

Beyond Empirical Validation: Justifying Therapeutic Judgment and Action

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Abstract

Psychotherapy, well and carefully undertaken by competent individuals adhering to certain practice guidelines, while it can and should benefit from scientific research, rests on many other epistemic foundations, some of which are more certain than the necessarily probabilistic outcomes of psychological research. In this paper, a scale of justified belief is presented. This scale rates the degree of certainty of propositions yielded by different sources of knowledge, and thus the confidence with which we may believe and act upon them. Following the presentation of this scale, an analysis of the degree to which each of these knowledge sources enters into the practice of psychotherapy is developed. In the end, what is proffered here is a view of psychotherapy as a distinctly rational and empirical activity whose judgments and decisions rest, not only on scientific research, but on many further secure foundations.

Beyond Empirical Validation: Justifying Therapeutic Judgment and Action

A colleague of mine a few years back was admitted to one of the premier clinical psychology programs in the country. On her first day as a student there, she attended an orientation address delivered by the head of the clinical area. Condensed and paraphrased, this address stated the following position: “We, the clinical faculty, do not believe that you or anyone else should be doing psychotherapy for the next fifty years. Quite

simply, we do not believe that the scientific knowledge base exists for doing so in a responsible and effective manner. Rather, we believe that the next fifty years would best be devoted to clinical research so that at the end of that time we would have assembled a broad array of empirically validated theories and therapies, and would thus be in a position to offer to the public truly scientifically-based forms of treatment.”

The foregoing is a very extreme statement of a general position that, in more moderate form, is widely held by scientifically oriented psychologists. This position has it that only the scientific method can yield truly well-justified knowledge about persons, their disorders, and their effective treatment, and therefore it alone can serve as a secure foundation for the conduct of psychotherapy (American Psychological Association Task Force on Psychological Intervention Guidelines, 1995; Chambless, Sanderson, Shoham, Johnson, Pope, Crits-Cristoph, Baker, Johnson, Woody, Sue, Beutler, Williams, & McCurry, 1996; Grawe, 1997). On this view, further, psychotherapy, characterized typically by a single psychotherapist, acting in the privacy of his or her office, relying heavily on the self-report of clients, and proceeding without any manner of formal measurement or control to guard against personal biases, cannot provide such a foundation. Indeed, in the eyes of some authors, those proceeding without benefit of scientifically established findings may be regarded as “crystal ball gazing” (Wollersheim, 1974) or as engaging in a “mere trial and error” procedure (Barlow, 1993).

However, to a very large degree, practicing psychotherapists *do* rely heavily on knowledge derived from clinical practice in making treatment judgments and decisions. When polled regarding what they read professionally and what works have influenced them most in their practice of psychotherapy, they report that it is the books and articles by clinicians whose knowledge base is primarily or exclusively that of clinical practice (Barlow, 1980; Cohen, 1979; Morrow-Bradley & Elliott, 1993). Historically, this would include countless highly influential and famous psychotherapists such as Freud, Erickson, Yalom, Kohut, Minuchin, and Ellis, as well as their own professional colleagues. Conversely, they do not report substantial reading of the scientific clinical journals, nor that these

have had any great influence on what they do (Barlow, 1980, 1993; Cohen, 1979; Morrow-Bradley & Elliott, 1993). Finally, these practitioners rely on their own therapeutic experience of observed clinical patterns and of interventions that have worked for them in the past, in effect treating themselves and their own experience as reliable sources of procedural knowledge (Morrow-Bradley & Elliott, 1993).

Thus, serious questions are raised. Are psychotherapists justified in behaving as they do? Are they disproportionately trusting information gleaned via their own and others' psychotherapeutic observations to guide their therapeutic judgments and actions? Are they problematically preferring this to knowledge gained by adherence to the scientific method, and thereby (perhaps even unethically) compromising the soundness, quality, and effectiveness of the services they are delivering to their clients?

The central thesis of this chapter is the following: *Psychotherapy, well and carefully undertaken by competent individuals adhering rigorously to certain practice guidelines, while it can and should benefit from scientific research, rests on many other epistemic foundations, some of which are more certain than the necessarily probabilistic outcomes of psychological research.* In the pages to follow, this thesis is developed in two parts. In part one, a “scale of justified belief” is presented. Drawing upon mainstream epistemological thinking (Hospers, 1997; Solomon, 1989), this scale rates the generally acknowledged degree of certainty attributed to propositions yielded by different knowledge sources, and thus the confidence with which we may believe and act upon them. In part two, an analysis of the degree to which each of these knowledge sources enters into the practice of psychotherapy is developed. This paper has its roots in an intellectual framework known as Descriptive Psychology (Ossorio, 1978, 1995, 1997).

Preliminary Considerations

Regarding certainty. Perhaps it goes without saying that “justified knowledge,” whether one is referring to findings obtained via scientific or clinical methods, rarely means *absolutely certain* knowledge. Rather, it covers a range of knowledges varying in the degree of certainty with

which they may be believed. What is implied by the term “justified” is that the level of certainty be such that a person might reasonably and with warranted confidence act on that knowledge.

What is “psychotherapy?” In talking about “psychotherapy” in this paper, I do not mean to designate anything that goes by that name. Like science, psychotherapy can be well or poorly done, can concern itself with trivialities or with truly consequential matters, and can be honestly or dishonestly reported. Therefore, just as one would not hold up the dishonest, conceptually muddled, shoddy, biased, and trivial scientist as a reasonable model for scientists, so I shall not here hold up the psychotherapist beset with the same limitations. Rather, while a fuller portrait of this will emerge in the pages to follow, I will employ as my model the competent, meticulously observant, careful therapist who adheres to certain practice guidelines, and who employs generally accepted rules of evidence in arriving at his or her judgments.

Is science itself “empirically validated?” In this paper, broadly speaking, I will be rejecting the position that empirical scientific validation is the *sole* legitimate justification for therapeutic knowledge, and affirming the position that it is but one epistemic foundation for such knowledge. The third and final reminder here is that precisely the same contention applies to scientific knowledge itself. Science is far from being 100% empirical or “empirically validated,” much of it being logical and pre-empirical in character. For example, consider the following well known but rarely noted facts about science. (1) Scientific *methodology*, what we *do* as scientists, is in its entirety based on *logic* and *not on empirical finding*. No empirical evidence, for example, has ever been adduced (or could be sensibly adduced) in support of propositions such as, “To ensure that treatment X is effective, it is necessary to employ control conditions”; or “To guard against experimenter bias, this investigation requires a double blind control condition.” (2) Science involves and requires *concepts* and *conceptual relationships* (Ossorio, 1981) the propositional articulations of which are all perforce logical tautologies. “A vertebrate is a creature that possesses a backbone or spinal column” states a tautology, as does the Newtonian “A force is any influence that can cause a body to be acceler-

ated” (Hewitt, 1977, p.47). No scientist would do an experiment to support or disconfirm either (what would we make of a reported finding that vertebrates lack spinal columns?). And, no scientist could possibly function in his or her field without possession of its conceptual set: the zoologist lacking the concept “vertebrate” could not discriminate, much less study, real world instances of the concept. (3) Finally, science rests on the employment of valid forms of logical inference. Newton, for example, never *observed* gravity. Rather, he *logically inferred* that, if the acceleration of (and thus the force of gravity upon) terrestrial bodies falling to earth were identical to the centripetal acceleration of the moon moving in its orbit, this correspondence would constitute *logical* grounds for concluding that the forces responsible for these accelerations were one and the same (Berlinski, 2000). It was importantly by virtue of drawing a logical conclusion about the relationship between empirical findings, then, that he made his celebrated claim that gravity extends to the orb of the moon, and indeed to every object in the universe.

A Scale Of Justified Belief

The following scale, developed for purposes of this paper, is relatively noncontroversial and consistent with what most philosophers who study such matters assert (see, for example, Hospers, 1997, pp. 39-128; Pecorino, 2001; Solomon, 1989, pp. 117-271). Ranked from most certain to least certain are propositions yielded by the following sources.

Level 1: Analytic, A Priori Knowledge

Mathematics and logic. True propositions of mathematics, both self-evident (e.g., “ $1 + 1 = 2$ ”) and proven (e.g., “there exist an infinite number of twin prime numbers”) are by common consensus entirely a priori in nature. When true, they are universally regarded as *necessarily* true, and subject neither to rational doubt nor to empirical disconfirmation (Hospers, 1997, p. 133).

Like mathematics, logic in its various forms is by common consensus not an empirical science, but entirely a priori in its structure (Hospers, 1997, pp. 50-59). This is true for (a) propositions that are self-evident-

ly true (e.g., Aristotle's principle of noncontradiction: "Nothing can be both A and not-A"); (b) those that follow deductively from self-evident propositions (e.g., "If all A is B, and all B is C, then all A is C"); and (c) those that are tautologically true by virtue of the fact that the subject of the proposition conceptually implies that which is predicated, and the negation of the proposition would be self-contradictory (e.g., "All bachelors are single").

In general, propositions of the foregoing kinds are regarded as necessarily true and certain. Further, when applied in real world contexts with valid premises, the deductive conclusions of their employment are also regarded as necessarily true. If there are 3 marbles in the box, and 2 more are added, it follows necessarily that there are 5 marbles in the box. If all men are mortal, and if Socrates is a man, it follows necessarily that Socrates is mortal. However, here we must note the stipulation that necessity is upheld *when there are valid premises*. Since such premises will often take us into other, less certain levels of knowledge (especially empirical knowledge), we shall have more to say about them in conjunction with those levels.

Level 2: Empirical Observation and Inductive Generalization

Next in the order of confidence with which we may entertain propositions are those that derive from empirical observation. These include, first of all, reports of unaided sensory observations such as "the apple fell from the tree" and "the cat is on the mat," as well as instrumentally assisted ones such as "the surface of the moon has mountains" and "the cell just divided." Further included here are propositions that report the well-documented empirical observations of others. While these pertain to many areas of life such as history, biography, and news reportage (e.g., "Abraham Lincoln was president of the United States during the Civil War"), an important special case of such propositions are those pertaining to highly established empirical findings of the sciences. "Planets prescribe elliptical orbits about their suns." "DNA is composed of four distinct elements arrayed in a double helix configuration." "Light bends in the vicinity of a strong gravitational field." And so forth.

Notwithstanding its high degree of certitude, the consensus here is that empirical observation contains a distinct element of uncertainty--that empirical observation is not infallible. We mistake Mary for her twin sister Susie. It looks as if there is water on the horizon when in fact it is a mirage. The intoxicated or psychotic individual hears a voice or sees a vision when there is no reality basis for these. In the scientific realm, it is “observed” for centuries that the sun revolves around the earth, that planetary orbits are circular, and that the earth is flat: all of these observations ultimately prove incorrect.

Nonetheless, we assign very high degrees of confidence to propositions arising from empirical observation. Indeed, for the scientist, such observations are universally regarded as the ultimate evidential bedrock for the adequacy of his or her conclusions. Further, though famously questioned by David Hume, we assign such confidence to empirical generalizations that we form via inductive inference from such observations when these prove highly reliable. “Unsupported objects will *continue* to fall to earth.” “Light will *continue* to bend in the vicinity of a strong gravitational field.” And so forth.

Finally in this regard, in addition to assigning high degrees of confidence to propositions arising from empirical observations, we further assign considerable confidence to those that are strongly *deducible* from such observations. Thus, integrating Level 2 with Level 1 knowledge, when we proceed from premises that are empirically sound, and employ valid logical forms of deduction, the products of such argument may be entertained with great confidence. For example, if objects are pulled from a straight line course in the vicinity of a strong gravitational field, then it follows that, if I am a rocket scientist, I must make allowances for this if I wish to send a probe to the far reaches of the solar system.

Level 3: Established Non-probabilistic Scientific Theory

Theories such as those of relativity, evolution, and the Big Bang are by consensus never regarded as closed issues immune from being superseded by newer and more successful theories. Further, they are perceived as having different likelihoods of being successful theories. Thus, evolutionary

theory is currently regarded as very strongly supported by vast amounts of evidence (Gould, 2002), while superstring theory is regarded as far more provisional (Greene, 2002). Accordingly, the theoretical propositions generated by the most established of these scientific theories fall next on our scale of confidence. Examples here would include, “Individuals possessing characteristics advantageous for survival in a given environment will constitute an increasing proportion of their species in succeeding generations,” and “The universe originated billions of years ago with the explosion of a hyperconcentrated matter-energy singularity.”

Level 4: Established Probabilistic Scientific Findings and Theories

Sciences such as psychology, economics, and sociology characteristically issue their findings in probabilistic terms. “The likelihood of the observed association between X and Y being due to chance is less than 5 in one hundred.” “Treatment Z is successful in the treatment of disorder A in 70% of cases.” “On average, although there was a substantial overlap between the two experimental groups, group A exhibited a higher group mean on dependent variable Y than did group B, suggesting that independent variable X has a varying but on average greater effect.” Such being the evidential base, propositions generated by these sciences as discrete findings, as theoretical law statements, and as pragmatic implications are less certain and must always be couched in probabilistic terms: “The secular of a reinforcement will be followed by repetition of the behavior... *with such and such probability.*” “Mary may be treated successfully for her dysthymia with cognitive therapy...*with such and such probability.*”

Level 5: Cultural Knowledge

A less systematic subset of empirically derived knowledge is what may be termed “cultural knowledge.” Derived primarily from a lifetime of observation, I allude here to a relatively standard knowledge, held to varying degrees by most persons in a culture, of such things as the language, institutions, social practices, choice principles, folkways and significances of events in that culture (Ossorio, 1983). Persons holding such knowledge would understand the dominant language of the culture, and would comprehend its institutions such as marriage, the family, the educational

system, religion, and more. They would, further, have a knowledge of the standard social practices of the culture--of how it is appropriate to conduct oneself in a romantic relationship, parental relationship, educational or work setting, social gathering, funeral, religious service, and so forth. Finally, they would have a knowledge of what would count as a violation or a failure with respect to social practices and institutions, and of the significance of same. Thus, they would recognize such things as marital infidelity, neglect or abuse of a child, failures to honor obligations toward others in relational and work settings, irreverence at a funeral or other solemn occasion, and much more as violations and as having certain significances--and they would have terms characterizing persons who habitually behave in such fashion (e.g., "philanderer," "unfit parent," "slacker"). Thus, propositions such as "Sexual infidelity represents a betrayal of the marital relationship," "Abusing or neglecting one's child represents a failure of parenting," and "Failure to implement one's job responsibilities represents dereliction of duty as an employee," although they are *relatively* low on our scale, are all statements that may be made with high degrees of assurance. While they document neither logical conclusions nor rigorously established scientific findings, they nonetheless embody important, well-established, knowledge--indeed, knowledge essential to anyone wishing to live within and to participate in a culture.

Level 6: Anecdotal Generalizations

Propositions based on anecdotal observations fall next to last on our scale of justification. They state non-systematically made empirical generalizations of a single or of a few persons, and lack the strong justificatory basis of the propositional types listed above. Falling into this category are assertions such as, "I've often noticed that people who are initially attracted to their spouses because the latter possess certain characteristics frequently complain later about these very characteristics."

Level 7: Intuition, Hunch, and Impression

Beyond anecdotally based propositions are ones that express intuitions, hunches, impressions, and the like. Since the term "knowledge" conceptually implies a certain degree of assurance that something is the

case, it is perhaps fair to say that propositions based on these epistemic sources cannot be fully accorded the status of “knowledge” (which is not to say that they would necessarily prove without merit on any given occasion). These propositions would accordingly be lowest on our scale of justification when considering them as bases for action.

What Do Competent Therapists Act On?

With the foregoing scale in mind, let us examine the various knowledge bases upon which therapeutic judgments and actions rest, and in doing so the closely related matter of how well justified therapists are in thinking and acting as they do. The reader will have noticed that, on a scale containing seven levels of justification, knowledge derived from psychological science falls on but the fourth of these levels. Thus, it will be argued that, while such knowledge can be invaluable, it is not the most firmly grounded or justified of the bases on which clinicians act.

Level 1: Logical Truths in Psychotherapy

Rigorous clinical thinking, like rigorous scientific thinking, embodies the correct application of valid logical forms of inference and argument. Since one cannot apply what one does not first *know*, this implies that the clinician, like the scientist, must have a strong command of such logical forms. Such knowledge often goes unnoticed and unremarked. A scientist conducts an experiment and reports his or her findings. What goes unnoticed is that the design embodies a pre-empirical logical form: “If between two experimental conditions, everything is held constant except for one factor, and one manipulates levels of this factor, differences in outcome may be attributed to differences in this factor.” Had the scientist not possessed a knowledge of this logical truth, he or she could not even have designed, much less carried out, the experiment performed.

Turning to the clinician, the same applies. If his or her thinking is logical and rigorous, then it presupposes an (at least implicit) knowledge or command of logical truths such as (a) “if p implies q , and q implies r , then p implies r ”, (b) “if all A belongs to (set) B , and all B belongs to C , then all A belongs to C ; or (c) “that all A belongs to B does not imply that

all B belongs to A.” Examples of the *application* of such forms to empirical phenomena will be discussed in the next section. In concluding this section, suffice it to develop one example of logical truths in psychotherapy, and to reiterate the point that, just as the practical business of doing one’s taxes requires a working knowledge of truths that are themselves purely mathematical, so the practical business of doing psychotherapy requires, embodies, and presupposes a working knowledge of truths that are themselves entirely logical.

Some logical truths in psychotherapy. At the heart of the therapeutic enterprise lie a series of truths that, though historically and universally considered empirical, are in fact logical in nature. As psychotherapists, clearly, we are heavily in the business of explaining behavioral disability and of treating it. Indeed, we have come increasingly to define the terms “disorder” and “pathology” in terms of such disability or “dysfunction” (Bergner, 1997; Wakefield, 1992, 1999). Accordingly, we wish to know why our clients are unable to behave or to function in certain ways--to negotiate conflicts with others, to make love, to grieve lost loved ones, to carry on successful romantic relationships, etc.-- and how we might intervene most effectively to address such disability. Historically, we have created numerous theories--cognitive, behavioral, psychoanalytic, systemic, and so forth--to explain such matters and to provide rational bases for proceeding therapeutically. And, we have taken these theories to be empirical much in the manner that Darwin’s or Hubble’s theories were empirical.

However, at the core of the explanatory and remedial enterprises lie two overarching *logical truths*: (1) If the enactment of a given behavior (or set of behaviors) requires something that a person does not have, that person will be restricted in his or her ability to engage in that behavior. (2) That individual’s restriction in ability will be correspondingly ameliorated if this something is acquired (Ossorio, 1985/97; Bergner, 1997).

To clarify the matter of how these propositions are logical and not empirical, consider the following nonclinical example: “Chess involves the game pieces ‘king’ and ‘queen’ (their respective roles in the game,

their move and capture eligibilities, etc.). This proposition qualifies as a logical tautology insofar as (a) the subject of the sentence conceptually implies that which is predicated, and (b) its negation (“chess does *not* involve kings and queens”) is a patently false and self-contradictory statement akin to alleging that “not all bachelors are single.” If more need be said in defense of the logical (vs. empirical) nature of this proposition, we may note that it would make no sense whatever to undertake an empirical investigation into the matter of whether or not chess involves kings and queens. Now, a logical extension of our first proposition: “Therefore, a complete *knowledge of* chess would imply a knowledge of kings and queens.” A second logical extension: “Therefore, if a given individual *lacked* a knowledge of kings and queens, that individual would, by virtue of this deficit, be restricted in his or her ability to engage in the behavior of playing chess.” A final logical extension: “If this individual subsequently *acquired* a knowledge of kings and queens, his or her disability would be correspondingly ameliorated.”

On the present analysis, if one sums up the core of explanation and remediation in psychopathology, and does so by citing those types of factors that historically have been the subject of virtually all theoretical attention, it would seem to come down to the following proposition: “If a given behavior calls for certain *cognitive* wherewithal (knowledge, concepts, beliefs), or certain *skills or abilities*, or certain *motivations*, or certain *biological states*, and a given individual lacks one or more of these to a significant degree, that individual will be restricted in his or her ability to engage in the behavior.” For example, if the behavior of making love requires certain *knowledge and beliefs* (e.g., that it is safe to do so, something that a rape trauma victim might lack), certain *skills*, certain *biochemical and other physiological states* (e.g., functional genitalia or minimal levels of testosterone), and certain *motivations* (as opposed, for example, to the lack of desire characteristic of disorders of desire), and P lacks one or more of these to a significant degree, P will be correspondingly limited in his or her ability to engage in the behavior of making love; further P’s limitation will be correspondingly ameliorated if his or her specific relevant deficits are removed. When we explain in this fashion, and set out

to assist our sexually dysfunctional client by removing or reducing his or her specific deficits, the *framework* we are acting on is logical, not empirical. We do not stand in need of fifty years of research to know that the overall logic of what we are attempting is sound. To be sure, the matters of what precisely may be required for certain behaviors to be enacted and of how we might most effectively intervene to assist our clients are largely empirical matters, but the logical framework is not.

Level 2: Activity Based on Direct Therapist Observation

As the scale of justification above implies, scientific *theories*, being the less certain, must always be anchored in *empirical observation*, the more certain. Newton's theory must be anchored in the fact that the apple fell from the tree, and not the other way about. In the present context, the implication of this is that certain facts about my client -- e.g., that he is here in my office, that he sits leaning forward on the front edge of the chair, that he makes repeated statements of an intensely self-hating nature, and that he expresses despair at the possibility of gaining relief from his longstanding depression -- are all matters of greater certainty to me than any scientific theory. This is so even though I entertain very little doubt with regard to many of these theories.

To a very large degree, competent therapists are thoroughgoing empiricists and operate on the basis of careful firsthand observation. They listen to the content of the client's report. They note verbal nuances contained therein (e.g., the client said "I *think* I still love him, not "I still love him"). When working with couples and families, they observe the consistency of the different members' reports one with another, as well as their actual behavior toward each other. They observe the bodily postures and other metacommunications of clients. They observe the behavior of the individual toward them within the hour, be it attentive, considerate, obsequious, hostile, negativistic, or whatever. They observe disparities (e.g., the client says her marriage is fine and she is not unhappy, but then reports significant problematic behavior on the part of her spouse). They monitor the internal consistency of all of their observations (thus employing, like most scientific verification, a coherency criterion of truth).

Overall, like chess players immersed in a match, competent therapists are carefully observant of the actions of the other person, and base their own behavior on the specific “moves” of this other.

Applied logic in psychotherapy. Level one knowledge, as noted previously, comprises truths (a) that are themselves logically true, such as the truths of mathematics and logic, and (b) that involve the application of valid logical forms to valid premises, most of which will involve empirical phenomena. The first of these--in particular the truths of logic--was discussed above. The second, since it involves the application of these truths to empirical phenomena observed in the therapy hour, takes us into level 2 (empirical knowledge) considerations. Let us discuss this first by simply citing some actual clinical examples.

1. In response to careful probing, a client states: “It is not that I want her back; after all, I left her a year ago; what has thrown me into an incredible emotional tailspin is the thought that she has a new lover and I have now been replaced in her affections.” One of several logical implications here is that this client will be relieved if he believes he has not been so replaced (logic: if A is causing B, and A is removed, B should be correspondingly removed). Strong subsequent evidence showing this was in fact the case resulted in a complete alleviation of this client’s intense turmoil; while hardly an ideal outcome, it nonetheless carries the present point.

2. A bereaved client, speaking shortly after the death of his wife, states: “In losing her, I have lost my whole world.” This statement carries the logical implication that he can currently envision no viable life for himself, and this in turn the implication that (at least in this regard) he sees little point in living (logic: “if p implies q, and q implies r, then p implies r”). This implication, though not stated explicitly by the client, was explored due to its obvious relevance to suicide, and it was determined that the man in fact was experiencing considerable temptation to commit suicide.

3. A client came to therapy reporting an “addiction” to pornography. In exploring his situation, it became clear that he entertained both serious misgivings about his own bodily and sexual desirability, and strong religiously based beliefs that he was sinful and degraded for even harboring

sexual desires. In fantasizing to pictorial materials, he always selected a very wholesome appearing young woman, and created a scenario in which she issued lavish reassurances to him regarding his body, his adequacy as a lover, and his very acceptability as a sexual being. Upon completing each masturbatory episode (often 4 times per day), he reported a sense of strong emotional satisfaction, but one that was soon replaced by a sense of guilt, self-recrimination, and serious doubts about his moral and sexual status. The client's fantasies seemed to the therapist best understood as "accreditation ceremonies" in which an eligible (because pure and wholesome) woman would accredit him as an acceptable, desirable, and satisfying lover. The central thrust of therapy, accordingly, became that of helping this man to accredit himself in these regards, and to realize that his history with women was one that in fact bore ample testimony to his acceptability in all these regards (logic: if the needs for self-regard satisfied by imagined sexual scenarios could be satisfied in some other, more personally acceptable way, the client's resort to fantasied sexual scenarios would diminish or cease). This course of endeavor proved successful in the client's cessation of his excessive pornography use.

It may be noted that situation-specific logical judgments such as these, given their infinite variety, would be impossible to cover with general scientific findings. While it is valuable to know, for example, that cognitive therapy and systematic desensitization are effective forms of psychotherapy for certain problems, such general findings cannot guide us in the making of these countless, moment by moment, highly situation specific judgments that we are called upon to make as psychotherapists. At such moments, clear, logical, on-the-spot thinking is absolutely indispensable.

Examples of the application of logic in psychotherapy could be multiplied ad infinitum. To cite but a few more examples, when clients brand themselves with self-denigrating labels, these often carry logical entailments pertaining to their personal eligibilities in the world. Thus, to believe oneself "irrational" is to appraise oneself as ineligible to render logical, well-grounded judgments and decisions; to believe that one is "stupid" is to appraise oneself as ineligible to tackle anything in life that

would require significant intelligence; to believe that one is “unlovable” implies that one is ineligible for the love of another person. Each of these perceived ineligibilities would be vast in its behavioral implications--i.e., in what persons would feel confident in pursuing and securely maintaining in their lives. Finally in this regard, rigorous clinical judgment involves the avoidance of logically fallacious forms of thinking such as “assuming the consequent” (e.g., that my client’s grief is eased by medication does not necessarily imply that grief is a biologic disorder) or that captured in the proposition, “That all A is B does not imply that all B is A” (e.g., that most abusers have been abused does not imply that most abused persons will become abusers).

In the end, suffice it to say that competent clinical judgment requires the correct application of valid logical forms to empirical phenomena. This is not, of course, to claim that all competent therapists employ impeccable logic on all occasions. It is only to say that logically valid thinking is part and parcel of good psychotherapy, and that when such thinking occurs, and is based on valid premises grounded in careful observation, its conclusions may be held with high degrees of confidence.

Therapists create empirical theories and test them. We enter here into the matter of what competent therapists *do* with their first hand empirical observations, and it should be said before proceeding that doing this necessarily involves both level 2 and level 4 knowledge, and thus a reduction in certainty from pure level 2 knowledge. Aside from a few recent therapeutic approaches that eschew much inquiry into matters of problem description and explanation, the majority of approaches advocate that the therapist formulate diagnostic “hypotheses,” “theories,” or “individual case formulations” (Bergner, 1998; Colapinto, 2000; Persons, 1989; Segal, 1991). Therapists are urged to gather careful observations of their client and, on the basis of these, to formulate a tentative theory regarding (at least) the nature of, and the factors currently maintaining, the client’s presenting problem(s). Such a theory, if it includes a DSM diagnosis, extends well beyond it (e.g., it would contain not only the observation that the client is dysthymic, but a hypothesis regarding *why* he or she is dysthymic). If the therapist succeeds, this theory, like a success-

ful scientific one, is consistent with and ties together all of the observed facts of the case (Bergner, 1998; Persons, 1989; Schact, Binder, & Strupp, 1984). Competent therapists, finally, *test* these theories or hypotheses against further observations. They monitor continually whether further incoming information supports or fails to support them. Most importantly, they undertake interventions based on them and observe the outcome of these interventions. While acknowledging that what they are doing amounts essentially to a single subject AB design that lacks the controls and thus the assurances of a well-conducted experiment, they nonetheless have strong reason to conclude that some positive changes in the client may be due to factors other than their interventions (e.g., the client goes on medications or experiences some very positive life event), while others seem highly connected to their interventions (e.g., after productive work at identifying and modifying core maladaptive beliefs, the client reports relief from longstanding depression, and there is no other plausible causal factor in the picture). If the current formulation and interventions are proving successful, competent therapists maintain the same course of endeavor; if not, they change course and, if the evidence so indicates, gather new data and revise their theories. In any event, careful empirical observation and hypothesis testing are at the very heart of the therapeutic enterprise.

How credible are clients as “subjects?” One of the things one observes directly as a therapist is clients’ self-reports. Although the content of these reports may be directly observed, thus constituting Level 2 knowledge, their accuracy is far less certain. Problems with the accuracy of self-reports have long been a source of concern for researchers and clinicians (Seligman, 1995). Persons reporting about themselves may deceive, may be subject to inaccuracies of memory, may be unaware of relevant factors, may be defensive, may distort their portrayal of reality in socially desirable directions, and may in other ways provide a less than veridical picture of reality.

In assessing how much credence we might place in any given self-report, whether we are acting as researchers or as psychotherapists, we might fairly raise the following questions, all of which were formulated

by the author in his role as an empirical scientist (Bergner, Delgado, & Graybill, 1994). Do the reporting individuals have clear and present reasons to tell us the truth to the degree that they are able, or do they lack such reasons? Do they seem competent, able reporters about the matters in question? Are they willing participants in our encounter, or is their participation given under some measure of pressure or coercion? Do they have any relationship to us that would give them good reason to trust and to cooperate with us? Do they believe that we are acting in good faith, or perhaps deceiving them in some way? Do they view the giving of their report as a fair exchange in which they are asked to make certain efforts and divulge certain matters, and in return will receive something of equal value, or does it seem to them that they are called upon to give far more than they will get in return? Do they view the matters that we inquire about as unfairly invasive or disturbing? Do they have any agenda that is antithetical to the giving of accurate information (e.g., if a psychotherapy client, might the presence of their spouse in the session inhibit them from being honest; if a research participant, do they feel used, deceived, coerced, manipulated, or invaded, and thus disinclined to cooperate)? Finally, if the individual is unable or unwilling for whatever reason to report certain matters accurately, do we have any means at our disposal to detect this?

Let us be clear: in neither the therapeutic nor the experimental situation is there any question of anything approaching certitude with regard to such matters. However, they are worth raising in considering how we may create conditions that maximally assure that both our research participants and our clients give us the best possible information (Bergner et al., 1994). That said, there are strong reasons to conclude that the typical therapy situation is one that embodies many of the favorable conditions stipulated in these questions. Typically, clients initiate psychotherapy voluntarily. They come to it as a rule in very painful and debilitating emotional states (e.g., depression and anxiety), and confronted with serious life dilemmas (e.g., failing marriages, important personal losses). Thus, in most cases they are powerfully motivated to do what it takes to find a solution to their pain and their problems, including providing the

therapist with the best possible information that they can. In most cases, they form positive, trusting, personal relationships with their therapists. Most often, there is no discernible ulterior motive for coming; and when there is, as in the case of a person attempting to placate an angry spouse, to manipulate the legal system, or to secure an insurance settlement, this is often detectable. They view therapy as a fair exchange in which they will receive something of considerable value to them in return for their efforts and expenses. Most clients admit negative things about themselves such as socially undesirable feelings, blameworthy actions, self-loathing, and personal weaknesses, and are clearly not subject to some sort of blanket social desirability motive. In short, while there are exceptions to this picture--some clients do lie, omit important materials, distort reality, and/or fail to observe and report well--in the main therapy clients might be regarded as relatively good “subjects” or “participants” (Indeed, I wish that my experimental subjects, most of whom have been college students, were on average as good). Thus, in the majority of cases, a reasonable degree of credence can be placed in their self-reports.

Levels 2 and 3: Therapeutic Activity Based On Well Established, Non-probabilistic Empirical Findings and Theories.

As noted above, level 2 knowledge includes the well documented, non-probabilistic empirical findings of others (e.g., “DNA is composed of four distinct elements arrayed in a double helix configuration.”), while level 3 pertains to highly supported and established scientific theories, such as the those of relativity or of evolution, whose theoretical propositions are non-probabilistic in nature. At the present historical juncture, it is not clear that any psychotherapeutic activity is based on either of these two sources.

Level 4: Therapeutic Activity Based on Probabilistic Scientific Findings and Theories

Many competent therapists act on the basis of probabilistic scientific findings and theories. They utilize the results both of studies that articulate the intelligibility and/or etiology of clinical problems, and of those documenting the effectiveness (or lack thereof) of various forms of psy-

chotherapy. Further, many conduct their therapies on the basis of empirically supported theories such as the cognitive (Beck & Weishaar, 2000), social-learning (Bandura, 1986), cognitive-behavioral (Wilson, 2000), and attachment (Worden, 2002) theories. For example, many would be conversant with, and would act upon, a body of work that indicates that cognitive therapy for depression, relative to chemotherapy, is likely to provide roughly equal emotional relief but a lower likelihood of either relapse or dropout (Jacobson & Hollon, 1996). The premises for action yielded by these findings and theories, expressed as propositions, are at the present historical juncture always probabilistic in nature: "If I employ exposure therapy X with this phobic patient, research suggests that my probability of being successful is N%."

Level 5: Therapeutic Activity Based on Cultural Knowledge

Psychotherapists, like everyone else, are persons socialized into a culture (and, ideally, are familiar with other cultures in which their clients have been socialized). In the course of their developmental histories, they have learned its language, its idioms, its choice principles, its institutions (marriage, the family, the educational system), its social practices (dating, playing games, taking classes, etc.), its norms for what constitutes appropriate and inappropriate behavior, the normative significances that attach to any given behavior (e.g., what it would mean if one spouse routinely cheated on the other or a parent neglected his or her child), and the dispositional terms that apply to persons who have a tendency to behave consistently in certain ways (e.g., "philanderer," "shy," "aggressive") (Ossorio, 1983). The degree to which this sort of knowledge enters into psychotherapy (and into research) would be difficult to overstate (Ossorio, 1987/1997). Correspondingly, the degree to which *lack* of such knowledge would handicap a therapist would be staggering, a fact that is underscored by our ever-increasing emphasis on multiculturalism in psychotherapy. Acting as a therapist within my own culture, I understand the language of my English-speaking clients. I know their idioms--what it means, for example, when they say that someone "worries twenty four seven" or "is obsessed with climbing the corporate ladder." I know the normative significance if my client says that his or her spouse is having

an affair, or refusing to look for work, or avoiding intimacy. I know my clients' behavior is socially inappropriate (and thereby often maladaptive) if they report such things as constantly exploding angrily at others, boasting about themselves, breaking promises, or exploiting others. Further, as these examples attest, culturally informed therapists know all of this with a substantial degree of confidence. Finally, they know that, without this incredibly vast and rich tapestry of contextual knowledge, they could not begin to understand their clients (Ossorio, 1987/197).

Levels 6 and 7: Therapeutic Activity Based on Anecdote and Intuition

Therapists at times act on the basis of anecdotal evidence and on intuitions. For competent therapists, all ventures initiated on such bases are undertaken tentatively and with a keen observational eye to the outcome of the venture, so that they may withdraw safely from it should it prove off the mark, ineffective, or counterproductive.

Knowledge Types in Psychotherapy That Are Difficult to Classify

Conceptual knowledge. The competent conduct of psychotherapy involves and presupposes *conceptual knowledge*. It requires command of a lexicon of concepts, and in doing so requires knowledge of what is true, not empirically, but by definition. Since my observation has been that this point is widely misunderstood, a brief elaboration seems in order. By common consensus among philosophers, *concepts* are not "truth eligible" (Ossorio, 1978, 1981). That is to say, they are neither true nor false. The *concepts* of "force" or of "vertebrate" or of "helix" are not true or false, and thus are neither "verifiable" nor "falsifiable." Only *propositions* about such phenomena (e.g., "the gravitational force is weaker than the electromagnetic force") can be true or false, empirically verifiable or disconfirmable. When Newton stated that a "force" is "any influence that can cause a body to be accelerated" (Hewitt, 1977, p.47), he was not reporting an empirical finding; he was drawing (indeed, inventing) a distinction that subsequently proved extraordinarily useful in empirical matters. Obviously, one would no more do an experiment to empirically determine if forces accelerate bodies than one would to empirically determine whether

bachelors have wives.

In this regard, the competent and intellectually rigorous therapist must have a strong command of concepts such as “pathology,” “anxiety,” “depression,” “reason,” “preemptive motive,” “avoidance,” “mistrust,” “jealousy,” and countless others *to be able to discriminate, and thus to respond to*, observed states of affairs in clients. Like Newton, whose empirical conclusions required and presupposed his pre-empirical construct system (“force,” “mass,” “acceleration,” “inertia,” etc.), the psychotherapist must have a knowledge of a vast construct system embodying myriad concepts and conceptual relations--must have a vast body of systematic conceptual knowledge. (NB: As in the case of science, it may be noted that what *is* empirical here are which concepts--which of the distinctions one might draw and act upon--will prove most apt and useful [Ossorio, 1981].)

Now, one might fairly object, there seems a drastic fall-off in certainty here from most of the knowledge types discussed above. Notoriously, for example, person A (whether he or she be clinician, research scientist, or both) might have one definition of “mental disorder” or of “anxiety” or of “manipulation,” while person B has quite another. What sort of certainty is *that*? This objection is well taken, especially in a field such as psychology where conceptual confusion and disagreement seem the rule rather than the exception.

However, an important point remains. Conceptual knowledge is a kind of knowledge. Clinicians, like scientists, of necessity possess and act upon a lexicon of concepts. However much disagreement may reign, it is an indisputable fact that persons in general have “construct systems” that, as Kelly (1955) noted half a century ago, constitute the lenses through which they discriminate and interpret reality. While there exists a critical need for psychology to settle on a far more orderly and consistent conceptual system (Ossorio, 1978, 1995), the manner in which this might occur is beyond the scope of this paper. Suffice it to say here that, as in science, so in clinical work, an enormous knowledge base, and one that is involved in the most intimate way in what a given clinician will discriminate and act upon, lies in his or her operative construct system. Thus,

to omit this from our discussion of the clinical knowledge base would represent a very serious omission.

Therapeutic Activity Based on Pre-empirical Prescriptions. Above, it was asserted that psychotherapists do not act on the basis of well-established, non-probabilistic empirical generalizations or theories. In response to this, it is tempting to disagree and to state that there are instances where they do so act. For example, where they see provocation (e.g., a client is clearly being abused, cheated, insulted, or otherwise mistreated), they expect to see anger. Further, they do not see the relationship between the two as one where an observer would sensibly raise the question of whether or not such anger was due to chance: "Upon being insulted, do you suppose that her angry outburst was merely a coincidental chance occurrence?" Thus, the therapist seems to be using a lawlike proposition along the lines of "provocation elicits hostility," and this seems to be an inductively-derived empirical generalization (cf. "frustration elicits aggression").

However, upon closer inspection of how therapists actually think in such circumstances, a different picture emerges. The logic of this thinking has been well captured by Ossorio (1981), and it is to his analysis that we now turn. Since I must introduce an admitted "odd duck" here in terms of a ground for therapeutic action, let me briefly cite as precedent for this a famous example from the history of science. The example is that of Newton's second law and its mode of usage by physicists down through the centuries. This law states in effect that the direction and acceleration of a body will be the resultant of the forces imposed upon that body (Berlinski, 2000). While this sounds like an empirical generalization, it has never in the history of science been treated as such (Ossorio, 1981; Toulmin, 1956). For, should some body *not* accelerate in the direction predicted from the known forces, the physicist will never declare Newton's second law disconfirmed. Rather, he or she will conclude that there must be other operative forces as yet unaccounted for, and may on this basis conduct a search for such forces. The utilization of Newton's law in this fashion, rather than as a disconfirmable empirical generalization, has resulted in countless scientific discoveries over the centuries, such as that

of the planet Neptune in 1848 (Berlinski, 2000; Toulmin, 1963).

What, technically, has Newton provided here if it is not to be considered a disconfirmable empirical generalization? What he has done, in Ossorio's phrase, is to provide a "nonempirical prescription to the effect that the results obtained must be described in accordance with the formula given" (1981, p. 44). That is to say, it is a *prescription* or *directive* to the physicist that says in effect: "In relevant circumstances, *use* this prescriptive formula to explain and/or to predict the phenomena in question."

What has this to do with psychotherapy? Ossorio (1981) has proposed a set of what he terms "emotion formulas," all of which function in a manner identical to Newton's second law. The formula for anger, for example, is the following:

Provocation by O elicits corresponding (i.e., proportional) hostility by P, unless...

1. P has another reason (or reasons) for showing anger toward O or for not showing anger toward O, or...
2. P doesn't perceive O's behavior as the provocation that it is, or...
3. P is unable to express his or her anger in that situation, or...
4. P believes that what he or she did in that situation was a correspondingly hostile response, but in fact it was not, or...
5. some combination of the above states of affairs obtains.

Ossorio, like Newton, is here offering a pre-empirical prescription: "When one observes anger or hostility that is proportional to the provocation observed, that requires no further explanation (the main clause that provocation elicits corresponding hostility holds without exception). When, however, such an angry response is either absent or represents an over-reaction or an under-reaction to the provocation observed, this requires explanation, and one may have recourse to the unless clauses in de-

termining what best fits the observed facts of the case.” This formulation captures well the thinking of competent therapists in the not uncommon therapeutic situation in which clients exhibit levels of anger that seem disproportionate to their circumstances (e.g., they are not angry when they have good reason to be, or extremely angry in circumstances that appear not to warrant this). Relative to its historical predecessor, the simple and now largely abandoned empirical generalization that “frustration elicits aggression,” the formula captures far more adequately the complexities of the phenomena at issue, and does not warrant abandonment in the face of empirical events inconsistent with its principle clause.

Finally, touching upon matters empirical, what was empirical in Newton’s case was the range of effective application of his laws. Events in the twentieth century showed that, while they continued to be highly applicable to large objects (e.g., they are still employed by all space programs), they did not work either for extremely small objects or for those travelling at speeds approaching that of light (Berlinski, 2000). In the same way, the empirical question for Ossorio’s hostility formula would seem to be whether or not there exist domains where, empirically, it does not prove effectively applicable.

The hostility and other emotion formulas are not isolated examples. For an extensive list of such nonempirical prescriptive formulas employed by behavior describers in general, and by psychotherapists as a special class of such describers, see Ossorio (1982/98).

Knowledge derived from clinical practice. Finally, many clinicians base their therapeutic judgments and actions on knowledge derived largely from clinical practice. Since on the present analysis this informational source comprehends all of the knowledge bases delineated above, it is not classifiable in terms of any single one of them. As noted previously, therapists employ heavily reports from other clinicians who have confined themselves to using clinical observation as an informational source and have not undertaken any manner of formal scientific investigation of their conclusions (Barlow, 1980,1993; Cohen, 1979; Morrow-Bradley & Elliott, 1993). Therapists also act on the basis of their own clini-

cal experience (Cohen, 1979; Morrow-Bradley & Elliott, 1993), which on the present analysis is simply a special case of acting on the basis of knowledge derived from the clinical situation. With respect to utilizing these reports and personal experiences as bases for therapeutic action, it must be left to the individual clinician's judgment to determine in what measure the clinical findings provided by any author or colleague (e.g., Shneidman's [1984] conclusions from his treatment of thousands of suicidal patients) conforms methodologically to those described in this paper, and in what measure such conformance assures the credibility that might be assigned to this finding (cf. Cronbach, 1975, on "intensive local observation").

Summary

In this paper, a portrait of the justification of clinical judgment and intervention has been drawn that attempts to detail its many epistemic foundations. These have included knowledge (a) of valid logical forms of argument and inference; (b) of how to apply such logical forms to empirical phenomena; (c) of a system of relevant constructs or concepts; (d) of findings from direct, firsthand empirical observation of clients; (e) of empirical truisms; (f) of how to create and test empirical hypotheses regarding clients' problems; (g) of relevant scientific findings and how to apply these; (h) of cultural institutions, social practices, and behavioral norms; and (i) of ideas based on intuition and anecdotal evidence. On the present view, all of these epistemic sources are indispensable. We simply could not get on successfully if we abandoned, for example, the use of logic or of cultural knowledge or of concepts. Finally, all but the last of these represent epistemic sources that, in the hands of highly skilled, knowledgeable, and meticulous clinicians, may be assigned, albeit at differing levels, substantial credibility. Thus, in the end, a portrait of therapeutic judgment and action emerges that shows such judgment and action to rest, not only on scientific finding, but on many other secure epistemic foundations.

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