

Psychotherapy and Scientism
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At this point in the book, scientism has been conceptualized (chapters ___) and its tenets and products have been critiqued (chapters ___). Our first question in this chapter is relatively straightforward: does this conceptualization and critique apply to the psychotherapy literature? As we will attempt to explain, the answer is affirmative, at least for the vast majority of this research. We also realize, however, that this answer raises another intriguing question: if scientism really is so dominant and so problematic, why is there not some general uprising of dissatisfaction among those attempting to use it in the field? As it happens, there *is* a high degree of dissatisfaction and, perhaps more surprisingly, this dissatisfaction is relatively well known among psychotherapists and researchers of psychotherapy. Scientism just isn't typically viewed as one of the sources of this dissatisfaction.ⁱ

If, however, scientism is an important source of this dissatisfaction, why hasn't the field of psychotherapy identified it long ago and altered course in light of this dissatisfaction? Part of the answer, as we show, is the endemic nature of scientism. Scientism is so ingrained and so embedded in the field of psychotherapy that those who are dissatisfied do not see how it can be constructively addressed. Most researchers and practitioners of psychotherapy perceive no alternative; the dissatisfied have no place to go. We then conclude the chapter by offering a brief sketch of an alternative to the scientism of this literature—methodological pluralism. This pluralism proffers a question-driven rather than a method-driven approach, which we believe is more in keeping with authentic science.

Clarifying Scientism

We first need to clarify scientism generally and then elaborate it for the purposes of the psychotherapy literature. To do so, it is important to understand that the historical formulation of any method of investigation requires the formulator to make certain pre-investigatory assumptions, whether explicit or implicit, about the nature of the world (its ontology) in order to know what features of method (its epistemology) would be the most successful in that world. Subsequent researchers may become less aware of these assumptions as the methods are used over time, but this does not mean the assumptions are no longer involved. Indeed, any time a researcher deploys the methods “correctly,” such as using certain investigation procedures or strategies, the justifications and even guidelines for using these features—their assumptions—are implicit. Scientism, then, is the affirmation of a *particular* set of these method assumptions to the *exclusion* of other method assumptions. This conscious or unconscious narrowing to an exclusive set of method assumptions is what distinguishes scientism from science. As the noted historian of science, Feyerabend (2005), put it: “science is not one thing; it is many; it is not closed, but open to new approaches” (p. 809).

In the case of the psychotherapy literature, we will attempt to describe how the set of epistemological assumptions is the common notion of empiricism: knowledge comes from sensory experience, especially that of visual observation (Slife & Williams, 1995; Slife & Slife, 2014). The particular ontology in this literature is the familiar conception of naturalism: the

natural world is generally governed by natural laws or generalities of varying sorts, such as principles and mechanisms (Kazdin, 2002; Kazdin, 2007). This combination of empiricism and naturalism is sometimes known as logical- or neo-positivism (Aragona, 2013; Barker, Pistrang, & Elliot, 2002), which has its own configuration of assumptions from this epistemology and ontology for psychotherapy research. We outline two general categories of these method assumptions here—lawfulness and dualism—that have spawned particular features or procedures for psychotherapy research, which we also describe.

Lawfulness. The naturalism of neo-positivism assumes that methods should be designed to detect natural laws or regularities (Barker, Pistrang, & Elliot, 2002; Deacon, 2013; Rieken & Gelo, 2015). To accomplish this task, three manifestations or features of method are typically considered vital: generalization, comparability, and causality. Perhaps the most obvious of these features is the significance of generalization and replication. Without this feature, the regularity of natural laws or principles could not be discovered. As a second method feature within the category of lawfulness, natural laws and principles are best detected when the varied phenomena of science are rendered comparable. Comparability allows seemingly different phenomena to be examined for possible similarities of pattern, potentially indicating lawful principles or generalities of psychology. Representing everything in numbers or quantities is an important example of this method feature, because numbers are singularly virtuous in finding patterns across differing research topics and situations. However, other characteristics of methods, such as standardization (e.g., manualization), may also facilitate comparison through minimizing differences and maximizing similarities among groups. As a third feature of method, laws that govern our reality are typically considered causal in nature, so experimental methods should be employed, as often as possible, that identify these causal laws.

Dualism. As a second major assumption of neo-positivist methods, the term “dualism” does not mean the familiar (and derided) Cartesian notion of mind/body. It is, instead, a related characteristic of Cartesian philosophy—the separability of the subjective from the objective—with the objective viewed as the real or truthful. Three method features are frequently manifested in attempting to accomplish this separation: subjectivity avoidance, objectivity as observability, and the translation of the subjective into the objective. First, researchers should be required to separate their biases and mere opinions—their subjectivity—from the objectivity of the real world. This feature is, of course, the familiar notion that subjectivity (bias, values) distorts investigation and should be reduced as much as possible to discern the true and objective world. As a second method feature of this form of dualism, the empiricism of neopositivism often leads researchers to presume that the objective realm of the world is best found through systematic observation. Because empiricism assumes that the sensory experience of vision is the most important pathway to knowledge, visual observation is considered pivotal. Indeed, observation is so pivotal in separating the objective from the subjective that it frequently entails use of the third feature of method—operationalization. This feature basically attempts to translate any phenomena or topics of interest that are not inherently observable into aspects or manifestations that are observable, and thus ultimately objective.

In sum, the method assumptions of lawfulness and dualism frequently lead to six method features. The method assumption of lawfulness tends to spawn the method features of generalization, comparability, and causality, while the method assumption of dualism tends to

manifest the method features of subjectivity avoidance, objectivity as observability, and the operationalization of the subjective into the objective.

Scientism in Psychotherapy Research

But do therapy researchers actually conduct their studies with these method features? We believe that even a cursory examination of this research bears this out, as do existing reviews in this regard (Bishop, 2007; Clegg, 2016; Slife, Reber, & Faulconer, 2012; Slife & Williams, 1995; Slife, Wright & Yanchar, 2016). However, therapy researchers rarely provide the most basic rationale for their method decisions in their articles. Controversial method decisions are, of course, discussed and defended, but an indicator of the pervasiveness and acceptance of the method features described above is that they are rarely discussed or defended; they are simply used. For these features, therapy researchers routinely refer and defer to psychological method texts, which we include here along with examples of the psychotherapy literature, to illustrate scientism in use.

Lawfulness. As one of the preeminent methodologists of psychotherapy, Alan Kazdin (2002), explains: “Broadly conceived, methodology encompasses the procedures and practices of conducting and designing research so that lawful relations can be identified” (p. 12). Or consider Rieken & Gelo (2015): [therapy researchers] “assume that the bewildering diversity of natural phenomena hides simple, eternal laws” (p. 70). In this sense, then, there is little doubt about the value ascribed to generalization. As Ray (2006), for example, puts it: “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). Even the recent “replication crisis”—that it *is* a crisis—is evidence of the importance of lawful phenomena in psychotherapy research (e.g., Christopherson, 2016; Open Science Collaboration, 2015; Russell, 2013).

We use the term “lawful phenomena” here because the term “law” is rarely used in the psychotherapy literature. Rather, the approximation of such laws is commonly sought, whether in the form of a psychological mechanism, principle, or merely the probability of a result pattern generalizing, as in this quote: “Most research has been done within the nomothetic tradition, which emphasizes pooling people together to look for commonalities, rather than the idiographic tradition, which emphasizes individual uniqueness” (Barker, Pistrang, & Elliot, 2002, p. 27). And because such lawful phenomena are frequently understood as causal laws, the seeking and finding of causal or deterministic relations are considered one of the best approximations of these laws: “Mainstream psychotherapy science has long adopted empiricism, reductionism, and determinism. ...the cornerstone of contemporary psychotherapy research is to provide empirical evidence to the efficacy and mechanisms of actions of psychotherapeutic interventions” (Rieken & Gelo, 2015, p. 70).

The psychotherapy literature is also pervaded with features of method that accentuate nomothetic comparison across contexts to find these causal laws, such as randomization, quantification, and manualization (Rieken & Gelo, 2015; Shean, 2013; Weisz, Krumholz, Santucci, Thomassin, & Ng, 2015). This notion of comparability is epitomized by the method of randomized controlled trials (RCTs), as in this quote: “In the context of the increasing popularity of the biomedical model and pharmacological treatments in the 1970s, the NIMH designated the RCT as the

standard method of evaluating psychotherapy and drug treatments” (Deacon, 2013, p. 853). Even when difficulties with these approaches to comparison are acknowledged, their ascendancy is nevertheless affirmed. Consider Lilienfeld et al. (2013) on quantification: “There may well be some truth to the proposition that certain changes in psychotherapy are difficult to measure, at least given presently available instruments. Yet as the great E.L. Thorndike (1940) observed, ‘If something exists, then it exists in some quantity. If it exists in some quantity, then it can be measured’ (p. 19)” (p. 893). Or consider Lilienfeld et al. (2013) on the issue of manualization: “Although psychotherapy training manuals are by no means required for EBP, they are one frequent means of maximizing the chances that practitioners engage in practices that are supported by controlled research” (p. 894).

Dualism. As described in the “Clarifying Scientism” section above, dualism is the neo-positivist method assumption that the objective (real) world can and should be separated from the subjectivity of the researcher. This assumption has spurred, in turn, at least three features of method in psychotherapy research: subjectivity avoidance, objectivity as observability, and the operationalization of the subjective into the objective.

Regarding the first of these, Barker, Pistrang, and Elliot (2002) are quite clear: “The fundamental reason for the development of rigorous research methods is to attempt to minimize biases in drawing conclusions from evidence” (p. 9). Schweigert (2006) is also straightforward: “Scientists look for independent evidence of their claim: objective evidence that does not depend on the scientist’s theory or personal viewpoint” (p. 2). 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 value-free. Schweigert (2006) again clarifies: “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). Even the purpose of measurement is bias minimization: “The key benefit [of measurement] is objectivity, which minimizes subjective judgment and allows theories to be tested” (Aguinis, 1993; Coaley, 2009, p. 4).

The primary, if not exclusive, research path to this value-free, objective world of psychotherapy reality is thought to be through observation. 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). Objective observations, in this sense, are the correctives to our subjective theories. However, not all topics of interest are equally observable, in which case researchers must translate the unobservable into the observable. In other words, psychological researchers “must operationalize” (Furlong, Lovelace, & Lovelace, 2000, p. 63; Krathwohl, 2009, p. 141), and rigorous studies “need” or “require” operationalization (Borg & Gall; 1989, p. 65; Krathwohl, 2009, p. 140) because an operational definition “...gives meaning to a variable....” (Kerlinger & Lee, 2000, p. 43; see also Privitera, 2014, p. 89).

Openness to Alternatives. Recent APA statements concerning evidence-based practices (EBP) have appeared to express greater openness to methods that do not embody these method features, such as some qualitative methods (American Psychological Association, 2006). However, the neopositivist methods that include the features described above are nearly always favored. Wendt and Slife (2007) put it this way: the APA Task Force “fails to understand and value

qualitative research as a different philosophy of science. A clear signal that the Task Force misunderstands and misrepresents qualitative research is its use of the word ‘subjective’ in describing the purpose of qualitative research only. In the midst of a discipline that champions ‘objective’ inquiry, relegating qualitative methods to the ‘subjective’ is a second-class citizenship, at best” (p. 614). As a case in point, consider how Lilienfeld et al. (2013) values RCTs, which embody all of the method features: “It is indeed the case that all else being equal, RCTs occupy a higher stratum in the hierarchy than do other sources of evidence” (p. 893).ⁱⁱ

This “hierarchy” or favoritism toward neopositivist methods is most frequently manifested as a kind of faith in science for all things psychological. In this regard, consider Barak (1995) who exemplifies those who deny that some processes of therapeutic interest are inaccessible to these method features: the “message that there must be factors operating through these processes which are above and beyond what (existing or still to be developed) scientific methods ought and should be able to explore is unacceptable” (p. 309). Few therapy researchers would advocate the use of these methods for advancing knowledge in the humanities, but most would pledge full faith in them when psychologists run into humanities-oriented phenomena in client-care, such as meaning, spirituality, or morality. Consider Barak (1995) again: “None of us...would give up the prolonged scientific struggles to reach full understanding and valid predictions of earthquakes. In principle, the understanding of human character and behaviour is no different. I believe that it is only a question of much time, effort, *faith*, and commitment” (emphasis added, p. 312). It may go without saying that these kinds of faith statements are not themselves empirical. There can be no empirical evidence supporting this statement, because it would be a “boot-strap problem,” a method investigating itself.ⁱⁱⁱ

Rieken & Gelo (2015) aptly sum up the favored method features of psychotherapy researchers when referring to all the characteristics of scientism we have described:

“Mechanization is evident in mainstream psychotherapy research and in the prescriptions of its quantitative methodology...: experimental designs should be ideally used to test models of antecedent causality through the control of confounding variables and the exclusion of possible alternative explanations for the observed behaviors; big samples should be employed in order to allow time- and context-free generalizations of the results; standardized measurement by means of questionnaires and/or rating scales should be used for data collection, with the consequence of the richness of the patient’s subjective experience being pushed into the background in favor of reliable measures of what is supposed to change; and statistics should be employed to describe and analyze relationships among the investigated constructs, so that the general laws governing the observed behaviors may be adequately tested” (p. 74).

Practitioner Dissatisfaction

One might assume that the pervasiveness of these method features, as summarized by Rieken and Gelo (2015), is an indication of their overwhelming acceptance and even popularity. However, this assumption would overlook an important element of dissatisfaction with this research. Indeed, the very people whom therapy investigations are most intended to serve are the least satisfied with it—psychotherapists. The therapy literature is unequivocal about “the

troubled relationship between researchers and therapists” [which has] “been well documented in the literature” (Elliott & Morrow-Bradley, 1994, p. 124). Consider, for example, how Gyani, Shafran, Myles, and Rose (2014) sum up this literature: “The fact that, generally, clinicians prefer to rely on clinical experience rather than research to inform treatment decisions replicates previous studies” (Beutler et al., 1993; Beutler, Williams, Wakefield, & Entwistle, 1995; Morrow-Bradley & Elliott, 1986; Stewart & Chambless, 2007)” (p. 208). Or consider the first-person experiences of Edelson (1994) who is often viewed as representative of many psychotherapists (e.g., Tarvis, 2014): “I wish I could reply . . . by pointing to all the times I have turned to psychotherapy research for answers to the questions I ask myself as I do psychotherapy. To my chagrin, I can point to no instance, not one, where I have done so. I do not believe that, among psychotherapists, I am an exception” (p. 65).

Clearly, if therapy practitioners rarely depend on therapy research, therapy investigators may not be appropriately serving the stakeholders of this research. The next question, of course, is “why?” Why are therapy practitioners so dissatisfied with this research that they do not use it, especially when it is expressly intended for their benefit? In answering this question, it is not uncommon for commentators, such as Barker, Pistrang, and Elliot (2002), to note the positivist philosophy that typically underlies this research: “The positivist paradigm . . . , under which much research is conducted, is seen [by practicing psychologists] as being reductive and simplistic” (p. 27). Such commentators rarely point to scientism per se, but they do describe the features of positivist methods that are so troublesome for psychotherapists. Our limited space prevents a thorough review here, but consider this sampling of dissatisfaction statements in relation to the two categories of method assumptions, lawfulness and dualism, along with the six method features that we described as manifestations of these assumptions.

Lawfulness. Consider first the analysis of Barker, Pistrang, and Elliot (2002): “There is a tension between the scientific stance, which looks for generalities and lawfulness, and the clinical stance, which stresses human individuality” (p. 38). Therapists somehow experience a disconnect between the search for lawful generalities across many research situations and the nature of therapy within an individual situation. Perhaps the most prominent expression of this disconnect for dissatisfied therapists is the *complexity* of therapy: “Claims [of therapy researchers] are in my view misleading and simplistic, and it is this ‘outcome research’ I have a problem with. It does justice neither to the complexity of people’s psychology nor to the intricacies of psychotherapy” (Marzillier, 2004, p. 392). Apparently, the method features that help to make dissimilar therapy phenomena comparable and thus generalizable tend to obscure their complexity: “the delivery of a fixed number of psychotherapy sessions in close adherence with a step-by-step manual, while useful in operationally defining independent variables in an RCT, bears little resemblance to routine clinical practice and is perceived by many clinicians as unduly restrictive” (Deacon, 2013, p. 854).

We should acknowledge here that the metaphysic of positivism does not deny the complexity of nature (or social phenomena). It merely assumes that there are laws “behind” this complexity, and thus the generalizations produced by research should be relevant and ultimately helpful. However, as the complaints of practicing therapists tend to illustrate, the path between the complicated particulars of practice and the simple generalities of research is not easily traversed. Consider Edelson (1994) again in this regard: “I wonder if the conclusions derived from clinical

research are applicable in the ‘contaminated’ situation in which I do psychotherapy, where these conclusions are, at best, approximately true because many things are going on at once and some causes may cancel the influence of others” (emphasis added, p. 64). Indeed, one could wonder if the two types of phenomena—the particulars of practice and the generalities of research—are qualitatively different in many ways: “The important point here is that which particulars present themselves on any occasion depends on a thousand contingencies that enter into that occasion, and perhaps no other occasion. The occurrence of such ad hoc contingent particulars cannot be predicted from general laws” (Edelson, 1994, pp. 65-66).

If Edelson is right, and “contingent particulars cannot be predicted from general laws,” then therapy researchers are routinely gathering knowledge that therapists cannot use. At the very least, the relationship between the generalities of research and the particulars of therapy is not as straightforward as neopositivists would lead us to believe. Unfortunately, the field of psychotherapy rarely discusses the philosophical issues inherent in this relationship. Edelson’s (1994) reference to predictability also points to a similar problem that is rarely examined or discussed, the issue of causality, which is another method feature of lawfulness: “Psychotherapists do not pin their hopes on prediction. When they are interested in causal explanation at all, they are interested not only in what causes what but in how many number of causes combine to bring about an effect by specific means or mechanisms” (p. 69). The upshot here is that many of the dissatisfactions of therapists such as Edelson ultimately find their root in the philosophies of positivism that direct the researcher to formulate their methods to search for law-like phenomena.

Dualism. The second method assumption of the scientism of psychotherapy research is that of dualism, the philosophical assumption that the objective and subjective realms can and should be separated to distill the objective world, which is considered the knowledge base of therapeutic reality. Recall (above) that we singled out three main method features that were manifestations of this dualist assumption: the need to avoid subjectivity (e.g., personal biases, values, opinions) in research, the emphasis on the observable to get to the objective psychological world, and the mandate to operationalize those psychological variables that are not already observable.

Regarding the avoidance of subjectivity, it is not uncommon for psychotherapists to express dissatisfaction with therapy research because of the aspiration of psychotherapy researchers to be as free of values and subjectivity as possible (e.g., Slife, Smith, & Burchfield, 2003). Indeed, many psychotherapists assert that values are an inescapable aspect of psychotherapy. Consider Burns, Goodman, and Orman (2013) in this regard: “We suggest that psychotherapy, despite its long history to the contrary, can no longer be understood as a morally neutral or value-free practice. Many compelling arguments have been made that call psychotherapists to the recognition that psychology is implicitly and inevitably laden with moral assumptions! (Dueck, 1995; Gantt & Williams, 2002; Gantt & Yanchar, 2007; Tjeltveit, 1999)” (p. 2). Or note how Harrist and Richardson (2012) make the same point by emphasizing empirical findings about the value-ladenness of psychotherapy: “. . . numerous research studies on values and therapy over the years confirm that they are anything but value-neutral” (p. 39).

The other method features of dualism—observability and operationism—have also provoked expressions of dissatisfaction. Although these two features can be distinguished in many senses,

they both depend on simplifying ecologically complex phenomena into empirical “variables” that lead us to study only the behavioral manifestations of important phenomena of interest to psychotherapists. As Blatt, Corveleyn, and Luyten (2006) explain, for example, the “richness [of therapy] is often not reflected in empirical studies because researchers sometimes simplify concepts in an attempt to conform to more traditional methodological and theoretical points of view” (Blatt, Corveleyn, & Luyten, 2006). Or consider a similar point from Toomela (2008): “Any study of potentially causal relationships between variables can, at the best case, reveal only causal relationships between external behaviors. But not between the real objects of studies, hidden from direct observation, mental processes” (p. 260).

This situation is, in part, because “the attributes that psychometricians aspire to measure are not directly observable” (Michell, 2000, p. 648). It is also due to the translation or operationalization of the “not directly observable” into an observable operation definition (Slife, Wright, & Yanchar, 2016). As we cited Deacon (2013) (above): “the delivery of a fixed number of psychotherapy sessions in close adherence with a step-by-step manual, while useful in operationally defining independent variables in an RCT, bears little resemblance to routine clinical practice and is perceived by many clinicians as unduly restrictive” (p. 854).

The general upshot here regarding lawfulness and dualism is that there is an intimate connection between these method assumptions and the dissatisfaction of practicing clinicians when attempting to incorporate and apply therapy research. The lawfulness assumption seems to lead to methods and results that minimize, if not preclude, the therapeutic particular and complicated in the favor of the generalizable and simpler. The dualism assumption seems to lead to methods and results that minimize, if not preclude, the value-laden and factors, in Toomela’s (2008) words, “hidden from direct observation” (p. 260) in the favor of value-free and directly observable factors.

Where to from here?

There seems to be considerable evidence—with the psychotherapy literature itself as the data—that at least a portion of the dissatisfaction of therapists with therapy research is due to scientism, the exclusive focus on a particular combination of epistemological and ontological assumptions. Any combination of assumptions can become scientific if other methods assumptions are effectively excluded, either through lack of status or lack of use. However, in the case of the psychotherapy literature a *particular* combination of empiricism and naturalism, commonly known as neopositivism, is the issue. There appears to be a disconnect between these method assumptions (and their method features) and the practice of psychotherapy, making the findings generated through these methods difficult to apply.

This disconnect does not, of course, mean that these assumptions and their associated methods and findings are useless. Indeed, there are many therapists who would attest to their usefulness (Nelson & Steele, 2007). The issue here is the inherent limitations of these methods, like all methods, and thus the need to supplement method assumptions (and method features) for complete knowledge. Lau, Ogrodniczuk, Joyce, and Sochting (2010) describe an example of this situation. When particular therapists were faced with the problems of therapy research just outlined, they “requested more studies that used qualitative and case study methodologies, likely

reflecting their desire for more ‘real’ research—research that gives voices to those who participate in the studies” (p. 180). Qualitative research is a good example of alternative method assumptions because much of this research, when conducted properly, originates from non-positivist epistemologies and ontologies (Gergen, Josselson, & Freeman, 2015; Slife & Melling, 2012).

There is nothing particularly ground-breaking about the use of such “mixed methods.” What is rarely acknowledged, however, is the extent to which each of these methods is grounded in and limited by human-made assumptions of science. Minimally, we believe, this acknowledgement would imply that these assumptions should be more explicated in research publications and considered in their evaluation. Such acknowledgment would also mean that no set of method assumptions, and thus features of methods, can claim preminent status. RCTs, for example, are often considered the gold standard of research design (Deacon, 2013; Lilienfeld et al., 2013), yet from the perspective of a *truly* mixed set of methods, including mixed set of method assumptions, even RCTs cannot be automatically viewed as the best for any particular study or topic area without the explication of its undergirding philosophical assumptions and the justification of its methods and results.

We emphasize “truly” in the previous sentence because mixed methods are too often thought to be merely differing method procedures (e.g., surveys vs interviews, number vs. words), where an actual plurality of methodologies would also imply differing method assumptions. Qualitative studies, in this sense, are too often conducted from the perspective of positivism, where, for example, the researchers still insist on finding law-like and objective results. Instead, qualitative investigations should be understood to originate from, in many cases at least, radically differing assumptions, such as hermeneutics, where the assumptions of lawfulness and dualism are not presumed (Packer, 2011; Slife & Melling, 2012).

Methodological pluralism also implies an openness to other methodologies, perhaps not yet formulated. This kind of method openness would require a reversal of the typical positivist approach to research, where the subject matter that psychologists study must be modified (operationalized) before investigation to fit the reigning method assumptions (e.g., observability). A thorough-going methodological pluralism would first consider the nature of the phenomena to be studied and *then* choose the best method or methods for studying it (Slife & Melling, 2012; Slife & Gantt, 1999). If, for example, there are important aspects of therapy that are “not directly observable,” as some therapists report (above), then methods that do not subscribe to the epistemology of empiricism may be needed.

This pluralistic alternative to scientism may seem complicated, but it is directly analogous to a simple carpenter’s tool box. This tool box typically has a variety of tools (or methods), because few carpenter jobs can be adequately completed with only one. Analogously, complete knowledge of psychotherapy phenomena may require complementary methodologies (assumptions of methods). The advantage of carpenter tools—over the tools of a psychological researcher—is that the limits of carpenter tools are fairly easy to understand and then use appropriately (e.g., hammer for pounding, saw for cutting). Understanding the limits of methodological tools, however—especially if one wants to avoid scientism—requires not only

the knowledge of the method assumptions that spawned them but also the possibility of viable alternatives.

ⁱ Instead, this dissatisfaction is understood either as some failing among psychotherapists to practice in the correct “scientific” manner (e.g., Lilienfeld, 2010; Mumma, 2014; Shean, 2013) or as some inherent problem between science and practice (e.g., Barker, Pistrang, & Elliot, 2002; Deacon, 2013; Ogrodniczuk, Piper, Joyce, Lau, & Sochting, 2010; Sobell, 2016). As we try to show, neither of these reasons is accurate because scientism itself is one root of this dissatisfaction.

ⁱⁱ The problem with the reification of these method features—this *process* of scientism—is that virtually everyone in the field of psychotherapy assumes that science literally *is* this epistemology and metaphysic. It is as if these philosophies really aren’t philosophies at all, or that these philosophies are the only choices available to any self-respecting scientist. Qualitative research is often acknowledged, to be sure, but these methods are frequently viewed as if they originate from the same general philosophies, which itself is another sign of their reification (Slife & Gantt, 1999). Or qualitative methods are treated as if they are merely the generators of hypotheses that quantitative methods must ultimately test. In either case, the reification of method assumptions leads to the notion that qualitative methods are the poor step-children of therapy research, and as such not really or wholly “scientific” (Slife & Williams, 1995; Wendt & Slife, 2007).

ⁱⁱⁱ Another possible justification for the process of scientism in the psychotherapy literature is the notion that these neo-positivist method assumptions and features are somehow empirically supported. In other words, the success of these method features, which we won’t dispute here, has somehow “validated” their exclusive use. As mentioned, however, there is a “boot-strap problem” inherent in this justification (Slife & Williams, 1997), where the antiquated metaphor of straps on one’s boots means that one cannot pull oneself into the air by one’s own bootstraps (Slife & Williams, 1995). The meaning here is that one cannot validate or even support a method by using the method in question. It’s a bit like claiming the validation of the game of monopoly as the best of all games by only playing monopoly. For real validation, other configurations of method features would need to be investigated, and even then the question arises as to which method features would be used for the comparison. And this boot-strap issue says nothing about the literal faith many therapy researchers have in current methods, and thus the faith they have in the philosophies that underwrite them, whether or not the method is successful.

References

- Aguinis, H. (1993). Action research and scientific method: Presumed discrepancies and actual similarities. *The Journal of Applied Behavioral Science*, 29(4), 416-431.
- American Psychological Association. (2006). Evidence-based practice in psychology. *American Psychologist*, 61(4), 271–285. <https://doi.org/10.1037/0003-066X.61.4.271>
- Aragona, M. (2013). Neopositivism and the DSM psychiatric classification. An epistemological history. Part 2: Historical pathways, epistemological developments and present-day needs. *History of Psychiatry*, 24(4), 415–426.
<https://doi.org/10.1177/0957154X13499671>
- Barak, A. (1995). Empiricism, scientism, and sciolism in psychological counselling and therapy: Reaction to Martin. *Canadian Journal of Counselling*, 29(4), 308-313.
- Barker, C., Pistrang, N., & Elliott, R. (2002). *Research methods in clinical psychology: An introduction for students and practitioners, 2nd edition*. West Sussex, UK: John Wiley & Sons.
- Beutler, L. E., Williams, R. E., & Wakefield, P. J. (1993). Obstacles to disseminating applied psychological science. *Applied and Preventive Psychology*, 2(2), 53–58.
- Beutler, L. E., Williams, R. E., Wakefield, P. J., & Entwistle, S. R. (1995). Bridging scientist and practitioner perspectives in clinical psychology. *American Psychologist*, 50(12), 984–994.
- Bishop, R.C. (2007). *The philosophy of the social sciences: An introduction*. New York, NY: Bloomsbury Academic.

- Blatt, S.J., Corveleyn, J., & Luyten, P. (2006). Minding the gap between positivism and hermeneutics in psychoanalytic research. *Journal of the American Psychoanalytic Association, 54*(2), 571-610.
- Borg, W. R., & Gall, M. D. (1989). *Educational research: An introduction* (5th ed.). New York, NY: Longman.
- Burns, J.P., Goodman, D.M. & Orman, A.J. (2013). Psychotherapy as moral encounter: A crisis of modern conscience. *Pastoral Psychology, 62*, 1-12.
- Christopherson, C. (2016, November 11). Tools for progress in psychotherapy research: Society for the advancement of psychotherapy. Retrieved April 11, 2017, from <http://societyforpsychotherapy.org/tools-progress-psychotherapy-research/>
- Clegg, J.W. (2016). Reconsidering philosophy of science pedagogy in psychology: An evaluation of methods texts. *Journal of Philosophical and Theoretical Psychology, 36*(4), 199-213.
- Coaley, K. (2009). *Introduction to psychological assessment and psychometrics*. Thousand Oaks, CA: SAGE Publications.
- Deacon, B. J. (2013). The biomedical model of mental disorder: A critical analysis of its validity, utility, and effects on psychotherapy research. *Clinical Psychology Review, 33*(7), 846-861.
- Dueck, A. (1995). *Between Jerusalem and Athens: Ethical perspectives on culture, religion, and psychotherapy*. Grand Rapids: Baker Books.
- Edelson, M. (1994). Can psychotherapy research answer this psychotherapist's questions? In Talley, P.F., Strupp, H.H., & Butler, S.F. (Eds.), *Psychotherapy Research and Practice* (pp. 60-87). New York, NY: BasicBooks.

- Elliott, R. & Morrow-Bradley, C. (1994). Developing a working marriage between psychotherapists and psychotherapy researchers: Identifying shared purposes. In Talley, P.F., Strupp, H.H., & Butler, S.F. (Eds.), *Psychotherapy Research and Practice* (pp. 124-139). New York, NY: BasicBooks.
- Feyerabend, P.K. (2005). History of the philosophy of science. In T. Honderich (ed.), *Oxford Companion to Philosophy* (pp. 1623-1628). New York, NY: Oxford University Press.
- Furlong, N. E., Lovelace, E. A., & Lovelace, K. L. (2000). *Research methods and statistics: An integrated approach*. Harcourt College Publishers.
- Gantt, E. E., & Williams, R. N. (Eds.). (2002). *Psychology for the other: Levinas, ethics, and the practice of psychology*. Pittsburgh: Duquesne University Press.
- Gantt, E. E., & Yanchar, S. C. (2007). Irreducible ethics: A defense of strenuousness and responsibility. *Journal of Theoretical and Philosophical Psychology*, 27(1), 35–52.
- Gergen, K.J., Josselson, R., & Freeman, M. (2015). The promises of qualitative inquiry. *American Psychologist*, 70(1), 1-9.
- Gyani, A., Shafran, R., Myles, P. & Rose, S. (2014). The gap between science and practice: How therapists make their clinical decisions. *Behavior Therapy*, 45(2), 199–211.
- Harrist, S., & Richardson, F.C. (2012). Disguised ideologies in counseling and social justice work. *Counseling and Values*, 57(1), 38-44.
- Kazdin, A. E. (2002). *Research design in clinical psychology* (4th edition). Boston, MA: Allyn & Bacon.
- Kazdin, A.E. (2007). Mediators and mechanisms of change in psychotherapy research. *Annual Review of Clinical Psychology*, 3, 1-27.

- Kerlinger, F. N., & Lee, H. B. (2000). Survey research. *Foundations of behavioral research*, 599-619.
- Krathwohl, D. R. (2009). *Methods of educational and social science research: The logic of methods*. Waveland Press.
- Lau, M.A., Ogrodniczuk, J., Joyce, A.S., & Sochting, I. (2010). Bridging the practitioner-scientist gap in group psychotherapy. *International Journal of Group Psychotherapy*, 60(2), 177-196.
- Lilienfeld, S. O. (2010). Can psychology become a science? *Personality and Individual Differences*, 49(4), 281–288. <https://doi.org/10.1016/j.paid.2010.01.024>
- Lilienfeld, S. O., Ritschel, L. A., Lynn, S. J., Cautin, R. L., & Lutzman, R. D. (2013). Why many clinical psychologists are resistant to evidence-based practice: Root causes and constructive remedies. *Clinical Psychology Review*, 33(7), 883–900. <https://doi.org/10.1016/j.cpr.2012.09.008>
- Marzillier, J. (2004). The myth of evidence-based psychotherapy. *Psychologist*, 17(7), 392–395.
- Michell, J. (2000). Normal science, pathological science, and psychometrics. *Theory & Psychology*, 10(5), 639-667.
- Morrow-Bradley, C., & Elliott, R. (1986). Utilization of psychotherapy research by practicing psychotherapists. *American Psychologist*, 41(2), 188–197.
- Mumma, G. H. (2014). Bridging the scientist–practitioner gap: Notable progress from one side. *PsycCRITIQUES*, 59(2).
- Nelson, T.D. & Steele, R.G. (2007). Predictors of practitioner self-reported use of evidence-based practices: Practitioner training, clinical settings, and attitudes toward research.

- Administration and Policy in Mental Health and Mental Health Services Research*, 34(4), 319-330).
- Ogrodniczuk, J. S., Piper, W. E., Joyce, A. S., Lau, M. A., & Sochting, I. (2010). A survey of Canadian Group Psychotherapy Association members' perceptions of psychotherapy research. *International Journal of Group Psychotherapy*, 60(2), 159-176.
- Open Science Collaboration. (2015). Estimating the reproducibility of psychological science. *Science*, 349(6251), aac4716-aac4716. <https://doi.org/10.1126/science.aac4716>
- Packer, M.J. (2011). *The science of qualitative research*. New York, NY: Cambridge University Press.
- Privitera, G. J. (2014). *Research methods for the behavioral sciences*. Thousand Oaks, California: Sage Publications.
- Ray, W. J. (2006). *Methods: Toward a science of behavior and experience* (8th ed.). Belmont, CA: Thomson Wadsworth.
- Rieken, R., & Gelo, O.C.G. (2015). The philosophy of psychotherapy science: Mainstream and alternative views. In O.C.G. Gelo, A. Pritz, & R. Rieken (Eds.), *Psychotherapy research: Foundations, process, and outcome* (pp. 67 - 93). New York, NY: Springer.
- Russell, J. F. (2013). If a job is worth doing, it is worth doing twice. *Nature*, 496(7443), 7. <https://doi.org/10.1038/496007a>
- Schweigert, W. A. (2006). *Research methods in psychology: A handbook*. Long Grove, IL: Waveland Press.
- Shean, G. D. (2013). Controversies in psychotherapy research: Epistemic differences in assumptions about human psychology. *American Journal of Psychotherapy*, 67(1), 73–87.

- Slife, B.D. & Gantt, E.E. (1999). Methodological pluralism: A framework for psychotherapy research. *Journal of Clinical Psychology, 55*(12), 1453-1465.
- Slife, B.D. & Melling, B.S. (2012). Method decisions: Quantitative and qualitative inquiry in the study of religious phenomena. *Pastoral Psychology, 61*(5-6), 721-734.
- Slife, B.D., Reber, J.S., & Faulconer, J.E. (2012). Implicit ontological reasoning: Problems of dualism in psychological science. In R.W. Proctor & E.J. Capaldi (Eds.), *Psychology of science: Implicit and explicit reasoning* (pp. 459-478). New York, NY: Oxford University Press.
- Slife, B.D., & Slife, N. M. (2014). Empiricism. In T. Teo (ed.), *Encyclopedia of critical psychology* (pp. 571-578). New York: Springer.
- Slife, B. D., Smith, A. F., & Burchfield, C. (2003). Psychotherapists as crypto-missionaries: An exemplar on the crossroads of history, theory, and philosophy. *About psychology: Essays at the crossroads of history, theory, and philosophy, 55-72*.
- Slife, B.D. & Williams, R.N. (1995). *What's behind the research? Discovering hidden assumptions in the behavioral sciences*. Thousand Oaks, CA: Sage Publications.
- Slife, B.D. & Williams, R.N. (1997). Toward a theoretical psychology: Should a subdiscipline be formally recognized? *American Psychologist, 52*, 117-129.
- Slife, B.D., Wright, C.D., & Yanchar, S.C. (2016). Using operational definitions in research: A best-practices approach. *The Journal of Mind and Behavior, 37*(2), 119-139.
- Sobell, L. C. (2016). Bridging the gap between scientists and practitioners: The challenge before us. *Behavior Therapy, 47*(6), 906–919.
- Stewart, R. E., & Chambless, D. L. (2007). Does psychotherapy research inform treatment decisions in private practice? *Journal of Clinical Psychology, 63*(3), 267–281.

- Stiles, W. B. (2009). Logical operations in theory-building case studies. *Pragmatic case studies in psychotherapy*, 5(3), 9-22.
- Tarvis, C. (2014). The scientist-practitioner gap: Revising “a view from the bridge” a decade later. In S. O. Lilienfeld, S. J. Lynn, and J. M. Lohr (Eds.), *Science and pseudoscience in clinical psychology* (ix-xviii). New York, NY: Guilford Press.
- Thorndike, E. L. (1940). *Human nature and social order*. New York: MacMillan.
- Tjeltveit, A. C. (1999). *Ethics and values in psychotherapy*. New York: Routledge.
- Toomela, A. (2008). Variables in psychology: A critique of quantitative psychology. *Integrative Psychological and Behavioral Science*, 42(3), 245-265.
- Weisz, J. R., Krumholz, L. S., Santucci, L., Thomassin, K., & Ng, M. Y. (2015). Shrinking the gap between research and practice: Tailoring and testing youth psychotherapies in clinical care contexts. *Annual Review of Clinical Psychology*, 11(1), 139–163.
<https://doi.org/10.1146/annurev-clinpsy-032814-112820>
- Wendt, D. C., Jr., & Slife, B. D. (2007). Is evidence-based practice diverse enough? Philosophy of science considerations. *American Psychologist*, 62(6), 613-614.