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The discourse on faith and medicine: a tale of two literatures

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Abstract

Research and writing at the intersection of faith and medicine by now include thousands of published studies, review articles, books, chapters, and essays. Yet this emerging field has been described, from within, as disheveled on account of imprecision and lack of careful attention to conceptual and theoretical concerns. An important source of confusion is the fact that scholarship in this field constitutes two distinct literatures, or rather meta-literatures, which can be termed (a) faith as a problematic for medicine and (b) medicine as a problematic for faith. These categories represent distinct theoretical lenses for viewing the intersection of faith and medicine. Observations about these two approaches are offered, along with insights about why the discourse on faith and medicine should become better integrated into discussions of religion and science.

Keywords Faith · Health · Medicine · Religion · Science · Spirituality

Introduction

In March 1995, the United States National Institutes of Health (NIH) convened an invited conference on the topic of methodological approaches to the study of religion and health. This represented the NIH's first public conversation on this emerging area of empirical research. The meeting brought together dozens of academic participants and NIH officials, who read three commissioned white papers and engaged in small-group and plenary discussions. The principal outcomes of the meeting were the issuance of a Request for Proposals and the convening of a small working group, funded by the Fetzer Institute, whose deliberations produced a new measurement instrument for assessing religiousness in medical studies [1], later included as a module commissioned for the University of Chicago's General Social Survey [2].

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While the event as well as the subsequent working group and report succeeded in bringing greater attention to research on this subject, they were not the NIH's first official sanctions of religion as a topic worthy of scientific exploration. A few years earlier, they funded two original research studies whose investigators were members of a team comprising Robert Joseph Taylor, Linda M. Chatters, and the present author [3]. As far back as 1980, the National Institute of Mental Health published a comprehensive bibliography entitled *Religion and Mental Health*, consisting of 1836 entries [4]. Moreover, a number of empirical studies and scholarly essays have been published over the past century (at least) and featured in the top journals [5]. Such works include, for example, John Shaw Billings' analysis of religious affiliation as a factor in differential rates of morbidity and mortality, published in 1891 in the *North American Review* [6]; William Osler's remarks on "The Faith that Heals," published in 1910 in a special issue of the *British Medical Journal* [7]; and Alice Paulsen's three-part dissertation on religious healing, published in 1926 in the *Journal of the American Medical Association* [8].

The first comprehensive reviews of the research literature on religion and physical health appeared a decade prior to the NIH conference [9, 10]. The reviewers found that by the mid-1980s over 200 research papers had been published in academic clinical, epidemiologic, and biomedical journals that reported findings linking measures of religious identity and behavior to markers of health and disease status, indices of symptomatology, and overall and cause-specific rates of morbidity and mortality. Systematic reviews were published at around the same time for the religion and psychiatry literature (e.g., [11]). The NIH/Fetzer working group and report were not even the first formal working group and report to weigh in here: the private-sector National Institute for Healthcare Research, funded by the John Templeton Foundation and under the direction of the late David B. Larson, preceded them by a few years [12], followed later by a comprehensive consensus report [13].

More significantly, the larger discussion of religion in Western medicine has been ongoing since at least 1835, when Amariah Brigham, a founder of the American Psychiatric Association, published his *Observations on the Influence of Religion upon the Health and Physical Welfare of Mankind* [14]. Going back further, theologically informed writing on medical practice, biomedical science, and personal health extends hundreds of years into the past for each of the Western monotheisms. Examples include Moses Maimonides' treatises on health, published in the twelfth century (see [15]); John Wesley's *Primitive Physic*, published in the eighteenth century, among the earliest medical self-care guides and a foundational text for the subsequent natural hygiene movement [16]; and over a millennium of Muslim scholarship on health and medicine, dating to the origins of Islam and based on passages in both the Qur'an and the Ḥadīth literature (see [17]). Extant Jewish [18] and Muslim (known as *Unani*) [19] folk medical traditions with medieval or earlier origins have been identified, as well as various Christian folk healing traditions, including contemporary syncretisms such as *curanderismo* [20].

And even further back in time: Manly Hall [21] wrote extensively on the long-standing history of therapeutic cults and the esoteric medical and healing practices of ancient mystery schools. These medicinal groups predated by centuries the healing ministry of Jesus and the apostles [22]. In the East, parallel traditions

of religiously informed healing and medicinal systems, influenced by sources as disparate as *Sāṅkhya*, *Rāja yoga*, and streams of Buddhism, have flourished in India (*Āyurveda*), Tibet (*Sowa Rigpa*), and China (*Zhōngyī*) for thousands of years (see [23]).

On the whole, then, the starting point for the larger discussion of faith and medicine dates to before the Common Era. Steady growth in research and scholarship on this topic by academically credentialed experts has been ongoing for over a century. Even the American Medical Association has formally wrestled with this subject for over fifty years [24]. However, despite great progress in recent years to the effect of summarizing and popularizing this work, the topic of faith and medicine (both terms loosely defined) remains a consistently marginal subject within Western medicine, due in part to the tendency for academicians from divergent fields and disciplines to work at advancing different agendas in isolation from each other. This divergence is indicated, first, by how the research field is labeled—alternately referred to as *religion and health*, *spirituality and healing*, and *theology and medicine*, among other names (see [25])—and, second, by the respective and distinct research agendas for religion and health characteristic of sociologists, psychologists, gerontologists, epidemiologists, and physicians [26]. Throughout these bodies of research and commentary, even the language used to describe the independent variable is unsettled [27]. To wit, *religion*, *spirituality*, *faith*, *prayer*, *belief*, and *consciousness* are often used interchangeably, as if these words imply the same thing. The same observation can be made for the dependent variable—*health*, *healing*, *medical*, *biomedical*, *clinical*, and so on (see [28]). This conceptual laxity has been especially evident within the field of complementary and integrative medicine, where interest in spirituality goes back to the early studies of healing in the 1980s [29].

A similar observation can be made regarding these studies' research aims and associated methodologies. Literature reviews by physicians and social scientists alike still sometimes mix together the controversial results from randomized clinical trials of distant prayer as a therapeutic intervention with the abundantly replicated findings of standard population surveys on prayer and associated religious correlates of physical and mental health [30], even though these are plainly different research topics. Additionally, positive or negative findings for a given study—such as on the once-popular research theme of healing prayer—may be promoted, regardless of quality, as having confirmed or invalidated one or another global assertions about the salutogenic effect of praying. A notable example is the intercessory prayer study by Herbert Benson and colleagues [31], a randomized controlled trial among heart bypass patients published in 2006, whose negative finding effectively killed off interest in conducting such trials, despite the presence of serious critiques of the study's methodology [32] and the presence of dozens of other methodologically vetted studies with positive findings [33]. Today, despite thousands upon thousands of published papers on the broad topic of faith and medicine, including hundreds of very well-regarded empirical studies with statistically significant findings, the subject as a whole has been astutely described by Neal Krause, a preeminent researcher, as "a disheveled literature" [34]—a conceptual, theoretical, and methodological mess.

The present essay is a modest effort to step back and begin to untangle the disheveled elements in this literature. This is a much larger project than can be resolved by a single paper, but the aim here is simple and meant as a starting point for further conceptual development—specifically, to provide a brief summary overview distinguishing between two distinct streams of research and writing that can be observed at the interface of faith and medicine. These include (a) medical research studies of various types, looking to aspects or dimensions of faith or religion or spirituality as sources of explanation for clinical or population variation in health and illness; and (b) scholarship largely from religious and theological scholars and historians, looking to medicine and healthcare as a domains in which to externalize the expression of religious principles in the realm of human affairs. In addition, some reflections are offered on these two bodies of research and writing, posing them as competing scholarly lenses for understanding what it is that makes for human well-being.

Faith and medicine in religion and science

A note on terminology: here, *faith* explicitly refers to religious faith. In this discussion, *faith* is used as a proxy for religion, spirituality, religiousness, faith-based practice, and all other such terms that have dominated this discourse. Similarly, *medicine* is used as a stand-in for health, healing, healthcare, biomedicine, and the like. More substantively, use of *faith* underscores the personal and volitional element of human spiritual life and the religious domain in general; use of *medicine* underscores the present intention to consider an overarching institution or domain of activity and not solely, for example, a specific category of outcomes named in research studies. The distinctions among these various terms are tangible and not to be dismissed, but for purposes of the present essay, the word *faith* is used as shorthand for the phrase "faith, religion, or spirituality," and *medicine* is used in lieu of "medicine, health, healing, and healthcare." Usage of these single words, *faith* and *medicine*, is less awkward than rolling out the lengthy phrases on each occasion.

Up to now, discussions at the intersection of faith and medicine have taken place in the margins of the larger discourse on religion and science. Until recently, research and writing on religion as a putative factor in health and healing, especially empirical studies, have been in the margins of even the narrower scholarship on medicine in relation to personal expressions of faith. At the far edge of all this work lie many provocative and often newsworthy items, including the spate of controversial double-blinded clinical trials of distant prayer (see [35]), evaluations of medical cures at popular healing shrines (see [36]), and scientific studies of energy healing (see [37]).

These comments are not made to disparage such topics as unworthy of scholarship—quite the opposite. Nor are scholarly discussions of these topics being discounted—on the whole, this literature features acute and insightful analyses going back many decades. These topics include, and are not limited to, subjects as provocative as the history of religious healing [38], systematic summaries of research on religion and medical outcomes [39], and cross-religious comparisons of clinical

and biomedical ethics [40]. But, notwithstanding these many contributions, on the whole there is a prevailing sense that this general topic—the intersection of faith and medicine—remains for some within the mainstream of academic biomedicine a bit "lurid" [41, p. 345]. Even the finest, most methodologically sophisticated studies and analyses are seen as an unfortunate revisitation of a topic that is best left to ancient history [42]. Although this critique has been met with vigorous counter-critique, even regarding the contentious healing prayer studies (e.g., [43, 44]), if this overall subject is still perceived as marginal, then it may be partly justified. The reason, in the opinion of many who have commented on this issue, is a lack of theoretical grounding: if so many of the empirical studies that garner so much media attention look like one-off, poorly thought-out experiments in empiricism, it is because so many of them are (see [45, 46]).

To rectify this, a first step ought to be to differentiate among the possible approaches to engaging a hypothetical faith–medicine connection in order to identify any underlying common threads shared by types of research or scholarship. So much of the work that has been done seems to be about whether or how faith is substantively significant for medicine. This perspective appears to be ubiquitous. But this covers a lot ground, including streams of scholarship that have little, if anything, in common.

A closer look at the existing discourse on faith and medicine reveals that there are actually multiple discourses, which can be arranged under two large headings. They can be thought of as two distinct literatures or, more accurately, two distinct meta-literatures. The first meta-literature has been given recent attention by social scientists and some physician-researchers, but it exists largely in a vacuum, isolated from the mainstream of both religious scholarship and biomedical science. In this work, faith is a problematic, or focus of concern, for medical and health-related research. The second meta-literature has been given sustained attention by a relatively small number of religious scholars, including historians and ethicists who recognize the salience of faith for medicine and population health, but it seems to exist in a separate universe from the first category of research. In this work, medicine and healthcare are the problematic, or concern, for religious scholars.

The remainder of this essay describes these two meta-approaches to this subject and outlines their associated subcategories of scholarship. They can be thought of as competing theoretical lenses through which to view the historically longstanding back-and-forth between faith and medicine. Reflections are offered comparing and contrasting (a) medicine as a lens for observing and interpreting the human impact of religion and (b) religion as a lens for guiding and making sense of medicine's function in human lives.

Faith as a problematic for medicine

The first meta-literature to consider encompasses scholarship engaging the domain of religion, faith, and spirit as a radix of conceptual material to be brought to bear on matters of concern within medicine. Another way to describe this approach, or meta-approach, is faith engaged through a scientific, or medical-scientific, lens so

that insights may be brought to bear on how faith-related constructs contribute to medically defined outcomes.

Personal and institutional dimensions and expressions of faith have been observed to have an impact on health status, health behavior, and healthcare use through, by now, thousands of published studies [39]. The observation that faith matters for health, healing, and medicine has become something of a cliché and is no longer a particularly controversial statement, although whether faith matters for better or for worse—or something in between—continues to be debated and parsed. Also still a subject of academic discussion are conceptual and theoretical features of this research, as well as careful assessments of the overall methodological quality of population-based [47], social [48], behavioral [49], and clinical [50] studies. Another point of concern and debate: what to make of statistically significant findings from reputable studies, especially how this information should or should not be utilized in a translational-medicine context—that is, in moving from the lab (or survey shop) to the clinic or bedside.

This large and rapidly expanding body of research—or, more correctly, bodies of research—comprises many limbs. They include:

1. Randomized controlled clinical trials of prayer and non-contact healing, whose results are mixed but modestly positive [51];
2. Epidemiologic research identifying primary preventive effects of religious identity and participation on morbidity and mortality rates [52];
3. Clinical studies and population-based surveys modeling salutary effects of faith-related variables on physical and mental health outcomes [39];
4. Psychological experiments and quasi-experiments revealing positive impacts of religious traits, states, or interventions on health and well-being [53];
5. Behavioral and health services research studies identifying dimensions of religiousness that encourage healthy life style behaviors [54] and influence utilization rates and patterns of healthcare [55];
6. Qualitative studies by nursing researchers and medical anthropologists on beliefs, attitudes, and practices of spiritual and energy healers (e.g., [56]);
7. Bench research on physiological, psychophysiological, and pathophysiological correlates of spiritual states of consciousness [57];
8. Evaluative research on the effectiveness of congregational-based health promotion and disease prevention interventions and other partnerships between the medical and faith communities [58]; and,
9. Case studies of chaplains and pastoral care professionals that document provider–patient relationships, patient satisfaction, and the effectiveness of patient contacts (e.g., [59]).

While these classes of studies are distinct and disparate—in foci, in the questions asked, in methodologies, in the disciplines or professions of investigators—in the context of this essay, they are of a piece. They exemplify how investigators trained in the rational methods and theories of experimental or observational research, broadly defined, have looked to characteristics,

manifestations, functions, and expressions of human faith in order to identify correlates, predictors, or determinants either of medically related states and statuses of people or populations or of psychosocial aspects of these states or statuses.

This endeavor is not without some risk. For example, regarding whether prayers to God or faith in general are capable of healing disease through naturalistic means or otherwise, this subject challenges our tacit presumptions about the boundaries of reality and continues to engage the efforts of psychologists, physicists, and philosophers (see [60]). For some non-scholars, defenses of this research have taken on the tenor of religious apologetics or a defense of the faith or even of God. Yet, as has been noted, "If folks are looking to scientific research (on health, of all things) to validate the existence or motives of God, then they are looking in the wrong place" [61, p. 108]. At worst, because of how they have been misread and overinterpreted, these studies' findings have encouraged some very unrealistic expectations about God and faith and healing. To be fair, the other classes of research studies, identified above, are not as contentious as the matter of healing prayer.[1] But the prayer studies have garnered the lion's share of attention and critique and have come to represent this larger stream of faith–medicine research in the public eye.

Still, overall, empirical evidence cumulated over these many areas of research suggests that faith indeed matters to medicine, for better or for worse. Systematic reviews, meta-analyses, and consensus reports have concluded that, for the most part, faith matters for population rates of morbidity and mortality, for physical and mental health and well-being, for healing, and for healthy behavior and healthcare use; it impacts on physiological functioning and on the success of health promotion and disease prevention programs; and it influences interactions with providers in healthcare settings. Findings are not always significant, in a statistical sense, and where they are they are not always in a salutary direction, yet on the whole—mostly, on average, and across populations and studies—they indicate that this is so. Moreover, most of these findings fit squarely (i.e., plausibly, coherently) into existing theories of the social determinants of health (see [63]).

[1] This contentiousness is probably a function of the seeming impossibility of a healing power of distant prayer due to its apparent violation of the laws of physics or the laws of science itself. This is an oft-stated critique of the literature on this topic, which has been carefully rebutted [43, 62]. Contemporary physics has evolved considerably beyond the tacit understanding of those making such critiques, who tend to date themselves as largely unfamiliar with theories related to quantum and post-quantum models of the physical universe and with empirical evidence for the nonlocal characteristics of human consciousness. Another cause of the anger sometimes elicited by these studies probably stems from a general antipathy toward religion and spirituality on the part of skeptical critics. This hostility often bleeds over, unnecessarily, into the other classes of research studies, even though significant results for such studies are readily accommodated by naturalistic explanations. Findings linking frequent public religious behavior or greater self-assessed religiousness to, say, fewer depressive symptoms or greater positive well-being are of a piece with decades of empirical social and behavioral research identifying the wide-ranging impact of religion on things like socioeconomic mobility, voting behavior, family and marital functioning, prosocial behavior, interpersonal attitudes, and myriad other outcomes—none of which elicits controversy or assertions that the sanctity of science is being violated.

Medicine as a problematic for faith

The second meta-literature to consider encompasses scholarship engaging the domain of medicine as a radix of conceptual material to be applied to matters of concern within religion. Another way to characterize this particular meta-approach is as medicine and its attendant phenomena and institutions viewed through a religious lens so that insights may be brought to bear on how norms of medical practice and healthcare are or should be informed by religious principles and how they contribute to an externalization of said principles in the medical playing field. The domain of faith has something vital to say to and about the domain of medicine, drawing on understandings of the prophetic role of religion, of theodicy and social justice, and of the way in which divine law defines norms of human action. The faith–medicine conversation here is less about parsing a question of scientific cause and effect, as in the previous section, and more about moral theology.

Inclusive areas of scholarship here are parts of a discussion that has been ongoing longer and with more gravitas, all things considered, than the first meta-topic discussed above. Much of this work should be quite familiar to readers of this journal. Most of these scholarly subjects involve themes and considerations related to professional service and conduct or the ethics and imperatives of clinical decision-making. They include:

1. Bioethical discussions informed by religious ethics, including those derived from Christian (e.g., [64, 65]) and Jewish (e.g., [66, 67]) sources;
2. History of the religious origins of hospitals and medical care institutions, through sponsorship by churches and other ecclesial bodies, both West [68] and East [69];
3. History of medical and public health missions to underdeveloped parts of the world, sponsored by Protestant and Catholic organizations [70];
4. Modern history of Christian nursing, from nineteenth-century sister-nurses in the anglophone Catholic world [71] to its global organizational present as an increasingly evangelical movement [72];
5. Critical discourse on the sanctity of the body (e.g., [73]), on scriptural references to medical care and human physiology (e.g., [74]), and on medicine as a sacred calling [75];
6. Faith-based initiatives in community health, health policy, and social reform as an expression of efforts to meet covenantal obligations regarding compassion and justice (see [76]); and,
7. Development of classes, electives, clerkships, rotations, and lecture series in order to introduce faith-related content into undergraduate [77] and postgraduate [78] medical and health sciences curricula, an innovation that dates to Granger Westberg's tenure at the Baylor University College of Medicine in the 1960s [79, 80].

Again, as with the list of subjects in the previous section, while these topics are distinctive foci for scholarship among a diverse group of people from diverse disciplines and fields, in the context of the present essay these are all of a piece. The delivery of medical care across practice settings, the training of medical and

healthcare professionals, the calculus involved in medical decision-making, the justification for communal and national healthcare policies, and scholarly deliberations on the meaning of it all—these endeavors have been informed by religious or theological principles and considerations from the earliest times and from the origins of the healing arts. This is not to say that the best or most godly decisions are always made or that the best outcomes always result, but reference to sacred texts or to ultimate concerns has operated parallel to and in tandem with scientific justification for as long as medicine has existed.

This coexistence, too, comes with some risk, especially related to jurisdictional authority and turf disputes. Many questions arise (see [81]): How should providers accommodate patients' spirituality? How does one conduct a meaningful spiritual assessment? How are professional boundaries (e.g., between physicians and chaplains) best respected? How should one respond to a patient's request for prayer? These are questions for clinicians; however, there are also substantive issues to negotiate between the larger faith-based and medical sectors at the level of health policy. For example: How can public health agencies work with faith-based organizations to reduce health disparities? How can state and local governments partner with religious denominations and congregations for community health development? What are the legal and Constitutional parameters regarding such partnerships, and how can we avoid violating them?

These sorts of questions, especially the clinical ones, continue to be addressed by government agencies (e.g., [82]), expert panels (e.g., [83]), and individual physicians (e.g., [84]), as well as in medical specialty practice guidelines (e.g., [85]) and special issues of academic journals (e.g., [86–88]); but universally applicable answers are rarely disseminated. As the larger faith–medicine enterprise continues to grow and solidify—with scholarly papers and books, academic journals, consensus conferences, centers and institutes at major universities, and federal and private-sector research funding—it would behoove the major players to begin to address these issues in earnest. If not, this whole field will remain a sidelight, an academic and scientific curiosity tolerated by educational institutions but not given a substantial or meaningful role in deliberations about the future of medicine. There is by now sufficient evidence, empirical and historical, that personal and institutional expressions of faith and worldview underlie professional and clinical issues related to medical care, explicitly or implicitly, and these merit documentation and analysis.

Just as faith and spirituality have emerged as a significant focus within twenty-first-century medicine—again, for better or worse—so too have medicine and healing experienced a renewed focus within contemporary religious scholarship. The pushback on the latter may not be as great as the pushback on research studies about the former, but this does not imply that the topics just listed are met with a uniformity of opinion or are universally accepted as beneficial. That is, while discussions of religious bioethics, medical missions, and faith-based healthcare advocacy, for example, are not as controversial as topics of scholarship as, say, research on a hypothetical healing power of prayer, the substance of these discussions is just as contentious and far more societally impactful (see [89]). Medical scientists and religious scholars cannot avoid these subjects, and scholars of faith and medicine ought not to apologize for engaging these issues.

Faith and medicine as competing lenses for viewing human well-being

The distinction between these two meta-literatures discoursing on the intersection of faith and medicine is not simply a heuristic construction for organizing approaches to exploring the relations between the two domains. It points, as well, to something of a paradigmatic distinction between competing lenses for describing and identifying what matters for human well-being. The word *paradigm* has been much used, of course, since Thomas Kuhn [90], but also much misused: the findings of a critical analysis point to nearly two dozen very different meanings ascribed to the concept in sociological writing alone (see [91]). (Such discussion is beyond the scope of the present paper.) So, for simplicity's sake, other words such as *lens* are used here. Also, medicine per se is not, strictly speaking, a paradigm; rather, it is a domain of human activity that can be characterized by competing paradigmatic approaches which serve as lenses for focusing on and making sense of the world of health and healing. For Western biomedicine, at present, that paradigm or worldview is grounded in a naturalistic and mechanical understanding of the body and its pathophysiological functioning [92].

Taking this into account, it is contended that the domains of faith and medicine, in the broadest sense, represent competing lenses for viewing and defining a human being and for attempting to make sense of the universe and the place of human life within it. They also each characteristically posit how the hypothetically transcendent elements of human existence or consciousness relate to the tangible. The relations between faith and medicine thus mirror those between spirit and flesh—representing and reflecting this larger dichotomy on a smaller, institutional scale.

Faith communicates to us about the universe, and about human life and well-being, in characteristic ways distinct from how medicine does the same. Faith instructs us that the world is a mysterious place with a possibly transcendent dimension to reality, and it organizes our perception of and response to such accordingly. In other words, religion and religions help to regulate the human encounter with transcendence, a function conceptualized in various ways: defining the boundaries of the numinous [93], bringing a sense of order and meaning to human existence [94], parsing sacred and profane space and experience [95], providing rites and symbol systems that imbue the communal construction of moral feelings [96], supplying general compensators for desired rewards based on supernatural explanations [97], and drawing phenomenological boundaries around multidimensional expressions of worldviews [98]. This view of human life and of religion's place and function within it dictates the substance of and motives for faith's theoretical encounter with medicine: mainly as a domain of human action in which ultimate concerns of a religious nature can bring to bear holy or divine insights in order to inform moral decision-making.

The ways in which medicine tells us about the universe and about human life and well-being are, in turn, distinct from how faith goes about doing the same. Medicine (or, rather, Western biomedicine) teaches us that humans are, fundamentally, a mechanical apparatus sloshing around in a bag of chemicals. Medicine

helps to rationalize and regulate the functioning of this machine through means akin to bioengineering. In other words, medicine helps to maintain the functioning of a human life, an operation conceptualized in explicitly mechanical ways—for example, the body as a machine that is "better than any machine of human invention" [99, p. 1], diseases as "great disruptions in the fabric of nature" [100, p. 63], and thus healing as "manipulation and management" in accordance with "physicalistic reductionistic" assumptions [100, pp. 76–77]. This view of human life dictates the methodological approach to medicine's encounter with faith—mainly as a categorical source of variables that can be used to predict health-related outcomes, much as in medicine's encounters with other domains, such as the biological, biochemical, mental, behavioral, social, or environmental. It is from dissatisfaction with this purely mechanical idiom that recent humanistic approaches to rethinking the determinants of health and healing draw their inspiration, including the biopsychosocial model [101], the web of causation [102], psychoneuroimmunology [103], and the stress paradigm [104].

The religion and science literature has had relatively little to say about the intersection of faith and medicine, much less about faith and medicine as respective worldview categories. Reflections on medicine, healthcare, or healing are relegated to a small corner of the field, a category—among many—touched on only briefly in analyses of the intersection of religion and science. Medicine is likewise a niche concern among historians of religion (e.g., [105]) and sociologists of religion (e.g., [106]), and ditto for religion among historians of medicine (e.g., [107]). A small number of historians, as well, focus their work equally on religion and on medicine (e.g., [108]). Still, little guidance exists from within the religion and science field on how to reconcile or think about faith and medicine as competing lenses for viewing and understanding human life or, more specifically, for understanding what makes for health, wholeness, and well-being. Nor has much discussion been given to how these approaches may be able to complement one another moving forward.

Within the religion and science field, more thought has been given to such analyses regarding faith in relation to science in general. A contemporary example of recent vintage is Peter Harrison's provocative work rethinking whether these competing institutions—religion and science—have actually been as conflictual as commonly presumed [109]. His conclusion is that the conflict narrative is a "myth" that has been oversold. That is not to say that these institutions, or domains, have existed cozily for centuries, but that they have not necessarily been in competition, rather perhaps mutually influencing each other. The same deep and profound analysis, it is hoped, might someday be applied to faith and medicine.

For now, a few preliminary thoughts are offered, but these are complicated by the stature in which physicians and biomedical scientists are held in contemporary discourse, relative to clerics, when adjudicating serious matters related to human life. Physicians have been compared to a secular priesthood [110], which may be hopeful or despairing, depending on one's perspective. In any public battle between medical and ecclesial authorities, the popular-culture opinion leaders seem likely to side with the medical scientists. This creates a challenging situation for research on controversial questions at the intersection of faith and medicine, none more controversial than "does faith or prayer heal?"

Science and biomedicine have become lenses through which religion—something seemingly ephemeral, subjective, mysterious, and transcendent, perhaps even intractable—can be rationalized and made reducible to something amenable to systematic inquiry by observational or experimental science. This adaptation presents problems for the discourse, as it asks scientific methodologies to do work that they may not be equipped to do. Questions related to the existence of God or supernatural realities and the nature of their putative influence on the manifested universe and on the course of human affairs have challenged the greatest minds for thousands of years. It requires great hubris to presume that the sorts of studies conducted by medical scientists are the ideal way to obtain such answers [28, p. 145].

The reductionist models espoused by medical science may be incapable of accommodating the nuance required to competently address matters related to the existence and operation of "spiritual" forces in relation to medicine. They may even reject the existence of such nuance: only the physical and mechanical are objective and thus real. Frustration over the healing prayer studies becomes easier to understand in this light. In settling scientific controversies related to healing, biomedical lenses are favored over religious lenses, at least as far as offering sanctioned perspectives on the definition of human life and on what is or is not acceptable belief and behavior. This is seen in the continued medicalization of previously moral issues such as criminal behavior and political dissent [111], along with other activities prompting negative sanctions and social control [112]. The medicalization of spirituality itself, and its putative influence on well-being, is thus not surprising (see, e.g., discussion in [113]).

Perhaps this explains why the two perspectives termed *faith as a problematic for medicine*—the methodologies of medical research applied to calculate the health or healing impact of expressions of faith—and *medicine as a problematic for faith*—faith perspectives applied to concerns that emerge in the practice of medicine—must each cope with their own respective marginality issues, even if these issues are not quite the same.

On the one hand, consider research studies on faith and health, including the above-noted studies of prayer and healing. While there may be some uneasiness in treating the faith domain as a source of information relevant to health and healing, medicine defines the questions and the outcomes under study, as well as the methodology for doing so. Thus, there is little doubt as to which domain is in charge here. Medicine defines the questions and the approach to answering the questions; faith is simply the source of variance, to use a statistical metaphor. Faith, in this context, could just as well be replaced with addictive behavior, exposure to environmental toxins, or hormone levels—each of which also serves as a problematic for medicine in its own respective literature.

This hierarchy is fueled, too, by rebuttals to this work from among those in the religious community who recognize its potential to distort the meaning, message, and purpose of faith [114] or to commit outright blasphemy, such as that due to "testing God" via experimental trials (see [115]). Whether or not these particular criticisms are wholly or partly true is not at issue here. But they point to problems inherent in reducing faith to a source of variables for data analyses that attempt to predict one or another outcome deemed medically relevant. Such analyses are not

impossible—thousands of research studies show otherwise—but one is cautioned to tread lightly and take more care in interpreting what such data, with all their inherent limitations, can or cannot reveal about the influence of a global, amorphous "religion." An outside observer of this literature would be excused if she or he were to note that overstatement here continues to persist.

On the other hand, consider the field of religious bioethics, featuring, for example, theologically sanctioned guidance for resolving complex clinical decision-making. The faith domain or perspective is invited to weigh in on matters of grave importance to medicine and, presumably, to the well-being of patients and populations. Because it is the faith domain that defines the terms here—the concepts, the rules, the calculus of the *responsa* process, and so on—it risks being ignored by medicine, which carries the ultimate power and authority within the healthcare arena and which is already invested in supporting secular ethics that more readily sanction its innovations.

In both instances—faith as problematic for medicine and medicine as problematic for faith—medicine holds the greater power, even where the faith domain defines the terms of engagement. Medicine, in the final analysis, calls the shots and jealously guards its turf, uneasy about sharing decision-making authority with faith even in matters where faith possesses expertise that better equips it to make informed judgments. Where faith maintains a say (e.g., in bioethics, healthcare chaplaincy, medical missions), it does so only because medicine lets it. More could be said, but suffice it to add one note: the dynamics of the faith–medicine relationship, as manifested in all sorts of research and scholarly endeavors and in all manner of professional activities, is complex and a function of dynamic forces, both historical and political (see [41]).

So, in sum, there is good reason to believe that faith and medicine are mutually impactful and that scholarship on their interrelations is worthy of further development. Faith has as much to gain through dialogue with medicine as medicine has to gain through dialogue with faith. There is much yet to learn, and research and writing on this subject have much to offer, but a more thoughtful approach would be welcomed. Especially helpful would be for the discussion of faith and medicine to gain a place at the table as a worthwhile topic of inquiry in the field of religion and science. The discourse would benefit from engagement by scholars accustomed to debating more global, philosophical, and historically longstanding issues at the interface of religion and science, and scholarship on religion and science would benefit from more focused consideration of medical themes. The handful of biomedically themed papers that have appeared in the religion and science literature over the past 50 years, relative to other areas of physical and biological science, are a hopeful start, but more programmatic inquiry is needed.

The faith–medicine discussion has reached a stage similar to that of religion and science, as described several years ago: "a series of sorties back and forth between the camps, with new treaties and joint undertakings arising" [116, p. 24]. The next step, as per Ralph Wendell Burhoe's advice, ought to involve collaborative theory-building "toward a richer doctrine of the realities on which man's life depends" [117, p. 125]. Perhaps someday scholars of faith and medicine will work together in true collaborative partnerships, across disciplines, with conversations founded in

shared concerns, rather than speaking at cross-purposes due to viewing the world through competing lenses.

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