

Philosophical Issues in Medicine and Psychiatry, Part IV

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This article, the last in a 4-part series on philosophical problems in conventional and integrative medicine, focuses on problems related to deriving methodologies for identifying integrative assessment and treatment approaches. Methodologies used to verify claims made for a particular conventional or non-conventional approach can be regarded as empirically derived, consensus-based, or intuitive.

I show that conventional and non-conventional approaches are equivalent in terms of verifiability when a postulated mechanism of action cannot be empirically validated but replicable positive outcomes are confirmed. The broad philosophical problem of evidence in medicine can be reframed as the problem of deriving a methodology for determining criteria that can be used to verify assessment specificity or treatment effectiveness in relation to claims of outcomes associated with a particular modality. The conceptual basis of integrative medicine cannot be derived from first principles through analysis of core assumptions because disparate systems of medicine ultimately rest on irreducible metaphysical propositions about space, time, causality, and the nature of phenomenal reality. The conceptual framework of a practical integrative methodology is therefore limited to certain kinds of observable phenomena and measurable outcomes associated with particular assessment and treatment approaches used in disparate systems of medicine.

Disparate empirically derived or intuitive approaches in diverse cultures have led to different understandings of the causes or meanings of illness in disparate systems of medicine. Illnesses regarded as legitimate diagnostic entities in one system of medicine are frequently at odds with accepted diagnostic categories in other systems of medicine. I argue that—within limits imposed by technology, economics, and availability of qualified practitioners—there will be optimum integrative assessment or treatment strategies with respect to particular symptoms. Conceptual, technological, and cultural constraints on efforts to establish integrative approaches depend on the parent system of medicine in which integration is taking place. Because medical practitioners can construct optimum integrative strategies only from the perspective of the system of medicine in which they are trained, all integrative strategies are inherently limited.

Contemporary Research Methods

Using contemporary research methods, the truth of a medical claim can be evaluated based on 2 general kinds of criteria with respect to a specified symptom: 1) accurate, replicable findings; and 2) the verifiability of a postulated mechanism of action underlying a specified assessment or treatment approach.

On this basis, it can be seen that 2 kinds of true and 2 kinds of false claims exist for medical modalities.

In cases where a postulated mechanism of action can be

confirmed by current Western science and correlated with desirable outcomes of a specified assessment or treatment approach, 2 kinds of true claims are possible:

- ▶ a postulated mechanism is *not* verified or verifiable, however, claims are nevertheless supported by replicable, positive outcomes and are, therefore, true claims; and,
- ▶ a postulated mechanism of action is verified or, at least, verifiable, and claims of assessment accuracy or treatment effectiveness are supported by replicable, positive outcomes and are, therefore, true claims.

Likewise, in cases for which a postulated mechanism of action is claimed to be verified or verifiable using conventional Western research methods, 2 kinds of false claims are possible:

- ▶ even though the postulated mechanism is, indeed, verified, claims of assessment accuracy or treatment effectiveness are refuted on the basis of replicable negative outcomes and are, therefore, false claims; and
- ▶ the postulated mechanism is *not* verified or verifiable, and replicable negative outcomes confirm that the claim is false.

Important distinctions exist between methodologies used to verify medical claims depending on whether a particular modality is empirically derived, consensus-based, or intuitive. Empirical methods are derived based on observable phenomena, while non-empirically derived modalities can be regarded as consensus-based or intuitive.

Empirical Evidence in Conventional and Non-Conventional Medical Approaches

It is instructive to compare conventional biomedical approaches and non-conventional modalities for which claims of assessment accuracy or treatment effectiveness are true but which rest on postulated mechanisms of action that cannot be verified using the empirical methods of current Western science. When it is not possible to verify a postulated mechanism of action, claims made by both conventional and non-conventional modalities have equivalent truth-value when replicable positive findings demonstrate that a particular modality is associated with a claimed outcome.

The logical position of such false claims can be contrasted with false claims made with respect to clinical practices that rest on empirically verified or verifiable mechanisms of action—but for which claims of effectiveness are contradicted by consistent negative outcomes. In contrast to most contemporary biomedical approaches, the assumptions on which some non-conventional approaches are based are not falsifiable using the methodology of current Western science.

Because of the category differences (discussed above) among truth claims, demonstrations of the truth or falsity of claimed outcomes are necessarily undertaken in different ways.

With respect to conventional medical approaches, false claims are perspicuously false through verification of the absence of a claimed mechanism of action or a claimed beneficial outcome. In contrast, truth claims of many non-conventional approaches are not verifiable because a postulated mechanism of action is not susceptible to empirical analysis. Because it is impossible to confirm or refute many non-conventional approaches in Western science using contemporary research methods, evaluating claims of assessment accuracy or treatment effectiveness is the only way to determine the degree to which claims are true or false. In other words, the problem shifts from determining kinds of evidence that support claimed outcomes to estimating relative levels of evidence corresponding to claimed outcomes.

From the above argument, it follows that claims of empirically derived modalities can be falsified by demonstrating the absence of a postulated mechanism of action or replicating negative findings for claimed outcomes. An example is use of a bioassay to demonstrate that an herbal medicine's claimed mechanism of action does not take place, thus empirically falsifying the claim. In contrast, claims of positive outcomes for non-empirical approaches (ie, consensus based or intuitive) can be shown to be perspicuously false; however, claims that intuition-based modalities rest on a postulated mechanism of action cannot be categorically refuted by current science because, by definition, the non-existence of the postulated mechanism of action is not possible using contemporary technologies and scientific method. An example is the claim that, based on consistently negative outcomes, Healing Touch is ineffective as a treatment for a particular symptom pattern. In this case, although studies on a particular clinical application of Healing Touch do show consistently negative outcomes, the validity of Healing Touch in general cannot be refuted analytically because, by definition, current Western science can neither confirm nor refute the postulated mechanism of action associated with "energy" healing.

As previously stated, many conventional and non-conventional medical modalities are not substantiated by strong—and in some cases, any—empirical findings. Yet, many poorly substantiated approaches are nevertheless widely used in diverse healing traditions. Such non-empirically derived modalities can be regarded as consensus-based or intuitive. This distinction is important when thinking about how to classify disparate assessment and treatment approaches based on different kinds and levels of evidence needed to construct a methodology for planning clinical integrative strategies.

Consensus-based medical modalities are based on postulated mechanisms of action and continue in widespread use due to historical, social, political, and economic influences on public policy, science, and medicine. Efficacy claims for these consensus-based modalities are made in spite of the absence of compelling evidence for a postulated mechanism of action or for demonstrated causal relationships between outcomes and treatment effects. Numerous conventional drugs and acupuncture protocols are examples of widely used consensus-based modalities.

Much like consensus-based modalities, intuition-based modalities also lack strong empirical evidence. By definition,

intuitive medical approaches rest on shared psychological, cultural, or spiritual beliefs, and are derived from metaphysical assumptions about illness and health that are outside of contemporary scientific understandings. Intuitive medical practitioners embrace a particular belief system and do not claim that mechanisms of action for their modalities are comprehensible using Western analytical methods or scientific theories. Examples of intuitive clinical modalities are energy medicine and healing intention.

Although postulated mechanisms of action for either consensus-based or intuitive approaches do not depend on empirical verification, in some cases conventional research designs provide evidence of apparent beneficial outcomes—ie, many intuitive and consensus-based modalities used in both Western biomedicine and non-conventional systems of medicine are associated with significant and replicable outcomes. As such, this suggests that divergent assumptions embedded in Western biomedicine and non-conventional systems of medicine may have equivalent validity.

In sum, important distinctions exist between methodologies used to verify claims made for conventional versus non-conventional approaches. True claims of effectiveness can be made for modalities that are empirically verified or at least verifiable. In contrast, claims of effectiveness (ie, outcomes) for consensus-based and intuitive approaches can be made irrespective of the absence of evidence supporting a postulated mechanism of action, while claims of intuitive modalities can neither be confirmed nor refuted using the methodologies and technologies of current science. I would contend that conventional and non-conventional approaches based on postulated mechanisms of action that *cannot* be verified by current Western science are equivalent with respect to the kind of evidence supporting their use in cases where claims of assessment accuracy or treatment outcomes are verified to an equivalent degree. On this basis it is reasonable to regard conventional and non-conventional modalities for which the same kind of evidence exists as equally legitimate candidates for a future integrative medicine.

Methodologies in Medicine Will Continue to Evolve

Ongoing advances in science will result in novel explanatory models of complex systems, including new understandings of relationships between immune function and mental health and confirmation of postulated connections between the neurobiological and "energetic" nature of human consciousness. Continued basic research in physics, the life sciences, and information science will influence the ideas, methodology, and clinical modalities of Western medicine as well as established systems of non-conventional medicine.

Historically, significant progress in biomedicine has occurred following the emergence of new ideas in science. It is reasonable to assume that future advances in the basic sciences will continue to shape the perspectives of Western medicine in the same way. Technologies that emerge from future theories of energy, information, space-time, causality, and consciousness will result in methodologies that embody novel ways to observe and measure phenomena related to illness and health.

Future methodologies in Western science will permit the

empirical verification or refutation of some healing approaches currently regarded as intuitive. Similarly, it will become possible to strongly verify certain empirically derived approaches by demonstrating the existence of a postulated mechanism of action or confirming claimed outcomes using novel technologies. Future technologies will permit broader understandings of biological, energetic, informational, and, possibly, spiritual processes associated with both conventional and non-conventional modalities. Claims regarded as legitimate within science will change in the context of evolving theories, methodologies, and technologies, and these claims will guide the future evolution of Western science and medicine.

This process will result in a continuous flux in both the kinds and levels of evidence that can be used to substantiate claims of particular assessment or treatment modalities with respect to a specified symptom or illness. In this way, modalities used to assess or treat a particular symptom will evolve on a continuous basis in the context of changes in theory and research methods that will translate into novel findings.

From Ontology to Nosology

I have suggested that the conceptual basis of integrative medicine cannot be derived from analysis of core assumptions, because disparate systems of medicine ultimately rest on irreducible metaphysical propositions about space, time, space-time, causality, and the nature of phenomenal reality. We are thus limited to certain kinds of observable phenomena and measurable outcomes associated with particular assessment and treatment approaches used in disparate systems of medicine.

In view of this constraint, 2 basic approaches to assessment and treatment planning are possible: Empirical modalities are derived based on observable phenomena, while consensus-based and intuitive methods are established using non-empirical means. Empirically derived methods rest on methodologies that require empirically testable observations of phenomena or empirical confirmation of postulated relationships between phenomena. Disparate systems of medicine use different kinds of empirical methodologies to demonstrate claims of accuracy or specificity for a particular assessment technique or claims of effectiveness for a particular treatment. Empirical methodologies employed by a particular system of medicine are the basis for inferring cause and effect relationships between phenomena associated with illness or health in relation to the assumptions of that system.

The dominant empirical methodology in Western culture is called scientific method—the cornerstone of contemporary biomedicine. The application of scientific method to the analysis of symptom patterns has led to the establishment of an explanatory theory of the causes and characteristics of illness and health that implicitly defines an ontology of symptom patterns, or a set of possible categories of pathology that can have existence according to the theory. The ontology of possible disease entities is translated into what is called a nosology, a schema for the classification of diagnostic categories of actual diseases, according to whatever tenets of Western medical theory are popular during any particular historical period.

Diagnostic categories regarded as legitimate evolve in relation to changes in medical theory pertaining to postulated causes and characteristics of illness. The same evolutionary process shapes conceptual changes that take place in non-conventional systems of medicine, according to constraints defined by the cultural contexts and intellectual traditions in which those systems of medicine originated. A review of the recent history of science illustrates that core tenets of Western scientific method are in a state of continuous evolution in response to emerging research findings and in reaction to political, social, and economic factors. In the same way, core tenets of established non-conventional systems of medicine continue to change in response to research findings and shifting cultural, political, and economic factors.

In biomedicine, there is no single most-validated methodology, but a *mélange* of conventions for “doing science” that are often derived on empirical grounds, but sometimes formulated from expert consensus in the absence of compelling evidence. The same is true of many non-conventional systems of medicine. The result is that beliefs about legitimate categories of illness undergo continuous, gradual, and sometimes dramatic shifts in relation to emerging research methodologies or technologies.

Biomedicine and Western medicine in general consist of both empirically derived approaches and unsubstantiated, consensus-based approaches that continue to change in the context of fluid social and political circumstances. For example, certain disease entities regarded as legitimate in contemporary biomedical nosology are empirically substantiated, while others are based on expert consensus or assumptions about a postulated biological mechanism of action that has not been verified. Disparate empirically derived or intuitive approaches comprise the corpus of medical practices in diverse cultures. This fact has led to differences in basic understandings of the causes or meanings of illness in various systems of medicine. The result has been that illnesses regarded as legitimate diagnostic entities within a particular system of medicine are frequently at odds with diagnostic categories of illness accepted in other systems of medicine.

Conventionally trained physicians regard intuitive approaches employed by non-conventional practitioners as non-scientific or not strictly scientific in the sense that they do not conform to standards of evidence required by contemporary Western science. This view has often led to the dismissal of diagnostic categories in non-conventional systems of medicine before they are empirically examined. Clearly, some established non-conventional systems of medicine employ empirical methodologies that are comparable to the analytic methodologies of biomedicine in terms of internal coherence or methodological rigor. In this sense, important conceptual similarities exist between nosologies derived from disparate assumptions underlying biomedicine and established non-conventional systems of medicine. In sum, diagnostic categories regarded as valid in Western biomedicine are not inherently more or less valid when compared to nosologies of established non-conventional systems of medicine.

“Optimum” Integrative Approaches

Within the limits imposed by medical technology, economics,

and local availability of qualified practitioners, there will presumably be an optimum integrative assessment or treatment strategy with respect to a particular patient and a particular symptom pattern. Assumptions that form the basis of a particular integrative strategy rest on core propositions of the system of medicine in which a symptom pattern is seen and understood. Philosophical, technological, and cultural and personal constraints thus determine the optimum “shape” of a particular integrative strategy.

The integrative assessment or treatment approach that is “optimum” with respect to a particular symptom or illness depends strongly on the historical period, the geographic region, and the technological and cultural milieu. Developing an optimum integrative strategy is driven by accumulating research evidence and changing standards of evidence. When integrative strategies are constructed from methodologies and clinical methods used in 2 or more disparate systems of medicine, the size of the conceptual gap between the respective strategies will vary. During any given historical period, there will be an expectable gap between any 2 or more optimum integrative strategies with respect to a specified symptom or illness. Expectable differences between any 2 such optimum strategies will emerge over long periods of time. Differences between integrative strategies that are regarded as optimum in 2 or more disparate systems of medicine will ultimately depend on differences between the parent systems of medicine in which they originate in the broad context of technological, economic, and cultural factors driving change in the respective systems.

Optimum integrative strategies will be more or less congruent with each other at the level of underlying philosophical propositions, depending on the influences of historical, intellectual, economic, and cultural variables. In different cultures, therefore, optimum integrative strategies evolve on a continuous basis; however, economic and cultural factors will sometimes result in widespread agreement about particular integrative strategies that become regarded as “standard” clinical methods with respect to assessment or treatment of a specified symptom or illness. For these reasons, basic philosophical problems and scientific considerations will probably continue to play a relatively minor role in shaping the evolution of integrative strategies employed in different world regions, and variations in already established integrative strategies will probably define the general course of integrative medicine for decades to come.

Two examples of change in practical integrative medical strategies that are being driven by real-world considerations include the persistence of Chinese medicine as the dominant system of medicine in most Asian cultures and the persistence of biomedicine as the dominant system of medicine in Western Europe and North America. Both trends continue, in spite of compelling scientific and economic arguments in favor of using clinical modalities from other systems of medicine that could reasonably be expected to yield increased assessment accuracy or improved outcomes if applied in conjunction with established modalities in either system of medicine alone.

Conventionally trained physicians and other professional medical practitioners can construct an optimum integrative strategy only from the perspective of the system of medicine in

which they are trained. For this reason integrative strategies will continue to be inherently limited, regardless of the conceptual framework in which they are introduced. Furthermore, it is reasonable to expect that inherent conceptual, technological, and cultural constraints on efforts to establish integrative strategies will be determined by the parent system of medicine in which clinical integration of disparate modalities takes place. These issues are related to the problem of defining criteria for determining practical, optimum integrative medical strategies addressing a particular symptom or illness.

Methodological differences pre-determine legitimate criteria for making practical clinical decisions about including or excluding a particular modality. These differences ultimately reflect different core philosophical assumptions embedded in disparate systems of medicine. Different metaphysical assumptions pertaining to the phenomenal nature of illness and health translate into different criteria for inclusion of particular assessment or treatment modalities as legitimate means for the assessment or treatment of the postulated “causes” of a particular symptom or illness. Rigorous attempts to derive integrative medical approaches in disparate systems of medicine will, therefore, frequently yield non-overlapping strategies because of different assumptions about postulated illness-related phenomena that can have existence and the legitimate ways to obtain information about phenomena.

In other words, disparate systems of medicine employ different conceptual and practical methods to verify claims of the existence of phenomena related to illness or improved health. The ability to measure phenomena related to health, illness, or responses to treatment rests on assumptions about the kinds of phenomena that are knowable and the problem of verifiability of the existence of postulated phenomena and their causal relationships with illness or health. In general, ways of knowing about and verifying illness phenomena used in disparate systems of medicine do not overlap.

As argued above, agreement on a “final” optimum integrative strategy with respect to any particular symptom or illness will not be forthcoming because of basic differences in metaphysical assumptions embedded in disparate systems of medicine. However, it is possible to reconcile noncongruent ontological or epistemological assumptions that inevitably occur when assessment or treatment modalities from disparate systems of medicine are combined. One method for doing so is to derive optimum integrative strategies based on consensus within academic communities in different parts of the world. For example, expert practitioners in disparate systems of medicine could collaborate to develop consensus statements about “best practice” integrative strategies for a particular symptom or illness.

A drawback to expert consensus is that it is based on considerations of theory and research only, often reflects the biases of self-selected experts, and probably overlooks or minimizes the importance of practical economic and cultural considerations in integrative treatment planning. This approach might limit the potential utility of integrative treatment recommendations to cases in which constraints can be readily overcome. At the other extreme, technological, economic, and cultural considerations

could provide the sole or chief basis for determining optimum realistic integrative strategies. In this “real world” model academic research would hold considerably less importance, and, in some cases, would probably not be considered relevant.

A middle-ground approach to developing sound realistic integrative strategies would be based on practical, real-world considerations while acknowledging the importance of formal academic research. I believe this is the most reasonable and realistic way to think about integrative medicine.

A Conceptual Framework for Constructing an Integrative Medicine Methodology

Asking philosophical questions about evidence, causality, and the phenomenal nature of illness ensures that a rigorous methodology will be developed to interpret relevant observations or subjective reports of symptoms. For example, can the hermeneutic methodologies of sociology or anthropology be rigorously applied to psychiatry? How relevant are the discursive approximations of hermeneutics to the verification of a claim in medicine? Do methodologies used in hermeneutics provide an accurate description of what actually takes place in medical discourse—especially biomedical psychiatry, which is a hybrid discipline employing empirical analysis, hermeneutics, and other science-like methodologies? Non-conventional systems of medicine rely more or less on both rational, non-empirical methodologies such as hermeneutics and strict empirical methodologies for showing causal inference.

There is no clear demarcation between the philosophical positions of the eclectic methodologies employed in biomedicine and various non-conventional systems of medicine. Both conventional biomedicine and non-conventional systems of medicine make use of similar empirical and non-empirical methodologies. There are no theory-neutral methodologies in Western medicine or non-conventional systems of medicine. Clinical approaches in biomedicine and non-conventional systems of medicine reflect shared beliefs about the utility of both rational, objective methodologies and non-rational, subjective methodologies for obtaining useful clinical information about the causes and characteristics of health and illness.

To varying degrees, all systems of medicine employ methodologies based on evidence, expert consensus, and intuition in the context of the disparate paradigms in which they operate. The practical advantages and widespread uses of both rational, objective and non-rational, subjective methodologies in medicine argue for the development of a methodology in integrative medicine that acknowledges the limitations of both approaches while incorporating their respective advantages.

Closing Remarks on the Series

In previous installments of this series of articles, I have expanded upon the idea that disparate systems of medicine rest on different philosophical assumptions about the nature, causes, and meanings of cognitive, emotional, and behavioral symptoms, as well as different assumptions about kinds of possible relationships between symptoms and social, cultural, biological, energetic, informational, and, possibly, spiritual factors. Before

addressing issues pertaining to the development of methodologies in integrative medicine, it is first necessary to consider implications of divergent conceptual frameworks, or paradigms, in medicine. Paradigms constructed from coherent sets of assumptions form the basis of all systems of thought, including Western biomedicine and other established systems of medicine.

Finding a suitable and rigorous conceptual framework for thinking about integrative medicine will lead to a methodology for constructing practical clinical integrative strategies. Methodologies for deriving legitimate assessment and treatment approaches in all systems of medicine are inherently limited and biased to the extent that their respective paradigms rest on unique metaphysical assumptions about the phenomenal nature of illness and health. Every system of medicine rests on assumptions about subjective experiences and observable phenomena associated with normal functioning (health) or abnormal functioning (illness). Beliefs about the legitimacy of particular assessment and treatment modalities thus reflect core assumptions embedded in a particular system of medicine. Clinical judgments and beliefs about the operation of a postulated mechanism of action, the accuracy of a particular assessment approach, or the effectiveness of a particular treatment are necessarily made within the paradigm in which the modality is examined and applied.

Assumptions in any system of medicine and methodologies based on those assumptions bias clinicians' judgments about practical assessment and treatment methods. By extension, core assumptions of integrative medicine and a methodology based on those assumptions bias judgments about legitimate strategies for combining disparate assessment or treatment approaches. Given the unfathomed complexity of the body and brain in space-time and the inherent limitations of Western science, it is unlikely that the causes, conditions, or meanings of illness—especially mental illness—will be adequately explained or explainable in the context of contemporary scientific theories. Advances in research designs and clinical methodologies in conventional biomedicine and integrative medicine will eventually confirm some explanatory models of symptom formation while refuting others. Emerging paradigms in physics, biology, and the neurosciences will shape future biomedical and non-conventional assessment and treatment modalities yielding different and more complete understandings of the causes and meanings of illness. This evolutionary process will translate into ongoing progress in practical clinical strategies in integrative medicine.

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