Asclepius and Hygieia in Dialectic: Philosophical, Ethical and Educational Foundations of an Integrative Medicine

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Abstract: In this essay, we posit that modern medicine, in its Asclepian focus, has subordinated the need and importance of Hygieian healing and caring, and in so doing has lost a quality that is essential to medicine, and fundamental to its lasting moral value. We argue that an integrative medicine must be based upon a core philosophical foundation that re-enjoins Asclepian and Hygieian approaches in true conceptual and practical dialectic, such that integration represents a synthesis of these orientations in epistemic, humanitarian and ethical domains.

While we assert that a core philosophy is critical to the development and sustainability of an integrative medicine, such claims remain vacant in the absence of some meaningful attempt to put these concepts into action. We believe that to apply such philosophical foundations, an approach is necessary that simultaneously engages education, research, practice and policy.

This involves not simply studying and co-opting new (or older, more ancient) modalities in a curative paradigm, but represents a paradigm shift that requires and is based upon understanding of, and skills for the application(s) of the most appropriate types of treatment(s) to affect disease, illness and health in a patient-centered model of care.

Keywords: integrative medicine, philosophy, ethics, education, research, policy

Introduction: Medicine Past and Present

In the classical sense, medicine can be considered the science and art of treating persons suffering from injury, disease and illness (Cassell, 1991). The history of medicine reveals that almost universally such treatment can be discriminated into two primary approaches: curative and healing capacities. This first, referred to as the Asclepian approach, is more focused upon causes of disease as targets for intervention. The second, a more cross culturally engrained approach, embraces attempts to promote wellness and/or evoke healing mechanisms within the individual, so as to maintain health or reduce illness. This broadly salutogenic orientation is referred to as the Hygieian approach (Singer and Underwood, 1962).

In this essay, we posit that modern medicine, in its Asclepian focus, has subordinated the need and importance of Hygieian healing and caring, and in so doing has lost a radical quality that is both essential to medicine, and fundamental to its perdurability. Therefore, we argue that an integrative medicine must be based upon a core philosophical foundation that rejoins Asclepian and Hygieian approaches, not singularly or co-optationally, but in true conceptual and practical dialectic, such that integration represents a synthesis of these orientations in epistemic, humanitarian and ethical domains.

Medicine at a Crossroads

Contemporary mainstream medicine, influenced by the Flexnerian revision of the early 20th century, and a progressively technologic imperative, has become reductionistic and in so doing has wed biotechnical expert knowledge and the technophilic incentives for time- and cost-efficiency to the Asclepian model. We cannot ignore that this approach has been both viable and successful in the elimination or treatment of several acute diseases (Rosen, 1958).

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The very success of curative medicine has made evident its limitations, if not frank failures. Thus, the persistent problem is that the curative capability of medicine will always be asymptotic; simply, everything cannot be cured. In light of this, then, the success of modern medicine can be more realistically viewed as a decrease in disease mortality. Yet this success has produced an increase in the prevalence of chronic disease and longitudinal illness in an aging population. The complex and multi-componential nature of chronic disease, and the individual, highly variant expression of illness is refractory to the curative medical approach (Morris, 1998). Our current understanding of biological organisms demands that we view the patient not simply in generalized terms as a wholly reducible body, but as an embodied, uniquely interacting system of genomic, phenotypic, environmental, experiential and phenomenal elements, thereby reinforcing the individuality of the person who is expressing a particular disease as illness (Svenaeus, 2000; Giordano, 2006). Paradoxically, however, the technologic mindset that has led to this revised view of persons has also fostered reliance upon speed and sub-specialization that has created considerable de-personalization within a 'turnstile' system of medical care (May, 2003).

Furthermore, the technological imperative has spawned a pervasive cost-centered agenda which, when coupled to such turnstile practices, has solidified market effects within medicine to promote commodification and a growing profit-oriented business ethos. The co-development of this business model of medicine (and its attendant ethos and ethic) and the current third party payer system (in the United States) has created considerable inequities in health care distribution and provision, and generated widespread dissatisfaction in the nature and conduct of contemporary medicine, both among patients and the clinicians who care for them. In light of this, we maintain that medicine has reached a point at which it must confront numerous social forces and re-examine its purpose, problems and potential.

Health, disease, and illness are complex phenomena and no single model of medical care can fully accommodate this spectrum of human existence. To be sure, curative and healing models have a place in medical practice, and in this sense the concept of an integrative medicine is most broadly, yet best construed. This is practical not only at the level of the individual clinical encounter, but also for medicine as a social good. For such a construct of integrative medicine to be realized, a system-wide revision in medicine- as practice and culture- must occur. We posit that a first step is a re-grounding of medicine as a humanitarian endeavor, so that technology and applied science are focused upon the primacy of patient benefit, rather than ends of profit or time constraint. At the root of this change is the need to define medicine in ways that explicate its intellectual, practical and moral dimensions. One way to approach such change is through clarification of the goals, or ends that medicine seeks, or should seek in the future.

From Disease- to Health-Focal Orientations

The World Heath Organization (WHO; 1948) has stated that the goal of medicine, as most widely configured in curative and healing capacities, is "health"; but this begs the question of how health is defined, and whether this definition represents a sufficiently specific construal. Kass (1981) defines health as the "…well-working of the organism as a whole…" (p 18) thereby reducing some of the vagary of the WHO's statement. However, Kass's definition evokes further speculation as to what such "wholeness" involves both on the part of the patient, and the types, nature and extent of medical practices that are needed to produce or sustain it. Kass's definition implies that wholeness involves the effective function and interaction of numerous substrates, both within the individual, and between an individual organism and a host of external environmental variables. We believe that given the WHO and Kass's operational definitions, this holism can only be achieved through those approaches that necessarily do not adopt a reductionistic focus. In other words, if the goal of medicine is health, and health is the well working of an organism as an integrated whole, then an integrative approach to medical evaluation and intervention clearly represents the ideal paradigm toward achieving the stated goals.

Engel's (1977) notion of a bio-psychosocial medical model engages the interacting dimensions that are contributory to such a definition of health and therefore can be seen as a viably integrative medical model. Using this approach, it is easy to recognize that although our common biology is fundamental to human (and perhaps higher mammals') existence, that same biology is the

basis for genotypic variation, differential expression of various phenotypes, susceptibility to and effects of epigenetic interactions that produce considerable individual variation in function, and perhaps structure on both micro and macro levels. Moreover, the perpetual interaction of genotype and phenotype with myriad environmental experiences across each person's lifespan establishes distinctions in neural organization of the brain to affect the cognitive experience of illness in ways that evoke subjective difference(s) in each person (Edelman, 2006; Giordano, 2006a). Therefore, it can be seen that the psychosocial dimensions of Engel's model are equally integrative, and reflect considerable individuation. In the strictest sense, Engel's model provides a working framework of *what* an integrative medicine must consider as its substrate, but does not explicate the bases or processes that would meaningfully depict how the practice is to be enacted, and/or how these substrates might define and direct the proper conduct of medicine as *both* applied science and humanitarian enterprise.

A Core, Grounding Philosophy of Integrative Medicine

Given that we accept Engel's model of health, and the respective focus of medicine, we must still ask what premises, ends and therapeutic and moral affirmations any such integrative medicine would require to sustain both its technical competence and humanitarian and ethical worth. To successfully answer this question, we opine that a re-examination and re-embrace of a core philosophy of medicine is required. Such a philosophy of medicine is more than just a set of stated goals and purposes, and we agree with Pellegrino (1998) that the essence of medicine is identifiable, and provides the basis for such philosophy. For Pellegrino, while an aim of medicine is the restoration of health, a concomitant and more proximate focus is the primacy of the patient's good on biomedical, humanistic and existential levels, and these can be supported philosophically (Pellegrino, 2001).

The "work" of any philosophy is to delineate and discuss—if not define—the epistemological, anthropologic, and ethical (and perhaps metaphysical) dimensions of a field (ten Have, 2000; MacIntyre, 2006). We believe that an integrative medicine is equally served by, and should be consistent with each of these dimensions. This establishes a common ground upon which particular perspectives and the immediate goals of practice (that is its subspecialties, distinct therapeutic approaches or systems of healing) may be built. Thus, while perspectives and orientations (i.e.- *doxa*) to the processes and techniques that are employed in treating patients may differ, a core philosophy ensures that their fundamental purpose, and moral obligations of knowledge, competence, and intention are uniformly consistent and capably maintain the medical fiduciary (Giordano, 2006b).

Epistemic Domains

The epistemological domain is concerned with those intellectual virtues and types of knowledge that foster the ways of knowing and understandings that are critical to the practice of any form of medicine. A thorough discussion of such knowledge and intellectual virtues is provided by Davis (1997) and Giordano (2006c). Briefly, this knowledge can be summarized into major strata. An underlying, rational and relational knowledge of the natural world is obviously essential given that the focus of medicine is upon curing and healing natural organisms (namely humans and animals, as we do not limit the concept of an integrative medicine solely to human medicine, but recognize its viability in veterinary practice, as well). Similarly, a technical understanding of specific fields germane to medical practice, as relevant to and supported by an understanding of the natural world, allows a focused application of intellectual understanding upon these systems of physiologic function, disease, and possible manifestations of illness. Such knowledge is esoteric, and to become realistic must be utilized within the actual situations in which the uncertainties and ambiguities of individual circumstances occur. Empirical knowledge must be contextually focused in order for the generalizations of technical understanding and repetitive experience to be specific to the clinical encounter between clinician and patient. But every clinical encounter is unique in that no two patients are identical, and each patient changes over time (Leder, 1990). Thus, the various forms of knowledge must be applied within the calculus of agents, acts and potential consequences so as to empower clinical decision-making that is not simply technically competent, but is equally consistent with the moral obligations that are ascribed and essential

to the practice of any form of medicine (Pellegrino and Thomasma, 1993).

Anthropologic Domains

From this it becomes evident that the epistemic dimensions support the anthropologic (humanitarian) work as defined by this core philosophy of medicine. The humanitarian aspects of medicine are intrinsic to the fact that clinician and patient exist in a relationship of trust, and this relationship is invited and sustained by the clinician's act of profession- the public declaration that he/she possesses the knowledge, skills and caring capabilities to treat the patient, as literally "the one who suffers" (Pellegrino and Thomasma, 1981; Cassell, 1991). Implicit to this is that the profession of healing must be informed by scientific knowledge that is contemporary and progressive, but it must also be sensitive to the subjectivity of suffering, so as to apply knowledge and skill in those ways that ideally meet each patient's individual medical needs (Svenaeus, 2000) . This is the basis of medicine as *tekne*- an act that combines the rigor of skill and abstractness of art, and which is by definition integrative, at least in the ideal (Aristotle, 1999). To be sure, if an integrative medicine is to be realized, it must not only utilize distinct and interactive forms of knowledge, but must do so in ways that equally de-construct the silos of intellectual (and political) parochialism to become more epistemically and pragmatically open to the importance of, and requirements for distinct forms, types and perspectives of therapeutic care. We have argued elsewhere, and re-iterate here the viability and need for using differing perspectives of health and healthcare—a heterodox model—to maximize patients' best interests on biomedical and humanitarian levels (Engebretson, 1998; Giordano et al. 2005). But while perspectives and the orientations, scope, specific techniques and even ideologies of particular disciplines may differ, we call for a common philosophical base that firmly grounds established epistemic dimensions, anthropologic applications and ethical obligations for any/all medical practice as an endeavor encompassing curing, healing and caring.

It becomes clear that while there is a need for a foundational knowledge necessary for the practice of any form of medicine, the extent and specifics that such knowledge must encompass will also differ among disciplines and practices. Again, we propose that the acceptance and adherence to a core philosophy of medicine will establish the necessities of that knowledge, and allow for diversity in applications. As well, it is imperative that the research enterprise that obtains such knowledge be consistently self-critical and self-revisionist—not only to allow progressive incorporation of new knowledge, but to allow for the development and implementation of new methods, which while no less rigorous, encourage novel ways of approaching basic and clinical research so as to optimize both the breadth and type of evidence upon which clinical practice can be structured (Jonas, 2002; Goodman, 2003; Giordano, 2004; Jonas et al. 2006).

Ethical Domains

That the conceptual aspects of medicine (that is, the epistemic domains) are applied within a humanitarian context (the anthropologic domains) compels and sustains both the moral nature of the practice and moral agency of the clinician (and therefore, give rise to the ethical aspects of the core philosophy). We have stated that it is the anthropologic and ethical dimensions that most directly support what medicine is, and what medicine should be (Maricich and Giordano, 2007). Given the nature and realities of medicine- that is, of empowered agents treating vulnerable moral patients- we maintain that participatory rules define the structure of medicine as a practice: namely that a clinician must: a) understand the processes and complexity of disease and illness, b) recognize the expression and effects of these processes upon the person who is the patient, c) possess the most current knowledge and advanced therapeutic skills applicable to the scope of practice, and d) utilize these in ways that are wholly in the best interest of the patient (Maricich and Giordano, 2007).

Obviously, from each of these prescriptions arise several meaningful proscriptions that guide the practice away from the derogations of dogmatism, misoneism (aversion to new knowledge), and self interest (Pellegrino and Thomasma, 1993; Giordano, 2006e). If medicine is to become truly integrative, then such a rule-based (i.e.-deontic) framework is necessary to describe the general rightness and/or goodness of the practice, irrespective of what clinical discipline or field is. But it must be borne to mind that the practice of medicine is enacted within the clinical encounter, and as such, is an interpersonal interaction that seeks to

execute good acts and ends as defined by the parameters of the clinical relationship (Pellegrino, 1983; Pellegrino, 2001b). This relationship is asymmetrical in knowledge, ability and power. The patient is sick and seeks treatment from the clinician who professes the skills and abilities to render treatment. In other words, the nature of the clinical relationship establishes the patient as the responsibility of the clinician (Pellegrino, 2001b; Maricich and Giordano, 2007).

The clinician is both therapeutic and moral agent, and while the participatory rules may define the general framework of medicine as a practice, such rules do not lessen the role of the clinician as a moral agent; to the contrary, the "rules" of the practice uphold the responsibility of the practitioner, not simply in the technical aspects of care, but to self and others as moral individuals (Kant, 1998; Maricich and Giordano, 2007). Thus, while philosophers such as Robert Veatch (2001) contend that the obligations and responsibilities of medicine can be upheld as and by a generally interpretable social contract that allows for considerable pluralism and polyglot values, we believe that even the best contractarian approaches cannot capture the moral depth of medicine's covenantal nature. In many ways, Veatch's argument is sound, as much of any form of social behavior is reducible to professed capabilities, and services and claims offered within a relational *quid pro quo*. But the inherent asymmetry of the clinician-patient relationship, together with the non-discretionary nature of sickness and illness, complexifies the fiduciary of the clinical encounter. This speaks to the moral content of medicine as an act. Given that ethics are defined as the systematic and formal study, analysis and applications of moral affirmations and decisional processes (Beauchamp and Childress, 2001), it is difficult to claim that any single ethical approach can, or should adequately support the obligations that arise from the myriad situations of medicine—writ both small as the clinical encounter, and large as a public good. Given that the onus of responsibility can always be reduced to the level of individuals in interaction, we have argued for the importance of agent-based virtue(s) within a deontic framework of medicine (Giordano, 2005; Giordano, 2006; Maricich and Giordano, 2007). Ultimately, the clinician is accountable for the act(s) of medicine executed within the clinical encounter, and in this light we have placed considerable emphasis upon the clinician as a moral agent. Yet, we realize that virtue ethics cannot singularly sustain the moral claims of medicine; and while we believe that intellectual and moral virtue(s) are vital to discern the moral values and needs of self and others in particular circumstances, the use of other ethical systems (such as the four-principles' approach, feminist and/or care-based ethics, casuistry, etc) is certainly viable, and compatible with agent-based virtue ethics.

Elements of Core Philosophy in Application

While we can assert that a core philosophy is critical to the development and sustainability of an integrative medicine, such claims remain wholly vacant in the absence of some meaningful attempt to put these theories, concepts and speculations into action. If a core philosophy is to be the foundation of integrative medicine, then how might such philosophical foundations be applied? We believe that an approach is necessary that simultaneously engages education, research, practice and policy.

Educational Applications

The simple use of a course placed within the medical curriculum is grossly insufficient to instigate and maintain the sea change necessary for the development of integrative progress. Ezekiel Emanuel (2006) has recognized the inconsistencies in medical care in which "…hundreds of thousands, if not millions of patients receive unnecessary treatments.." (p. B12) and has called for an improved delivery of medical care that must be initiated by a re-definition of medical education. Emanuel contends that new areas of study are required to compel and sustain such progressive improvement; beginning in the pre-medical years, these areas of study include management (to realistically identify problems and limitations of the business model and manifest effective leadership within the administrative and corporate domains of medical culture), statistics (to enable clinicians to evaluate data and weigh importance and relevance of various types of evidence), communication (so as to facilitate inter-subjectivity and enhance interactive dialog necessary to gain information from patients, and validly inform patients about the nature, benefits, burdens and limits inherent to options in care) and ethics (to impel students to recognize their moral compass, and formally develop ethical thought and

analytic ability as an effective moral agent). We agree with Emanuel's position, and have proposed that educational change must occur not only during the didactic component of the pre-medical or professional school years, but also during the clerkship and internship phases of professional education, during post-graduate training, and throughout the professional career (via ongoing continuing education; Giordano et al. 2006f). Here too, any notion of a truly integrative medicine must enjoin all students who seek to enter medical practice, such that the philosophical base can be established, upon which subsequent dialectic in theory and application(s) can occur. We call for a unified model of medical education that provides students with a foundation of basic sciences as well as the social sciences and humanities that are intrinsic to both Asclepian *and* Hygieian approaches to medicine. A "pre-medical" education need not be wholly scientifically focused; concurring with Emanuel (2006) we argue that it should initiate and cultivate the humanitarian values that are more meaningful to the inter-personal dimensions of any medical practice. Inundating undergraduate students with abundant, verticalized scientific knowledge may be far less useful than a more horizontal approach that teaches them *why* it is important, and *how* 1) to approach, analyze and discern scientific information, 2) to think critically and exercise prudent decisional process, and 3) to contextualize scientific information within a broader fabric of the social milieu(s) in which medicine is enacted. Moreover, we believe that changing academic selection biases to recruit individuals who possess evidently moral character and interest in the personal aspects of care may be catalytic to changing the values' denigration of medicine, may potentiate openness to a more humanistic, integrative approach, and may de-emphasize both the technocentric and market-ethos of medical culture through the development of transformational professional leaders.

Similarly, the first two years of medical education (irrespective of discipline) should focus upon the those basic sciences that are necessary for a thorough understanding of function, disease, illness and how various therapeutic approaches can impact each of these. But this knowledge, should be presented in ways and integrated into a curriculum that balances technological value-ladenness with courses and programs of moral pedagogy that reinforce the humanitarian dimensions and importance of medicine. This can then be applied to discipline-specific *doxa*, woven into clinical training that encourages and acknowledges the benefits and limitations of these individual discipline-specific orientations, and which recognizes and fosters the potential de-limitations of heterodox, integrative practice.

A Role for Research

Given this orientation, the research required to obtain and support these domains of knowledge would necessarily encompass a wider scope. While research into the curative dimensions of medicine is reasonably well established, investigative approaches that elucidate the function and implications of complex systems, interactions of organisms and environments, and role of more qualitative dimensions of medical care have only recently been embraced. While the randomized controlled trial (RCT) has been instrumental in the development of curative (and some healing) approaches, it is not without inherent limitations (Gorovitz and MacIntyre, 1976; Kaptchuk, 2001; Vineis, 2005). Our understanding of genomic variation in individuals and populations reveals that genotypic and phenotypic attributes may be influential in determining the effect(s) and outcome(s) of particular types of treatment.

These factors may be over-compensated by simple use of the RCT, and RCT designs would need to be modified so as to best reveal such possible attribute-treatment interactions (Caspi and Bell, 2004). Similarly, the focus upon purely objective end-points may overlook subjective variables that affect patient response(s) to specific types of therapeutic intervention. In that research is intended to obtain new knowledge so as to empower clinical decision-making and resolve equipoise, the use of modified RCTs, mixed-methods and ethnographic studies are of obvious benefit (Giordano et al. 2005). But while an evidence-based approach is important to education and practice, we must recognize that there are differing levels and values of distinct types of evidence (Jonas, 2002; 2005). If research is to inform education and drive the therapeutic and moral tenor and conduct of the clinical encounter by establishing what works, what doesn't, and the reasons for and mechanisms of these outcomes, then we must also study the methodologies themselves so as to develop novel and improved

strategies and tactics for building and sustaining our epistemic capital.

Policy and the Gestalt of Medical Culture

Research also informs and compels the purpose of medicine, and while studies may demonstrate the effectiveness of a dialectic Asclepian-Hygieian paradigm, this type of integration can only be actualized within an administrative infrastructure that enables and sustains wide reaching system-change. Medicine, as a culture, is dynamical and complex, and is affected by its constituent elements in interaction (patients, clinicians, health care facilities, etc.), and the top-down characteristics of the whole that exert influence over the conduct and activities of these components. In practicality, bottom-up and top-down reciprocity requires an approach that embraces epistemic openness to self-revision to fortify and define the application(s) of practice in ways that acknowledge and uphold the good that medicine affords to individuals and the public.

Therefore, public policy must be developed and implemented that promotes ongoing developments in research, education and practice. Research and educational programs must be incorporated into the framework of (mainstream and complementary) medical curricula, and studies must evaluate the effects and efficacy of such programmatic development. Efforts to incur top-down change-effects can, and we believe should, first focus upon the ability of local transformational leaders (in education, practice and politics) to initiate the process. We maintain that the success of such local change(s) will be self-sustainable and deterministic to change(s) on an increasingly larger scale.

The history of medicine reveals relative hundred-year trends in major revisions of thought, ideals and application(s) (Starr, 1982; Fabrega, 1997). In light of this history, what might an integrative medicine of the 21st century look like? In agreement with Fabrega (1997), and Fox (1997), we opine that it will not simply require studying and co-opting new (or older, more ancient) modalities into a curative paradigm, but will in fact represent a Kuhnian paradigm shift that requires and is based upon understanding and skills for the application(s) of the most appropriate types of treatment(s) to affect disease, illness, and health in a truly patient-centered model of care. Perhaps by looking at medicine's past, and evaluating the strengths and limitations of Asclepian and Hygieian models in the present, we will enthuse efforts toward an epistemologically progressive, humanitarian and ethically sound integrative medicine in (and for) the future.

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