

Theoretical

ETIOLOGY RECAPITULATES ONTOLOGY: *Reflections on Restoring the Spiritual Dimension to Models of the Determinants of Health*

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ABSTRACT

This paper addresses theoretical issues related to the restoration of spirituality to models of the determinants of health and illness. It is asserted that models of etiology and disease causation necessarily reflect prevailing understandings of the nature of human life. Allopathic biomedicine, for example, is an inevitable product of materialistic and mechanistic views of what it means to be human; likewise, psychosomatic medicine emerged only among scientists and healers who accepted the mind as real. For a true body-mind-spirit perspective to prevail in medicine will require evidence of the reality and salutogenic salience of expressions or manifestations of a human spiritual dimension. As this paper describes, such evidence already exists in the form of empirical research findings from epidemiology, psychophysiology, and clinical medicine. Due to the rise of normal science within this emerging area of research, however, proponents of a body-mind-spirit paradigm are meeting with considerable resistance, ironically, from many of the putative leaders of the religion, spirituality, and health field. The shift to a new paradigm will only come once scientists and practitioners succeed in breaking free of the control of established medical and scientific institutions.

KEYWORDS: Religion, spirituality, epidemiology, health, science, paradigms

BACKGROUND

This paper's subtitle promises reflections on restoring the spiritual dimension to theoretical models of factors that prevent morbidity and promote health and well-being. Why "restoring" and not, say, "adding"? Because, historically and cross-culturally, the spiritual dimension was already present until about a century ago when, in the name of scientific medicine, it was deleted. Dr. Janet F. Quinn explains how this came to pass:

There was certainly a time in human history when spirit was a central, not peripheral, focus in matters of health and illness and healing. With the advent of science, this perspective changed. The realm of spirit was relegated to religion and philosophy, which were other than science. Science is the measurable, the observable, the impersonal, the objective, the rational. It is opposite of the unmeasurable, the unobservable, the ineffable, the personal, the subjective, and the intuitive. Somewhere along the way, it was decided that health, illness and healing had much more to do with the former than the latter.^{1(pp.119-120)}

In other words, the psychosomatic or mind-body revolution of the past several decades, and more recent explorations of possible body-mind-spirit connections in medicine, are not so much new developments as a renaissance of ideas that have long been a part of human understandings of health and well-being. The prevailing body-only model of human life that has so dominated biomedical science in the West for the past hundred years—the view that we are just jangling bones in a chemical soup—is less a triumph of science and reason than a reactionary refusal to acknowledge certain significant components of human life that cannot be so easily controlled by the gatekeepers of the biomedical model. According to this model's body-only perspective, these components—mind and spirit—do not even exist.² Dr. Larry Dossey has summed up this state of affairs succinctly:

Modern medicine has become one of the most spiritually malnourished professions in our society. Because medicine has so thoroughly disowned the spiritual component to healing, most healers throughout history would view the profession today as inherently perverse.^{3(p.3)}

The idea that health and healing are functions in part of factors related to the human spirit thus is hardly new. Practitioners, scientists, and laypeople are

increasingly aware of this fact. What is less acknowledged is that this disowning of the reality of a spiritual component of human life is not a correlate of a spirit-less, body-only model of health and healing, but rather a *cause* of such a model. A worldview grounded in a conception of humans as spirit-less beings could only have engendered the mechanistic, materialistic approach to conceiving of health and treating illness.

This thesis is reflected in the title of this paper, “Etiology Recapitulates Ontology,” a play on the familiar biological dictum “ontogeny recapitulates phylogeny.” What is meant is simply this: prevailing biomedical and clinical theories on the causes of disease (etiology) precisely reflect prevailing beliefs on what it means to be a human being (ontology). If nothing exists but atoms and empty space, to paraphrase Democritus, then allopathic biomedicine is inevitable. If the mind is real, and not solely an epiphenomenon of our neurochemistry, then psychosomatic medicine is a possibility. And if humans possess a soul or a spiritual nature or life force, then the sooner this becomes widely acknowledged by clinicians and medical scientists, the sooner a new spirit-filled medical paradigm will emerge.

SPIRIT-LESS BODIES EQUAL SPIRIT-LESS MEDICINE

The idea that we are on the frontier of a new medical paradigm—a successor to the mind-body perspective—has been advanced by many commentators. This new medicine goes by many names: Dossey’s “Era III,”⁴ Gerber’s “vibrational medicine,”⁵ Green’s “energy medicine,”⁶ Dacher’s “spiritual healing system,”⁷ and my own “theosomatic medicine.”⁸ Regardless of what it is called or how exactly it is described, a consensus seems to be building that our health is determined by not just physical, mental, and emotional factors but by something more. Religiousness, spirituality, faith, consciousness, subtle energy, the bioenergy field, nonlocal mind, our relationship with God or the divine—each of these concepts suggests something “beyond” the local mind as part of what it means to be a human being. Many of these concepts are being increasingly validated through empirical research as relevant to health, healing, and human physiology. Nearly all of these concepts are seen as imaginary and/or irrelevant to health by ardent proponents of the mainstream biomedical model.

A body-only view of what it means to be a human being has distinct implications for medicine. The corresponding body-only view of the determinants of health as limited to physical factors—heredity, health history, physiological parameters, etc.—results in some of the most unsavory features of the allopathic approach. These include: (a) reinforcement of a mechanized and reductionistic view of human beings as a collection of parts, (b) promotion of depersonalized care that seeks to fix or manage these parts, (c) emphasis on discrete biological outcomes as markers of the proper or improper functioning of these parts, (d) a concomitant disease-entity orientation that focuses clinical attention on etically defined conditions defined by signs and not symptoms, (e) therapeutic metaphors based on warfare (e.g., words and phrases like “attack,” “bomb,” “war on cancer”), (f) an economic-driven ethics that sanctions decision-making strategies that uphold all of these features, and (g) principal reliance upon high-tech invasive therapies.

These therapies are precisely routinized, target discrete outcomes, are easily managed and reimbursed, and rely upon—and *could only result from*—the other features of the allopathic approach just outlined.

The inevitable result is a therapeutic armamentarium based in large part on cutting, burning, poisoning, doping, and, more recently, the promise of manipulating genes. Sadly, this is a good deal of what passes for healing these days. Alternative clinical approaches based on holism, whole-person-centered care, psychosocial and behavioral causation of illness, the desubordination of symptoms to signs, non-hierarchical patient-practitioner relations, therapeutic objectives grounded in functioning and general well-being, and hands-on healing are instead derided or, at best, marginalized into niches and tolerated.

The personal consequences of excluding mind and spirit from medicine are many. A body-only paradigm for biomedicine leaves us fragmented into a collection of mechanized parts, robs us of our free will and thus dignity, denies us the possibility of any unique expertise into our health or general life condition, turns us into passive dehumanized robots, and, ultimately, enables us to be more easily controlled and exploited by the medical care system for financial gain. Because the prevailing scientific worldview excludes spirit, so-called scientific medicine excludes it as well. As a result, an incredible infrastructure has been built—a medical-industrial complex—that feeds off of and perpetuates the spirit-less *weltanschauung* that created it. This same materi-

alist ethic has given rise concomitantly to equivalently dehumanizing movements in government, political economy, international and cross-cultural relations, and popular culture. These same forces support and reinforce the body-as-machine metaphor that informs thinking in modern medicine, lending it public status, authority, and sanction.

In sum, at the core of the body-only medical model is a screwed-up view of what a human being really is. Therefore, before we can fix medicine—and any of our other social institutions—we need to restore a more holistic perspective to our understanding of human life. We can never have a truly “integrated medicine” until we have an integrated body-mind-spirit model of what it means to be human. Without the latter, we will never be able to acknowledge all of the myriad potential determinants of health.

Many scientists and physicians are fearful of discussing, or acknowledging, the idea of a human spirit. Perhaps this is because acknowledging the existence of spirit would threaten the presumed hegemony of left-brained reason and logic as means of determining scientific truth and medical reality. Currently, medical progress is predicated on an ethic that seeks to control and dominate nature—including human nature. These efforts demand a view of humans as machines, and, concomitantly, a medical paradigm founded in body-only-oriented diagnostic, therapeutic, and basic-science dogma. It follows, then, that proponents seeking to reconfigure medicine around body-mind and body-mind-spirit principles would be dismissed by the mainstream as “antiscientific” or “pseudoscientific.” These gatekeepers’ defense of medicine and biomedical science against the encroachment of new scientific discoveries resembles nothing less than a religious inquisition. Not all scientists, of course, find the human spirit a deplorable consideration or a nuisance. Not the best ones, anyway. According to Einstein, for example, that science should someday come to consider the role and salience of spirituality was inevitable and welcome:

Everyone seriously involved in the pursuit of science becomes convinced that a spirit is manifest in the laws of the Universe—a spirit vastly superior to that of man. . . .⁹(p.152)

Disbelief in God or spirit, or in models of human life that encompass more than just the body, certainly inhibits acceptance of a broader model of the

determinants of health and healing. Skeptics and debunkers, however, invariably deny that their philosophy of life drives their defense of allopathic biomedicine and their antipathy toward anyone who seeks to rethink the current medical paradigm. The onus is always placed on proponents of a more holistic model who, it is asserted, have failed to produce any empirical evidence in support of their claims, and thus merit the derisive label of pseudoscientists.¹⁰ In order for such a dramatic transformation to occur—a shift to a new medical paradigm—it is always asserted that there first needs to be a scientific basis. This is a fair stipulation. Physicians and scientists require hard proof. Well, it already exists.

RELIGION, HEALTH, AND HEALING: THREE TYPES OF SCIENTIFIC EVIDENCE

Ironically, it is the opponents of a body-mind-spirit paradigm that may be the real pseudoscientists. According to a now enormous and well publicized volume of empirical research findings and scholarly reviews, religiousness and spirituality, broadly defined, have been found to be associated with a myriad of indicators of health status, physical functioning, physiology, morbidity, mortality, and healing or recovery from illness.¹¹ Research findings in this field come from three general categories of studies.

First, there have been experimental and quasi-experimental trials and experiments of the therapeutic efficacy of prayer and other sorts of absent or distant intentionality. Outcome variables in these studies have included a variety of indicators related to healing of disease or restored functioning. Moreover, studies have been conducted not just in humans, but in a variety of biological systems, from domestic and laboratory animals to bacteria, viruses, and fungi. According to Dr. Daniel J. Benor, the leading expert on the scope and content of this literature, nearly 200 such studies have been conducted, about half to two thirds of which show statistically significant impacts on healing.¹²

A second category of religion and health studies consists of basic research on spiritual consciousness and psychophysiology. A steadily growing body of research has investigated the impact of psychological characteristics of religious participation, spiritual experience, and mystical or transcendent states of

consciousness on cognitive or affective correlates or markers of psychophysiology. This category covers a lot of ground. Included are studies of transcendental meditation and the relaxation response,¹³ research on the physiological effects of yogic practice,¹⁴ biofeedback investigations of autonomic self-regulation in adepts,¹⁵ and analysis of the association between intrinsic religiousness and absorption.¹⁶ This particular category of research has never been comprehensively reviewed, so it is anyone's guess as to how many such studies may exist.

Finally, hundreds of peer-reviewed journal articles have reported findings from epidemiologic and social science studies investigating the effects of dimensions of religious involvement on population health parameters such as rates of morbidity or mortality or indices of health status or psychological well-being.¹¹ These include studies of religious affiliation or membership, church or synagogue attendance, public or private prayer or worship, adherence to specific religious beliefs, profession of faith in God, and religious or mystical experiences. This field of study, which has come to be known as the "epidemiology of religion,"¹⁷ has produced empirical findings identifying significant religious differences in rates of health and illness, as well as significant salutary effects of religious indicators on indices of physical and mental health and well-being.¹⁸ Further, these findings seem to persist regardless of the religious affiliation of those being studied, the diseases or health conditions under investigation, or the age, sex, race or ethnicity, or nationality of study respondents or subjects.¹⁹

Studies of religious and spiritual factors in health and healing have by now been summarized and commented upon in great detail in numerous places. The interested reader is referred to resources such as the academic *Handbook of Religion and Health*¹¹ and my own recently published *God, Faith, and Health: Exploring the Spirituality-Healing Connection*.⁸

THE TRAPPINGS OF NORMAL SCIENCE

The past decade has witnessed tremendous growth in all three classes of religion and health studies. Especially popular has been research on religious determinants of population health, as well as clinical investigations of spiritual issues. Original empirical investigations funded by the National Institutes of Health

(NIH) or by established foundations have proliferated. Many such studies have been conducted by well known researchers at leading universities and medical centers. Additionally, many excellent theoretical, conceptual, and methodological contributions have appeared in print, more often than not in mainline peer-reviewed social science and medical journals, especially in the field of gerontology. This mainstreaming of religion and health research has occurred so rapidly and so completely, and the field has become so institutionalized, that it appears to have entered a state of what philosopher and historian Dr. Thomas S. Kuhn called “normal science.”²¹

By normal science, Kuhn was referring to the “mop-up work”^{21(p.24)} that inevitably occupies the time and effort of most of the scientists employed in research sanctioned by an existing paradigm. Instead of the envelope-pushing, giant intuitive leaps, and inspired stabs in the dark by lone geniuses that characterize shifts in paradigms—breakthroughs to new ways of conceiving some reality—normal science is more about filling in the blanks. This is the kind of work that serves to transform a novel or revolutionary idea into an established institution, and to maintain the institution against assaults by subsequent new ideas. Kuhn lamented the “drastically restricted vision”^{21(p.24)} of scientists operating within the bounds of normal science:

Closely examined, whether historically or in the contemporary laboratory, that enterprise seems an attempt to force nature into the preformed and relatively inflexible box that the paradigm supplies. No part of the aim of normal science is to call forth new sorts of phenomena; indeed those that will not fit the box are often not seen at all. Nor do scientists normally aim to invent new theories, and they are often intolerant of those invented by others. Instead, normal-scientific research is directed to the articulation of those phenomena and theories that the paradigm already supplies.^{21(p.24)}

As momentum has built in the religion and health field, the trappings and rewards of normal science have come calling. These include (a) research funding by several branches of the NIH (e.g., the National Institute on Aging, the National Institute of Mental Health, and the National Center for Complementary and Alternative Medicine) and by important foundations, such as Templeton, Fetzer, and Robert Wood Johnson; (b) the establishment of scholarly journals and of academic centers and institutes at leading medical schools (e.g., at Duke University); (c) the convening of study sections, expert

panels, and expert working groups at the NIH and elsewhere; (d) the issuance of white papers, consensus reports, and research agendas; (e) the release of Requests for Proposals and Requests for Applications by both the NIH and foundations; (f) the publication, and solicitation of publication, of original research and review articles in leading peer-reviewed journals, including *JAMA*; (g) the proliferation of conferences, symposia, and Continuing Medical Education opportunities, and the endowment of named addresses (e.g., at Columbia University) and chairs (e.g., at Emory University); (h) the successful navigation by the first cohort of researchers through academic appointments and promotions committees and tenure committees; and (i) the rapt attention of the mass media, as evidenced by cover stories in *Time* and *Readers' Digest*, and major stories on all of the television networks and on National Public Radio.

The trappings of normal science are not intrinsically bad things. Indeed, for a working scientist, they are quite functional and rewarding. The rewards of operating within normal-science mode are many. These include approval by colleagues, career advancement, grant funding, media coverage, a large laboratory or research team, respected status as an expert, and receipt of prizes and awards. For academic scientists, these are like *manna* from on high. For the religion and health field, though, these rewards represent the devil waving a carrot saying, “Come on in.”

Normal science does a lot of damage, as well as good. Once a state of normal science is reached, the creative spark that lit the original fire is long extinguished or co-opted. Sociologist Max Weber referred to this process as the “routinization of charisma”²² in reference to new religious movements and other social institutions; the same label can apply to a scientific field. Whereas the first generation of scholars in a new field or new paradigm had to struggle against convention in order to blaze a new path, the subsequent administrators of the new field or paradigm are necessarily occupied with growing or perpetuating their field-*qua*-institution and their authority within it or over it. The maintenance and regulation of routine, rather than the fostering of the charismatic spark of a revolutionary idea, becomes the *raison d'être* of the field—thus the phrase routinization of charisma.

Dr. Richard L. Garrison outlined a similar process, but with reference to revolutionary innovations in medical thinking. In his brilliant essay entitled, “The

Five Generations of American Medical Revolutions,” he described how the first generation of proponents of change is characterized by a small cohort of inspired innovators.²³ Subsequent generations synthesize the innovation into an established agenda; found and administer institutions of normal science; rationalize and bureaucratize the original idea, centralizing gatekeeping functions within a cabal; and perpetuate field-defining authority by repressing or withholding sanction of developments that threaten their oligarchy.

Granted, the imagery used by Garrison is stark and may be somewhat overstated with respect to the religion and health field. The phenomena of routinization and suppression nonetheless threaten to manifest in many insidious, and not so subtle, ways: anything beyond incremental change is resisted, true innovation is stifled, groupthink is rewarded, the rethinking of paradigms is discouraged and perhaps seen as crankish, and outcroppings of genius or originality or creativity are plowed under or ignored. The camaraderie of early innovators is replaced by egoic turf battles and self-promotion. Worse, a kind of worker-bee mentality is sanctioned, in contrast to the envelope-pushing that got the field established in the first place. Scholars occupy themselves with the mop-up work described by Kuhn—the unending fill-in-the-blanks sorts of studies that allow one to make a living, receive approval, and exist in a warm and fuzzy comfort zone. The large leaps or stretches or breakthroughs that lie at the radix of the field or paradigm are now discouraged.

While it is not being argued that a body-mind-spirit perspective has attained paradigmatic status within medicine—far from it, of course—it is asserted that *within* the religion and health field a paradigm is emerging. Further, while respectfully withholding names of people and institutions, it is contended that most of the deleterious developments listed above can be observed in this field. If this is so, then the arrival of normal science to the religion and health field ironically may be a principal factor inhibiting a true body-mind-spirit paradigm from succeeding in the larger medical realm.

THE FACTIONING OF RELIGION AND HEALTH

The most damaging effect of normal-science mode for the study of religion and health has been the premature and increasing sanction of certain ideas or

concepts at the expense of others. As this field has begun to enter the mainstream, and as institutions have sprung up to serve gatekeeping functions, the boundaries of acceptable discourse have predictably narrowed. Particular theoretical and religious perspectives have attained a sort of “approved” status; others have been relegated to the margins, where all of this field once resided.

The clearest example that this field has entered a state of normal science is its rapid fragmentation into three camps or factions, and the marginalization of two of these groups. The first group (call it Faction I) is composed of academic physicians and clinical researchers, primarily but not exclusively conservative Christians. These individuals have been most successful in staking out a position in the mainstream, as seen by research funding, academic acceptance, CME conference appearances, popular writing, and media coverage. Faction II includes those scientists and clinicians working in the complementary and alternative medicine, consciousness studies, and mind-body fields—areas already held to be marginal by mainstream medicine and science. These individuals seem to operate in an alternative universe of conferences, publications, and institutions—much as new-age booksellers reach an entirely different market than mainstream trade publishers. Their collective vision of spirituality is considerably more far-ranging than the narrowly cast interests of Faction I. Faction III, a relatively small group of social scientists—two or three handfuls, at most—have actually conducted most of the good empirical research in this field over the past 15 to 20 years. These investigators typically work alone, do not exhibit much interest in popular writing or publicity, are not medical scientists and do not conduct clinical studies, strictly speaking, and nearly all have principal research interests outside of religion and health. They are also largely unknown to both the general public and many investigators in the first two factions. Finally, while members of these factions sometimes do attend the same meetings and on occasion take part in collaborative efforts, overlap among these three groups is minimal.

The most unsettling outcome of this fragmentation has been the success of Faction I in defining the field, themselves, and the ideas and work of the other two groups in such a way to reinforce their own gatekeeping function and emphasize their (hoped for) mainstream status. A rich example was the recent publication in a leading “debunker” magazine of an essay signed by many of the leading figures in Faction I.²⁴ This article roundly denounced exploration of parapsychology, of alternative medicine, of “metaphysics,” even, remarkably,

of types of distant healing, while putting over religion and health research as “distinct and separate”^{24(p.52)} and thus worthy of acceptance by the debunkers. The article was meant to sound conciliatory and reasonable, but Faction I’s embarrassment over this more cutting-edge work, and their urgency in distancing themselves from it, was transparent. Why the embarrassment? It is hard to know for certain, but two salient motives may include a desire to defend conservative religious beliefs and a need to protect a newly attained mainstream academic status. Identification with the apostates in Faction II may have been seen as a compromise to the former and a threat to the latter.

An outstanding response to this article was penned by Dr. Larry Dossey, perhaps the leading light of what has been termed Faction II. His response, published in the journal *Alternative Therapies in Health and Medicine*, was cogent and biting:

Why did these researchers choose parapsychology as a disreputable referent for their own field, and why did they bracket CAM with parapsychology? . . . In effect, the religion-and-health researchers are proclaiming to the scientific community, “Like you, we oppose this spooky, distant, mental stuff. We’re against parapsychology and its bedfellow, CAM. We’re real scientists!” . . . This move, however, places the religion-and-health researchers in a double-bind. How can they be considered open-minded and scientific while denying the increasing evidence that psi-like, distant healing is real?^{25(pp.83-84)}

The stance of Faction I here is even more ironically absurd than Dossey has noted. This camp has positioned itself as the proponent of the re-introduction of spirituality into medical practice and medical education, principally on the basis of the growing research evidence outlined earlier. The preponderance of the evidence that they draw on, however, is the stuff of Faction III: population-based sociological and epidemiologic studies of general communities investigated cross-sectionally or prospectively in order to identify religious correlates or determinants of health and well-being. This body of research has *nothing* to do with medicine, with physicians, with patients, with illness, with the clinical setting, with medical therapies, or with healing. It does not and cannot provide *any* evidence for or against principal features of the broader Faction I agenda, such as physicians praying with patients. The two bodies of findings that can and do provide such supportive evidence, and in spades, are

the studies of nonlocal healing and absent prayer and of psychophysiological correlates of consciousness, described earlier. But these studies are squarely in the tradition of parapsychological and mind-body research, many of the leading investigators follow non-Western or non-mainstream spiritual paths, and study results often report salutary effects of Eastern or esoteric spiritual practices. Thus, to Faction I, this work—probably the best work to cite to advance their agenda—is condemned or ignored.

The marginalization of Faction III is more subtle, accomplished through pre-emption and co-optation. As social scientists with other interests besides studying religion and health, their work is not as heavily promoted and is thus easily overlooked or distorted. Most of the leading figures in this faction are probably unknown to individuals in Faction II, while their work is drawn on (whether cited or uncited) and often misinterpreted by Faction I. Many investigators in Faction III are perhaps unaware of this, and may not particularly care one way or another.

As a personal aside, I consider myself a founding member, so to speak, of Faction III, yet also with established credentials and connections in both of the other two camps. Each of these other two factions likely considers me “one of them,” and I have close friends and colleagues whom I respect among all three groups. I thus believe that I have a unique perspective, and my foremost concern is this: normal science has arrived in the religion and health field and, moreover, is being administered by the worst possible faction (which is not to say that it should be “administered” at all). Faction I has neither the breadth of vision and intellectual creativity of Faction II, nor the scholarly expertise and theoretical understanding of Faction III. Increasingly, however, Faction I is calling the shots for the field: setting research agendas for private foundations, establishing footholds in academic medicine, controlling the direction of health professions education, and monopolizing interactions with the popular media and thus dictating how results are spun. Its leaders and institutions are essentially the custodians of normal science for the religion, spirituality, and health field. In order for this situation to change, scientists interested in pursuing research in this field may need to go cold turkey on the normal-science spigot, and thus release themselves from Faction I’s increasing control. This may not be all that difficult to accomplish.

CONDUCTING PARADIGM-CHALLENGING RESEARCH

In order to conduct exciting, cutting-edge research—paradigm-challenging research—one does not require any of the trappings of normal science. If anything, the rewards of normal science—even the lure of such rewards—may serve primarily to inhibit such research. The kind of mop-up work mentioned by Kuhn is by its very nature constrained by the parameters of a given field—by the boundaries of its dominant paradigm. It is unlikely that researchers operating within normal-science mode can even conduct envelope-pushing research; this would require first “stepping out” of the paradigm.

What one does need to conduct such research is actually quite modest. For many types of scientific research, a formal academic appointment or scholarly position may not even be necessary. In fact, it may introduce intractable barriers preventing such research from ever taking place. If the following six needs are met, even a “gentleman scholar” can do work that leads to major scientific breakthroughs. The history of science and medicine suggests that many, if not most, paradigm-challenging leaps of knowledge have come about this way.

First, one needs *time*—sufficient time to explore the nuances of an idea that may be taboo or reside outside of currently sanctioned disciplinary boundaries. The academic environment may be less than amenable, even hostile, to certain ideas. There was a time not too long ago when the epidemiology of religion, clinical trials of prayer, biofeedback research on spiritual adepts, and other similar topics were seen as a waste of resources and openly discouraged. Pursuing religion and health research was even characterized as “the anti-tenure factor.”²⁵ Scientists spent their precious research time working in these areas at their own peril.

Second, one needs *space* to work. For a social scientist or population health researcher, such as an epidemiologist, something as formal as a laboratory may not even be necessary—just an office with a computer and some shelves. A place to sit down, think, and write is imperative; as well as a place to keep books, data tapes, and notes. Beyond that, not much more may be required.

Third, one needs access to a *data* source. Depending upon what type of research one seeks to do, the definition of “data” will vary. For social and health scientists, especially those working in the religion and health field, data are invariably defined as paper survey instruments transformed into computer-readable code. Provided a sample is identified and can be accessed, such data collection efforts can be managed from one’s home.

Fourth, one needs *expertise* in research methods, or at least access to someone with such expertise. Lots of lay investigators—and physician investigators—with good intentions produce utterly worthless information because they lack requisite skills in designing and conducting research. Studies are then conducted that are so flawed that the resulting data are unreliable, invalid, ungeneralizable, and usually the result of incorrectly run analyses. Once an inferior study is begun, it is often too late to salvage. Access to methodological expertise is a must, and is the most difficult research need to be met outside of established academic institutions. Still, methodological consultation may not necessarily be available only from within ivory towers, nor may it necessarily require large consultants’ fee.

Fifth, one needs sufficient *funding* to conduct a study. This may be a whole lot less than some would-be investigators suspect. The lion’s share of an NIH-funded research grant, for example, goes to cover investigator salaries, staff salaries, benefits, and a sometimes bottomless pit of “slush,” such as new computers, office supplies, travel expenses, and consultants’ fees. On top of this are the indirect costs or overhead—another pile of money that goes directly to the institution administering the research. Oftentimes, much of this money ends up in slush funds controlled by one’s dean or department chair. At some institutions, the amount of overhead written into a grant may approach the amount of money being requested for direct (i.e., non-overhead) costs. The total costs of original data collections routinely reach into the millions of dollars. The actual costs of research, especially for a self-administered or telephone-administered survey or an interview-administered survey to be conducted by the investigator, may only consume into the low- to mid-five figures.

My own research program serves as a good example. My first large NIH grant to study religion and health, which was funded starting in 1990, brought in about \$350,000 over a period of five years. This covered a percentage of my

salary, benefits, secretarial salary, computing funds, travel expenses, office expenses, consultants' fees, and a variety of other miscellaneous expenses. In addition, overhead costs to the medical school where I served on the faculty brought in about another quarter of a million dollars, for a total of about \$600,000. Believe it or not, this was considered quite cheap, by NIH standards, even back then. My research involved secondary analysis of existing national datasets, so these costs did not even involve collecting new data—just arranging for data tapes to be obtained. Administering my research—that is, filling out required paperwork, monitoring budgets, drafting and filing annual required reports, etc.—took up as much time as I devoted to actually conducting analyses and writing up results. Complicating things even more, this was only one of three such large-scale NIH grants that I was funded on during this time.

By contrast, as I was leaving academia, I was fortunate to receive a small grant through the research-funding program of the Institute of Noetic Sciences (IONS), the well known West Coast organization devoted to paradigm-challenging work in the human sciences. This grant was for a study of a topic far outside the usual bounds of established religion and health research, something that had never before been studied and that NIH or any other large-scale funding source would likely have refused to consider: the health effects of giving and receiving love. The study that I proposed also differed from my NIH-funded research in that it involved the development of a data collection instrument and the collection of original data. Another twist: soon after beginning this study, I left academia and began working at home. So what were the total costs of the grant, enough presumably to mount an original data collection on a brand new topic and be run out of someone's home? Approximately \$16,000. Postscript: this study has been just as successful in producing peer-reviewed scientific journal publications as my prior research.

Finally, one needs an *original idea*. This should go without saying for any research endeavor, but sadly a lot of research contributes nothing original and just wastes time, space, data, expertise, and funding. With an original idea—and with requisite time, space, data, expertise, and funding—outstanding, cutting-edge scientific contributions can be made outside of the academic institutions dominated by the administrators of normal science. Without an academic infrastructure or federal funding agency to

answer to, one is free to be considerably more creative, innovative, and provocative, all of which are in short supply in most areas of research.

AN AGENDA FOR A NEXT GENERATION OF BODY-MIND-SPIRIT RESEARCH

By now, nearly a generation of scientific research has explored the interconnections among religion, spirituality, health, and healing. A cohort of researchers has helped this field to come of age since its earliest emergence in the middle 1980s. But now normal science seems to have taken hold. With increased attention from the NIH, prominent foundations, and academic medicine has come increased control over the direction, content, and application of research in this field. As a pioneer in this field, I find these developments increasingly frustrating. This field is capable of so much more than endless surveys correlating the frequency of church attendance with self-ratings of health in this or that subgroup of telephone-surveyed community-dwellers or hospitalized psychiatric patients. But that is where the money is, and researchers, constrained by circumstances, are often forced to let the availability of funding drive their decisions as to what to research. This is a tragic situation.

As was indicated earlier in the discussion of how cheap and easy it is to conduct excellent and innovative research, this tragedy is avoidable. If researchers in this field would stop carrying around fears of being marginalized and stop being so timid and concerned about offending the mainstream, they would find all sorts of exciting avenues of exploration opening up in front of them. Freed from the constraints of normal science, here are some off-the-top-of-my-head thoughts about a possible next generation of body-mind-spirit research. These include issues germane to each of the three categories of religion and health research summarized earlier. They are the kind of topics that I have heard some of my colleagues express an interest in, yet remark sadly that such research is too “out there” to be feasible at the present time. I disagree.

First, much of the clinical research on prayer has up to now focused on the effects of Christian intercession on patients in Western medical facilities. The efficacy of non-Western intercessors, pray-ers, or healers is a frontier that ought

to be explored in greater depth than it has up to now. Concomitantly, little effort has been made to compare the therapeutic effects of prayers from different religious or metaphysical traditions. It may be that liberal-minded researchers are skittish of tackling such a controversial and potentially embarrassing research question. They may be genuinely uneasy over the possibility of producing information that might offend or challenge the faith of certain believers. On the other hand, a lot of the resistance to this type of study may come from religious partisans who are not anxious to discover that the healing effects of prayer are no respecter of creed, culture, religion, or denomination. My experience as a researcher in the religion and health field suggests that the latter explanation is more likely.

Second, psychophysiological research on the correlates and sequelae of certain spiritually-induced states of consciousness has produced some of the most exciting yet underpublicized findings in the religion and health field. Basic-science research in general has been particularly lacking, as compared to clinical trials and population-based social and epidemiologic research. One reason may be that the basic sciences of healing (as opposed to pathogenesis) are so underdeveloped in Western biomedicine. Contrast this with non-Western systems of medicine, such as Ayurveda, traditional Chinese medicine, and various esoteric schools. All sorts of interesting research projects can be envisioned: mapping the human subtle-energy anatomy; identifying physiological pathways by which love, hope, forgiveness, and other examples of “positive psychology” impact on health; and, documenting the anatomy, physiology, nosology, etiology, pathophysiology, and therapeutic options available in esoteric healing systems. A certain stigma may be attached to ideas like these, but an investigator with thick skin would not find that a particular barrier.

Third, population-based epidemiologic and social research on religious involvement has proven to be the bread and butter of religion and health studies. Much of this research, though, has become old hat and lost its creative edge. Nearly all of this work has focused on the health effects of formal, institutional, or public types of religious participation—denominational affiliation, church or synagogue attendance, public prayer, sanctioned religious beliefs. A lot would be gained by extending consideration to more “inner” states of spiritual expression, such as mystical or transcendent experience.²⁷ A proposal has recently been made for development of an “epidemiology of love,”²⁸ and

new empirical evidence supports the health benefits of a loving relationship with God or the divine.²⁹

These ideas are admittedly outside of the mainstream—even outside of the mainstream of what now passes for religion and health research. That is a shame. This field came into being because a cohort of investigators willingly broke through the artificial bounds defined by the existing body-only paradigm and maintained by the biomedical research establishment. Today, within the religion and health field, a paradigm of sorts has taken hold, much to the detriment of those efforting to expand our understanding of how the spiritual, mental, emotional, and physical domains of life interact to the benefit of human health and well-being. Still, as has been described, innovation and creativity in research can proceed outside of the control of normal science; indeed, this may be the only way it can proceed.³⁰ If scientists are willing to let go of the presumption that they must rely on the dictates of established gatekeeping institutions, then all of the research agenda outlined above is well within grasp.

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