers view science as a hypothesis-testing enterprise. In this traditional view, investigators develop and test hypotheses based on *models* that specify structural relationships among constructs in a theory. These *hypotheses* are propositions about states of affairs--properties of things or relations between things (Armstrong, 1997, p. 1) that are proposed by a *theory*, a cluster of statements expected to provide an accurate *description* and *explanation* of phenomena, as well as guidance in the development of study methodology. Quantitative studies are often thought to be the best way of confirming (or disconfirming) these types of propositions (Carnap, 1995, pp. 105-114).

However, this view of scientific research is only partly correct, as it leaves out a number of important parts of the picture. First, testing and verification is just half of the epistemological enterprise in science. The other part is *discovery*, the uncovering of new ideas that can form the basis for hypotheses to be tested. A vibrant, progressive scientific enterprise must eventually look outside the cycle of hypothesis and theory for new possibilities. The discovery of new ideas links up with the verification process to form the *scientific epistemological cycle* of exploration and testing. In general, PRS has been much weaker in the discovery end of this cycle.

Also often overlooked is the issue of *underdetermination*, the fact that any given set of data can be interpreted in several ways and may support other theories or hypotheses not being tested in a study (Crowe, 2005; Bruner, 1991). It is a logical error to assume that just because data fit a particular hypothesis, they *only* fit that hypothesis or explanation for the data. Data are, in principle, consistent with a limited number of other hypotheses, and do not determine or prove any of them conclusively (cf. Quine, 1953, pp. 20-46; Gahde & Stebmuller, 1986). In this sense, they also do not “tell” us the “reality” of the phenomena under investigation. Scientific data are not a “map of” or “reflection of” reality; they are, in fact, not very meaningful until they are interpreted, and many interpretations are possible.

This interpretive element of science means that empirical findings are dependent upon more than just data (Lakatos, 1978; van Fraassen, 2002, p. 124). Scientists hold unproven assumptions that guide their interpretations of the data, and the conduct of their investigations (Godfrey-Smith, 2003, pp. 149-155; cf. Barrow, 1998; Nagel & Newman, 2001, pp. 109-113). Unfortunately, the significance of these assumptions is often underestimated. Four types of presuppositions are of particular importance – methodological, epistemological, ethical and ontological or metaphysical.

Methodological assumptions are beliefs about how scientific research should be conducted. They have been central to the identity of PRS. The modern definition of psychology--the scientific study of behavior--specifies a *method or logic of approach* as well as an object of study for the field.

Epistemological assumptions are beliefs about the nature of knowledge and provide an often unrecognized backing for methodological assumptions made by researchers. These assumptions limit the kinds of questions that can be asked in research studies (Rescher, 1982, p. 151) and the sorts of empirical data that are considered relevant.

Ethical assumptions in science revolve around the goals or values that stand behind the research program and standards for acceptable research practices. These presuppositions provide an often unacknowledged foundation for scientific methodology and epistemology. They include what are typically called *epistemic values*--the aspects of inquiry that are deemed important, such as coherence, simplicity of explanation, and strength of explanatory power. Typically a balance of these virtues is desirable. For example, a focus only on complexity produces models too difficult to test, while an exclusive emphasis on simplicity produces explanations that lack fit with reality or explanatory power (Rescher, 1973; Lewis, 1973, pp. 73-74; 1986, pp. 121-124; 1999, pp. 231-236; van Fraassen, 1989, pp. 47-50; Popper, 2002, pp. 110-115; Mittelstaedt & Weingartner, 2005, p. 142-154). Also at issue are *epistemic virtues*--qualities, skills or capacities of the investigator that are desirable in the pursuit of knowledge, such as fairness, open-mindedness or the ability to think holistically. These are similar in many ways to general virtues studied by ethicists (Hookway, 2003; Zagzebski, 1996; Garcia, 2003).

Ontological and metaphysical assumptions are fundamental to the other three categories. These presuppositions are ideas about what is in the world and how it works. Some of these are *entailed assumptions* that must be true in order for the research program to be valid (cf. Quine,

1953, pp. 1, 130), while others are *gratuitous assumptions* that may be dearly held but are not necessary for the program to produce valid scientific knowledge. Although scientists often believe that their work is free of metaphysics, in fact all scientific progress is dependent on such assumptions--one cannot have a theory of knowledge without some ideas about the objects that the area of knowledge seeks to understand (Bhaskar, 1989, pp. 13-27; cf. Gasser & Stefan, 2007).

Assumptions in these four categories are essential to the collection and interpretation of scientific data. They provide a critical theoretical framework that helps us understand research in PRS.

III. Traditional Research Programs in PRS

Most mainstream PRS researchers presume, knowingly or unknowingly, a particular system of these four categories of assumptions drawn from the philosophies of naturalism and positivism (Nelson, 2006; 2009, pp. 43-66; Slife, 2004b; Slife & Whoolery, 2006). While there is little consensus among theorists about the exact description of these philosophies (cf. Rea, 2002), *naturalism* is often thought to involve a quest for natural laws or lawlike causal regularities in the universe. *Positivism* is a complex philosophical position developed in the early 19th century by Auguste Comte and modified by early 20th century philosophers of the Vienna school like Ruolf Carnap and Herbert Feigl. We call the combination of these philosophies *positivistic naturalism* (PN).

In the sections below, we describe PN in detail and its effects on the scientific practice of PRS. We illustrate our points using a number of high-quality studies as examples, although the themes we describe can be found in virtually any mainstream PRS investigation. Our intention here is not to criticize or even fully analyze these studies; our aim is to use them to illustrate many of the strengths and weaknesses of PN. Since the strengths of this research tradition are well known, we describe these only briefly, putting an emphasis on delineating weaknesses that are less frequently acknowledged.

Methodological assumptions

Although ontological and metaphysical assumptions are the most fundamental part of a research program, PN discussions of theory begin (and typically end) with methodology. This is because the key to obtaining knowledge in PN revolves around the methodological practice of *operationalization*, where the experimenter constructs a study to (a) measure publicly observable phenomena using (b) methods that maximize repeatability and reliability (lawlike regularities), sometimes even at the expense of validity (Bridgman, 1993; Feigl, 1949). In operationalization, validity can be assumed if the procedure seems reasonable; it is established later in other studies, thus giving it a subsidiary role to reliability. In PRS, it is typically further assumed that much of human behavior could be conceptualized as discrete variables that have direct and typically linear relationships with phenomena exhibiting a normally distributed frequency of occurrence. For instance, this kind of thinking can be seen in a thought-provoking study on spiritual transcendence and religious involvement (Piedmont, Ciarrochi, Dy-Liacco & Williams, 2009), where the authors state that in order to “disaggregate” religion and spirituality, they have developed measurement scales “to operationalize these two sets of constructs in a manner that

solidly grounded them in both psychological theory and sound measurement practice” (p. 163). Many of these assumptions are rarely stated explicitly in PRS research, but are tacitly assumed in the statistics employed during data analysis and interpretation.

Moreover, virtually all investigations in mainstream PRS use operationalizations of one sort or another. The researcher frequently has an interest in some “variable” that is not directly observable, and thus they must change it to something else – operationalize it – in a way that is acceptable to PN methods. For example, spirituality and religiosity are themselves not directly observable, so these constructs are routinely operationalized as questionnaires and scales. No researcher assumes that the scores on these scales are identical with a person’s spirituality or religiosity, yet the relationship between what is measured (performance on the questionnaire) and the unobserved topic being operationalized (e.g., spirituality) is rarely discussed.

These method assumptions obviously have many perceived advantages and benefits. For instance, many scholars consider these assumptions to lend an important specificity and clarity to what is studied. Also, the observability of operationalizations permits them to be easily replicated by other researchers, because other scholars can presumably observe the same phenomena, and thus come to the same findings, if they are valid and generalizable.

However, PN operationalization is also deeply problematic. First, the fact that many of the variables of interest in PRS (and psychology generally) are not directly publicly observable, led natural scientists such as Percy Bridgman (who developed operationalization) to oppose its use in disciplines like psychology. Hugs and kisses are not love, and a score on a spiritual transcendence inventory is not spirituality. Because the relationship between the unobserved construct and the observable operationalization is not itself observable, it is in principle not knowable from an empirical perspective, and is thus uncertain. It seems highly unlikely that any of the current operationalizations of important constructs such as “religion” or “spirituality” or their relationships with other variables completely represents all aspects of what they hope to measure. Certainly current operationalizations have been criticized on a number of grounds (Slife, Wiggins, & Graham, 2005), such as the need for measures that take into account important aspects of cultural context (Presser & Stinson, 1998; Sherkat & Ellison, 1999; Kisala, 2003). Thus, PRS studies in the PN tradition do not yield a certain relation to their unobserved topic of interest, nor is there a way of completely correcting this problem using PN methods.

Second, repeatability and reliability require the further assumption that all people will respond to a particular measurement procedure in similar ways, an assumption that is questionable in many circumstances, particularly when using an instrument with people from very divergent cultural backgrounds (van de Vijver & Leung, 1997). Questionable measurement assumptions and procedures such as these make it difficult to interpret findings like the differential response of various cultural groups, for example in studies looking at correlates of religiosity like well-being (e.g., Lavric & Flere, 2008).

Third, because scales are operationalizations designed to test the ideas of an experimenter, there is a danger of circularity--building into the scale the very thing the researcher hopes to find. For instance, the scale used to measure spiritual transcendence in Piedmont et al. (2009) is extolled as a good scale because of its strong reliability. However, the scale (1) has items that assume

practices like prayer or worship have the same meaning regardless of culture or religious tradition, and (2) explicitly reflects an understanding of spirituality that is “very distinct from theological understandings of the concept” (p. 5). The data from the instrument are then used to support the claims that spirituality is (a) invariant across cultures and (b) different from religiousness--in other words, the very thing that was assumed in the construction of the scale. Needless to say, the justificatory power of such an argument seems questionable, yet this illustrates some of the typical problems of PN methodological assumptions. The addition of more methods or questionnaires (cf. Paloutzian & Park, 2005) does not solve this difficulty if these new methods are built on the same problematic assumptions.

Epistemological assumptions

In PN, knowledge consists of abstract propositions that are “naturalistic” and describe lawlike regularities. A lawlike explanation is one that attempts to characterize a phenomenon in abstract terms and point to its regularity. It depicts relations between phenomena as necessary and causal, perhaps offering predictive power (van Fraassen, 1989, pp. 26-38; Armstrong, 1983, pp. 96-99; Rescher, 1970, p. 12; cf. Nagel, 1961, pp. 73-38; Hempel, 1968; Kistler, 2006, pp. 143-144; Mittelstaedt & Weingartner, 2005; Harker, 2008). In the PN view, the propositions are thought to be best if they are universal and independent of context.

PRS research often follows the assumption that looking for invariant, causal relationships should be the focus of investigation. Authors (e.g., Piedmont et al, 2009) attempt to identify “causal relationships” or “causal precedence” between variables (pp. 164-165),. They argue that an invariant definitions fill a “basic scientific need” (p. 175), and that if such a definition cannot be found, perhaps “the numinous should be eliminated from research altogether” (p. 175). True to the invariance valued by PN, only universals appear to matter, and if a particular aspect of religion or religious practice is not a universal phenomenon, it is not worthy of scientific study. This line of thinking rejects the suggestion of Hill and his colleagues (2000) that universal definitions for some terms (e.g., religion or spirituality) are inappropriate or impossible.

Many articles in the field also appear to assume the PN view that investigators are “passive sensors of given facts” (Bhaskar, 1989, p. 51), and that it is possible to examine the world as a completely neutral observer, having a “view from nowhere” (Nagel, 1986). Reviews that emphasize the empirical basis of PRS (e.g., Hood, Hill & Spilka, 2009, pp. 21-53, 477-488) often seem to imply the achievability or at least desirability of scientific objectivity.

The philosophy of science literature has long recognized many problematic features about these PN epistemological assumptions:

1. Scholars who study scientific method and practice reject the idea that all relationships are causal (cf. e.g., Smith, 2007), which means that a primary, if not exclusive focus on causality may lead authors to claim the existence of causal relationships that are not actually supported by their analyses. Authors in PRS frequently recognize this problem by acknowledging that their analytic procedures “cannot prove causality among a set of variables” but then often fail to follow through with this observation and argue that some variables have “a causal impact” on others (Piedmont et al., 2009, p. 170). These types of statements have a further problem in that

they are descriptive rather than explanatory, and so provide little information about why the relationship exists or how it works. Statements of mechanism rather than regularity may be more informative (cf. Wright & Bechtel, 2007; Rodgers, 2010).

2. It is widely acknowledged that even classical natural laws are not universal but are only valid at certain levels of explanation or under certain conditions and circumstances (Mittelstaedt & Weingartner, 2005, p. 176; Fodor, 1991; Chalmers, 2009; van Fraassen, 1980, pp. 124-126; Carrier, 1998). For example, boulders don't have religion, but people do, and so regularities about it function only at the human level. Yet, the contextual particularity of religious and spiritual regularities is rarely recognized in PRS programs of research. It goes without saying, perhaps, that every study or set of studies is relative to a particular population at a particular time and place, yet many researchers discuss their findings as if they are *automatically* generalizable to other populations, times, and places without providing justification for this assumption.

PRS researchers who recognize this problem have used a number of unsuccessful strategies to deal with it. Some investigators acknowledge problems of generalizability, but this is then forgotten as other PRS scholars make use of their work assuming it applies to their subjects. In other words, they merely assume that most populations, times, and places are interchangeable parts, and thus the results produced by one set of "parts" are generalizable to other parts of the world. Other scholars try to avoid the problem by focusing on phenomena that they consider to be universal (e.g., Sinnott, 2001), but this closes the door to research on important topics that do not appear to meet this criteria. Some research (e.g., Piedmont & Leach, 2002) has attempted to correct the problem by including important contextual variables like culture, but while the intent of such work is admirable, it often suffers from methodological problems and fails to meet contemporary standards for cross-cultural research (cf. van de Vijver & Leung, 1997)

In fact, the need for universal definitions and findings is only important if one is bound within the confines of the PN research program. For instance, one could reject the PN universality assumption and consider the possibility that the relationship between religion and spirituality varies from group to group, perhaps individual to individual and era to era. We could ask, for example, whether individuals who are spiritual and religious might have different correlates of their spirituality than those reporting themselves to be spiritual but not religious.

3. Most philosophers of science would reject the idea that detached objectivity is possible. As we have seen, both the practice of science and the interpretation of its data are dependent upon the theoretical presuppositions of the investigator, who is thus inextricably part of the picture. Perhaps the term "fairness" would be a better statement of a realistic epistemic value.

Ethical assumptions.

PN generally takes an *instrumental* view of science, which means that the primary purpose of an inquiry is to increase human power and our ability to pursue desired goals (Nelson, 2009, p. 57). It is assumed in this view that the participants in the research need not directly benefit from their involvement (i.e., they are "instruments"), although they should not be directly harmed by it. The subjects of these studies are means to other ends, such as an increase in predictive power or some attractive outcome like practical clinical applications that might be achieved in the future.

However, PN claims of substantial benefits are often vague about exact nature of these contributions or how they will come about. Past PRS studies in the PN tradition are said to be “amazingly vast, involving high-level research” that “spoke directly to human life” with “myriad sophisticated methods and data-analytic techniques”, providing “the starting point from which the psychology of religion can step forward to make its most important contributions to the science of psychology and to human welfare” (Paloutzian & Park, 2005, p. 4). These are glowing assessments, but what are the actual concrete applications of these data, and how will these applications be made? What is the relationship between the often small amount of variance predicted and the practical significance of the study findings? These tantalizing hints of greater benefits for humanity remain unspecified. Moreover, many scholars have questioned the ethic of treating study “participants” as a means to some other end (Clegg & Slife, 2008). The notion that participants “gain research experience” is sometimes used to justify this form of research, although this hardly seems like an important contribution to human welfare. The point here is not that the PN tradition lacks ethics, but that its research does not appear to be making significant progress toward the important values and goals that it hopes to achieve. Unfortunately, many psychologists may not even know of an alternative to an unrealized instrumentalism. We describe such as system in Section V.

Ontological and metaphysical assumptions

PN has three primary ontological and metaphysical commitments: physicalist monism, individual essentialism, and the Law of Three Stages.

1. *Physicalist monism* is the view that (a) the only real things are material objects and the laws of physics that govern them (Armstrong, 1997, p. 6), and (b) this physical world is organized in a simple, unified, hierarchical fashion, with physical, chemical and biological processes and structures at the foundation. In PRS, this implies that psychological, social, and spiritual processes ultimately and completely depend on these lower-level processes, and thus it is possible to understand phenomena at higher levels on the basis of lower-level processes: psychology can be reduced to physics, and spirituality can be reduced to psychology or biology. Ironically, this also means that PN researchers begin (before conducting any research) by rejecting certain beliefs (e.g. the existence of a non-physicalist God) that are fundamental for many of the religious traditions they are studying (cf. Slife & Reber, 2009).

This assumption seems to be common among contemporary researchers. Kirkpatrick (e.g., 2005, pp. 2-10), for example, has argued that evolutionary theory can provide a single monistic physicalist framework for PRS. Paloutzian and Park (2005) also argue that PRS can be integrated in a common framework with the life sciences, although they also assert that religion is a unique phenomenon, which seems to sit uneasily with their monistic views. Other scholars, however, note that good science may not form grand systems of explanation but rather lots of mini theories appropriate to a particular context (e.g., James, 1996b; Wendt & Slife, 2009; van Fraassen, 1980, p. 87).

2. *Individual essentialism* is the PN position that in the human realm the primary reality is that of the individual. Relationships and group membership may be important but do not make up

what is essential about the human person. Within PRS, this emphasis can be seen in the focus on individual religious behavior, as opposed to the few studies that have been devoted to understanding the activity of religious communities (e.g., Pargament et al., 1983). Individualism is inherent in most PRS work but is more obvious in some lines of research, such as hedonic models of spirituality (cf. Cantor & Sanderson, 1999; Diener et al., 1999). A focus on “spirituality” (defined as an individual activity) as opposed to “religion” (in part a group phenomenon) fits well with this individualistic emphasis (cf. e.g., Sinnott, 2001).

3. The *Law of Three Stages* is the meta-ontological position that the best statements about reality are scientific ones, and that theological or philosophical statements involve more primitive stages of thinking that will eventually be replaced by scientific discourse (Comte, 1998). Logical positivists in the 20th century strengthened the Law of Three Stages and held that any type of metaphysical or ethical statement was nonsensical or merely an expression of emotion. Thus, discussions about ontological or metaphysical assumptions were thought to be unnecessary and empty of content (e.g., Carnap, 1950). This is sometimes referred to as a *deflationary* metaphysical stance.

The Law of Three Stages appears in PRS research in at least two ways. First, there is a general absence of any discussion about philosophical presuppositions. Even basic assumptions required by statistical procedures are rarely addressed, leaving the reader uncertain about the accuracy of the inferences made in the data analysis. Second, there is an apparent reluctance to deal with theological or religious concepts. Studies often attempt to separate themselves from metaphysical or theological concerns, and some journal editorial policies specifically exclude many studies that attempt to grapple with these issues (e.g., Piedmont, 2009).

These ontological assumptions are not problem-free. In fact, a host of scholars have examined these presuppositions (see references below) and identified a number of difficulties:

1. Physicalist monism appears to be inaccurate because complex dynamic systems--such as the human mind and social organizations--have emergent properties that are unique and are not entirely explainable from a knowledge of lower-level laws (cf. Bhaskar, 1989, pp. 63, 77-80; Murphy, 1998). The partial independence of these levels suggests that the program of attempting to unify science around a single theory and method is not realizable (Morrison, 2000; cf. Dupre, 2004; Carrier, 2000; Wendt & Slife, 2009).

2. Individual essentialism is problematic, because the reduction of social constructs to personality variables limits our ability to understand the relational nature of religion and spirituality. Individual essentialism is also not consistent with what we know about the intensely relational nature of human person (Gergen, 2009; Slife, 2004a).

3. The Law of Three Stages causes numerous difficulties for scientific work by creating a problematic blindness toward assumptions and presuppositions (Nelson, 2009; Slife & Williams, 1995)--they are “philosophical” and so not part of “real science”. For instance, all statistical procedures used in psychology make assumptions; normal distribution of variables, linearity of relationships and independence of error terms are common presumptions. Complex procedures and phenomena may have additional or different assumptions, such as multivariate normality.

Violation of these assumptions may lead to inaccurate interpretations of the data. Unfortunately, these possibilities are rarely discussed in PRS reports, and we cannot merely take for granted that these assumptions have been met, particularly for complex spiritual and religious phenomena.

The avoidance of theological constructs appears to offer no benefits and significant disadvantages. If in fact spirituality is a universal phenomenon, it should appear in the world's theologies and religious traditions, and the wisdom of those traditions should be of essential relevance to any understanding of the topic. Practices we study (e.g., prayer) also have a religious or theological meaning that must be part of any full understanding of the behavior. Rejection of this "data" of wisdom seems counter to the empirical and scientific ideal of considering all the data and evidence relevant to answering a question.

Conclusions about PN

There is no question that the PN research program has brought with it some advantages and positive outcomes. First, PN contains within it an optimistic assessment of scientific progress that has motivated researchers to conduct many empirical investigations. This has led to a large body of work and taught us much about religion. Second, the dominance of PN as a general model in psychology as well as PRS has encouraged the application of traditional psychological theories to the study of religion, often with interesting results. These are tremendous achievements that must be appreciated.

Unfortunately as we have seen, the PN program also has a number of serious weaknesses. Its allergy to philosophy and religious thought has hampered our ability to discuss important theoretical issues and presuppositions. This has led to meager development of theory (O'Connor, 1997), problematic study design or data interpretation, and other problems. These weaknesses in PN are seldom recognized in the PRS literature because alternative philosophies of science for investigating religion and spirituality are rarely acknowledged. In other words, PN has essentially been the "only game in town" for the PRS, so its comparative advantages and disadvantages have not been well understood (Slife, Reber, & Faulconer, in press). In order to correct this, in Section V we outline briefly a hermeneutic alternative, which is admittedly too brief to serve as a "how to," but may help prevent the reification of PN as "the only real science" and aid in the understanding of its strengths and weaknesses.

IV. Increasing Recognition of PN Difficulties

As it happens, some scholars and researchers have begun to see the weaknesses of PN and articulated various concerns about that research program (e.g., Browning & Cooper, 2004; Jones & Butman, 1991; Nelson & Slife, 2006; Yarhouse, Butman & McRay, 2005). Authors like Richard Gorsuch (2002a, 2002b) have suggested that the scientific study of religion, particularly if it is conceived from a PN point of view, has important limitations:

1. Science generally expects that information be objectively connected in a public manner so that other scientists may repeat and verify the findings. However, many of the things discussed by religious traditions are inherently non-repeatable events (e.g., religious experiences), and so do not fit well within this methodology.

2. Philosophy (and sometimes theology) can and should have a role in helping psychologists to sort out theoretical issues, as it offers a “big picture” that empirical psychologists often lack.

3. There is a fundamental difference between the nomothetic, “that which can be generalized” and the idiographic, “that which is unique (and therefore not generalizable)” (2002a, p. 50). Science is a process that assists us in identifying the nomothetic, but we live in an idiographic world that requires other approaches for its full understanding and appreciation, such as the arts. Spirituality also assumes that there are valid sources of knowledge beyond science, so that a rigid scientism is misplaced.

A critical discussion that is more sympathetic to the traditional PN framework is that of Hood, Hill and Spilka (2009). They argue that the field’s “status as a science is based largely on its methodology--that is, its use of scientific methods to study the phenomena of interest” (p. 21). Measurement is the crucial issue, how things are operationalized, they tell us “what a researcher means” by a particular term (p. 11). In line with an emphasis on law-like regularities, reliability is prioritized before validity (p. 28), and quality depends on how definitions and studies conform to “certain standards of good measurement” (p. 12). They assume that a “naturalistic perspective” underlies all scientific investigation, even though reductionism risks “sacrificing the richness and depth of the object of study” (p. 25). The metaphysical and epistemological assumptions inherent in this perspective are nowhere discussed.

On the other hand, Hood and his colleagues also see many of the limitations involved in PN. They acknowledge that theory is important to inquiry, and that PRS has largely been dependent on other areas of psychology for theoretical models (pp. 6, 482). They accept the nomothetic-idiographic distinction offered by Gorsuch (p. 26) and appear to argue that ideographic exploration using qualitative and other methods is an appropriate part of PRS, thus trying to avoid some of the reductionism found in PN accounts of religion. However, it is not clear how this embrace of ideographic investigation and methods is consistent with their commitment to naturalism, since the version of naturalism practiced in psychology (PN) involves a commitment to lawlike explanation. The use of qualitative methods without challenging the PN framework does not necessarily produce advantages. Many qualitative methods are underlain explicitly with non-PN philosophies of science (Denzin & Lincoln, 2005; Slife & Gantt, 1999), so that conducting qualitative methods without their respective philosophies of science could undermine their unique benefits.

The critique of PN assumptions within traditional PRS has led to a couple of strategies designed to overcome the weaknesses of the PN program. First, investigators with religious orientations have developed research programs based on traditions such as theism or Buddhist thought (cf. Murphy, 2007; Epstein, 1995; Slife & Reber, 2009b). These types of discussions have more recently tended to be constructive rather than critical, and to focus on personal and professional ways of integrating traditional psychology with religious ideas and practices (e.g. McMinn, Mood & McCormick, 2009; Sandage & Shults, 2007; Mikulas, 2007). However, they largely neglect to build a philosophy of science that could offer a better alternative to the PN program. Second, other scientists have attempted to formulate a new and more adequate philosophy of science for PRS using hermeneutic theory. We now turn to this alternative.

V. An Alternative Research Program in PRS - Hermeneutics

While the philosophical roots of hermeneutics stretch back into the classical period, modern theory is based on the work of a number of Continental philosophers, including Wilhelm Dilthey, H-G. Gadamer and Paul Ricoeur (1992). Some authors see a hermeneutic approach as standing in opposition to PN (cf. Luyten & Corveleyn, 2007), while others see it as complementary, focusing more on the discovery aspect of the scientific epistemological cycle in contrast to the PN focus on verification (cf. O'Connor, 1997). Many hermeneutic ideas resonate with the pragmatic psychology developed by William James (1961, 1996a, 1996b), such as his emphasis on lived experience, as well as his concepts of radical empiricism and a pluralistic universe. Interestingly, pragmatic philosophy is becoming a significant contender outside of PRS as a basis for understanding scientific epistemology (e.g., Almeder, 2007). Hermeneutics also eschews the scientism inherent in the PN approach, which privileges psychology and scientific understanding over its object of study and the wisdom available in religious traditions. Hermeneutics works better with a conceptualization of PRS as a dialogical endeavor, as a dialogical model treats psychology and religion as equal partners who can learn from each other (Nelson, 2009).

In this section, we note the metaphysical, ethical, epistemological and methodological conceptions that are assumed in hermeneutics, and contrast these with assumptions made in PN. We then illustrate how these different assumptions can lead to very different kinds of research on the same topic. This is done by looking at two studies on the God concepts of individuals. We compare a God-image and self-esteem (GISE) study by Benson and Spilka (1973) with a roughly contemporaneous work on God-image formation (GIF) by Ana-Maria Rizzuto (1974). The former study (GISE) is executed from within the PN tradition, while the latter (GIF) is psychodynamic and like many of its type of study fits more within the hermeneutic framework (Vergote, 1997). As a brief introduction, the GIF study describes “the unconscious process of forming, and relating to, the internalized image of God” (p. 88) through a detailed analysis of the case studies of two patients, while the GISE study uses correlational analysis of questionnaire-type data to show that self-esteem is “related positively to loving God-images and negatively to rejecting-impersonal-controlling definitions of God” (p. 306).

Ontological and metaphysical assumptions

Unlike the PN approach, hermeneutic theory begins with an examination of fundamental ontological and metaphysical assumptions before moving to a consideration of method.

1. *Rejection of physicalist monism.* Hermeneutic theorists believe that what is important in the human world is not just material objects or events but the *meaning* that these things have for the people who are involved (de Boer, 1997). Hermeneutic perspectives also typically reject a monistic stance that sees no essential difference between human and non-human aspects of the world. This ontological claim has epistemological implications, as it suggests that the methods of the natural sciences have inherent limitations in the study of the human person (Richardson, 2006). In this sense, PRS researchers cannot exclusively follow the methodology of the natural sciences (*Naturwissenschaften*) but should also look to the human sciences (*Geisteswissenschaften*) for access to a broader set of information sources and theoretical

constructs (Dilthey, 1989, pp. 56-72). Thus, the hermeneutic program generally rejects an exclusive focus on the reductionism and scientism of the PN program (Schneider, 2000; Bhaskar, 1989, pp. 66-67). The hermeneutic program is consistent with the position that procedures from outside science can give us knowledge (cf. Audi, 2003).

2. *Rejection of individual essentialism.* Generally, hermeneutic researchers have a more relational view of the human person than is found in PN. It focuses on people and the context within which they live and develop, and thus is sensitive to sociocultural factors (O'Connor, 1997; Slife, 2005).

3. *Rejection of metaphysical deflationism and scientism.* The Law of Three Stages calls for the elimination of theological or philosophical language and the substitution of scientific thought. The hermeneutics program calls for a different approach. First, ethical and metaphysical assumptions are considered an unavoidable and essential part of the investigator's pre-conceptions and must be understood if research is to be appropriately evaluated. Second, because of the affirmation of pluralism, science is good but scientism is ultimately false, as there are important aspects of the human world that are not reducible to scientific law.

The GIF study broadly reflects hermeneutic positions on these issues. It focuses on meaning of the God-image for each subject, while the GISE study is concerned instead with the relationships between values of operationalized psychological variables. The GIF study focuses on relational issues, attempting to categorize different types of God-images "in the same way in which we describe and categorize different types of interpersonal relations" (p. 88). God can be influential in their lives. On the other hand, the GISE authors assert on the basis of their study that important attitudes toward religion by the subjects are not due to relational processes but can be reduced ultimately to "psychological processes of the individual" (p. 308). Differences can be seen in the amount of time devoted to discussion of theoretical presuppositions between the two papers. The PN study devoted 1/13.5 pages (about 7.5%), while the hermeneutic study had 6.5/16.5 pages (about 39.5%). There was no discussion of assumptions in the GISE study, for instance, whether or not their data met the underlying requirements of the statistical procedures used in the data analysis.

Ethical assumptions

Hermeneutics approaches the ethical foundations of research in several ways. First, issues of fact are not seen as strictly separate from issues of value, so that "facts" cannot be discussed without considering ethical issues. PN argues that these can and should be separate. Second, the purpose of hermeneutic inquiry is to increase understanding rather than instrumental power, as in PN. Finally, hermeneutic research is very participant-centered, with attention to the benefits of the participants along with gains for the investigator, while PN studies tend to be more focused on the goals and needs of the investigator.

The GIF and GISE studies follow these ethical patterns, with the GIF case study discussions touching on the ethical or value implications of the God-image for the participants. The ethical implications of self-esteem in the GISE are nowhere mentioned. The GIF study was conducted in

the context of a helping therapeutic relationship, while no information is provided about how the GISE study is beneficial to participants.

Epistemological assumptions

The hermeneutic research program is based upon a different understanding of the nature of knowledge and how it can be acquired.

1. *Rejection of knowledge as invariant propositions.* Hermeneutics generally holds that (a) some kinds of knowledge can only be represented in a narrative or story format (O'Connor, 1997; cf. Bruner, 1991), and (b) the truth or falsity of proposition about human action are highly dependent on their context, making universality something that is rare or nonexistent (cf. Packer, 1985, 1988). Epistemological strategies like PN that focus on universals may have difficulty understanding the inherent particularity of individual states of affairs and experiences (cf. Armstrong, 1997, pp. 95-112, 123-127; Lewis, 1999, pp. 325-331). The open, narrative product of hermeneutic inquiry—including its inherent critical perspective on assumptions--can be especially valuable as it may help psychologists formulate new questions and hypotheses of interest, strengthening the discovery end of the epistemological cycle which historically has been weak in PRS. It is also particularly oriented to the investigation of certain topics like religious development and experience (Vergote, 1997).

This view is not incompatible with statements by philosophers of science. For instance, Roy Bhaskar argues that epistemologically, while natural science typically involves the study of closed systems with predictable regularities, social scientists investigate open probabilistic systems with multiple determinants, so that it is impossible to perform decisive tests about the nature of objects and their interrelationships. Unlike the situation in natural science, the objects of study in social sciences are constantly changing (Bhaskar, 1989, pp. 79-83, 185-187; cf. Vergote, 1997). The oxygen we study today is likely to be the same as that discovered by Joseph Priestley in 1774, but the contemporary situation of religion and spirituality is certainly different today than it was in 18th century England (Taylor, 2007). Furthermore, natural science is based on external observation of phenomena, while in the social sciences--including PRS--researchers draw upon the self-reports of intentional, self-conscious agents.

2. *Rejection of expert objectivity.* Hermeneutics generally holds that no knowledge is gained from a completely neutral point of view, but depends upon a pre-understanding of ideas and values that offers a beginning point for interpretation (Gadamer, 1989). This is not greatly different than some contemporary points of view about the scientific enterprise (e.g., Ellis & Stoeger, 1996). A number of scholars argue that some kinds of assumptions about objectivity may actually be harmful in the study of the human person. For instance, van Fraassen argues that science as an objectifying enterprise treats the world as composed of objects that have no inherent value, raising the concern that “no objectifying inquiry can reveal what persons are or who persons are among things in the world” (2002, p. 191).

The GIF and GISE studies reflect these differences in epistemological assumptions about invariance and universality. The subjects in the GISE study were 128 male Catholic high school students who considered religion important. While the authors acknowledge that the findings of

their study are “tentative” they nowhere indicate that this very specific sample offers any limitations on their findings. Demographic variables were included primarily as covariates in partial correlational analyses, i.e. the analyses attempted to remove contextual variables as a factor in the model, thus – counter to hermeneutics – attempting to aspire to an acontextual view of the relationship between self-esteem and God-image. Despite this aspiration, the authors of the GISE admit that they “do not provide many details about the relationship” between self-esteem and God-image, particularly at the individual case level, and that “interpreting how individuals actually develop these God-images is difficult” (p. 307).

Assumptions of expert objectivity can also be seen in the GISE study, where the process starts with the investigator’s point of view rather than the subjects. The authors indicate that they want to explain “theorized relationships between self-regarding attitudes and God-images” using “cognitive consistency theory” from personality and social psychology (p. 297). On the basis of these theories, they hypothesized relationships between God-images and two “self-regarding” attitudes: self-esteem and feelings of personal control (p. 298). While all analyses were correlational in nature, including partial correlations and comparing models, the authors felt justified in making quasi-causal statements, such as “self-esteem influences God-images,” even though they recognize that “other explanations of the data need to be investigated, and refuted, in order to maximize the credibility of this position” (p. 306). On the other hand, the GIF study tries as much as possible to see the image of God from the point of view of the subjects, using their language and concepts. The investigator also has a point of view, but it is clearly stated and remains more in the background.

Methodological assumptions

Hermeneutic views of epistemology have methodological implications. As described above, PN research is built around the notion of operationalization, where measures are constructed that fit the epistemology of the methods and advance the agenda (and predictions) of the investigator. The investigator is viewed as an expert in the development of the measurement procedures, while the subjects being studied are thought to have simplistic views of phenomenon under investigation, or be ignorant of the true state of affairs (e.g., Leuba, 1912, pp. 249-256). Reliability and observability are thought to be the fundamental requirements of the measurement procedure, which tends to privilege quantitative approaches over qualitative ones. The result is a study that looks at a state of affairs from the presumably neutral or unbiased view of the researcher.

The hermeneutic approach reverses this picture in two ways. First, the subjects being studied are viewed as having irreplaceable knowledge of the phenomenon under investigation, so that any measurement procedure must make sense from the point of view of those being studied. In practice, this view results in a primary focus on the validity of measurement, and tends to privilege qualitative procedures. The end result is an understanding that emphasizes the subject’s point of view. Results are not thought to be neutral, but to emerge from the prior points of view of the subject and investigator, leading to a new understanding. This process is sometimes referred to as the *hermeneutic circle* (cf. Ricoeur, 1981, p. 93; 1995, p. 240). It provides the possibility of new ideas, enhancing, once again, the discovery aspect of the scientific epistemological cycle.

Subjects in the GISE study were given a 23-item self-esteem scale and a 23-item locus of control scale, and asked single questions about age, grade, and their father's occupation, as well as three questions rating the amount of religious activity in the home. Semantic differential and Q-sort items were given to obtain measures of various aspects of God-image, which the investigators appear to have operationalized as the subject's perceptions of God's qualities or dispositions (e.g., controlling, angry, loving, stern). Reliability statistics were reported for the God-image measures, but no validity information was reported. Variables were considered as single items, but no interaction effects were included in analyses. A key point here is that the subjects could only report aspects of the God-image that they were asked about. In contrast, the GIF interviews asked general questions that allowed the subjects to tell their own story, which could include their own ideas and concepts in addition to those of the researcher.

VI. Conclusions: Needs for Theory in PRS

Good science is progressive, helping us to discover new points of view that remain fallible but have advantages over the previous viewpoints (Rescher, 1982, pp. 100, 172-174, 210-215, 246-247; Mirttelstrass, 2000). However, it is impossible to fully evaluate the rationality and truth value of an individual viewpoint or body of research unless we also understand the underlying assumptions behind the research (cf. MacIntyre, 1977). We believe that the sophisticated tools provided by philosophers of science can help us to understand our tradition, identifying and potentially correcting its problems and limitations.

As a case in point, our conceptual analysis of the PN program in PRS indicates that its assumptions, though advantageous in some respects, nevertheless lead to a number of methodological and interpretive problems. Perhaps most prominently, PN provides no systematic facilitation of the discovery aspect of the scientific epistemological cycle, leading ultimately to little PRS progress. Many other serious limitations with the PN system are only readily apparent in the light of an alternative, such as hermeneutics. Hermeneutics has its own advantages and disadvantages (Slife, 2010), but the predominance of PN calls for at least a new awareness, if not an entirely different way of doing things. A reflection on the problems of PN and alternative possibilities, such as hermeneutics, suggests a number of needed changes:

- Removal of the PN "allergy" to philosophy so that PRS scholars can have open, constructive discussions about important theoretical issues that affect their work.
- Movement beyond the 19th century suspicion of theological and religious ideas so that those in the field better appreciate their object of study and take advantage of the ideas it has to offer.
- Reevaluation of the suitability of an implicit naturalistic law framework for PRS, involving at the least a movement away from trying to describe abstract natural laws toward a focus on contextual and particular mechanisms that can help us better understand the phenomena of interest.
- Recognition that a hermeneutic approach to PRS would overcome some of the problems inherent in the PN research program. Eventually, this would lead to more use of qualitative methods and a strengthened ability for the field to generate its own new ideas.

How might PRS come to grips with these attractive possibilities? While gazing into the future is always hazardous, several possible scenarios present themselves.

1. The field could undertake a deep self-examination leading to broad acceptance of many changes. This is the most desirable but least likely alternative. Psychology as a discipline has shown a remarkable ability to ignore or marginalize the discussion of theoretical and philosophical issues, suggesting that attempts for progress in PRS will not meet with eager acceptance.
2. PRS could totally reject any discussion of these issues and any of the proposed changes. This also seems unlikely, as many scholars recognize the need for new ideas in the discipline, and calls for broader use of qualitative methodologies are increasingly heard at professional meetings and on PRS listserves. The increasing internationalization of PRS will also make resistance to change difficult as scholars from other cultures begin to question traditional Western Enlightenment values that underlie the PN research program.
3. A subgroup of scholars within PRS might recognize the need for reform and undertake changes in their own work, while the mainstream community continues in the old PN tradition. This creation of a new academic sub-community within PRS is similar to how the field has responded to past critiques, as in the creation of Christian professional societies, training programs, and journals in the latter part of the 20th century. This offers advantages, but also can lead to fragmentation in the field and an inability of various sub-communities to learn about and utilize knowledge acquired by colleagues working in other groups.
4. A dialogical pluralism would recognize and support the existence of competing research programs, while at the same time providing means of mutual respect and dialogue (Richardson, Fowers, & Guignon, 1999; Slife & Gantt, 1999). This seems the most likely desirable change outcome, but one that will not occur unless professional structures (e.g. journals, meetings) are created to support dialogue and not systematically exclude scholarship from competing research programs. This must be a high priority of professional societies related to work in PRS.

In both the past and the present, PRS has a tradition of attracting many of the finest minds in psychology to its task. Our hope is that these scholars will recognize the exciting possibilities opened by new ways of doing things and embrace these as we move into a second century in the psychological study of religion and spirituality.

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