

## HOW FAITH HEALS: A THEORETICAL MODEL

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This paper summarizes theoretical perspectives from psychology supportive of a healing effect of faith. First, faith is defined as a congruence of belief, trust, and obedience in relation to God or the divine. Second, evidence for a faith-healing association is presented, empirically and in theory. To exemplify religiously sanctioned affirmation of such a connection, selected passages are cited from the Jewish canon attesting to biblical and rabbinic support for a faith factor in longevity, disease risk, mental health and well-being, disease prevention, and healing. Third, reference to theories of hope, learned optimism, positive illusions, and opening up or disclosure, and to theory and research on psycho-

neuroimmunology and placebos, demonstrates that contemporary psychology can accommodate a healing power of faith. This is summarized in a typology of five hypothesized mechanisms underlying a faith-healing association, termed behavioral/conative, interpersonal, cognitive, affective, and psychophysiological. Finally, implications are discussed for the rapprochement of religion and medicine.

**Key words:** Religion, spirituality, faith, healing, health psychology, Judaism

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## INTRODUCTION

In 1910, Sir William Osler, a founding father of Western scientific medicine and at the time the Regius Professor of Medicine at Oxford University, published a now classic paper in the *British Medical Journal* entitled, "The Faith that Heals."<sup>1</sup> In his article, Osler extolled the many virtues of faith, especially in relation to a putative salutary role in health, healing, and medicine. To wit: "Nothing in life is more wonderful than faith," "[F]aith is the cement which binds man to man in every relation in life," "Faith is indeed one of the miracles of human nature which science is as ready to accept as it is to study its marvelous effects," and, "[F]aith has always played a strong role as a popular measure of cure."<sup>1(p1470,1471)</sup>

Sixty-five years later, Dr Jerome D. Frank, preeminent Johns Hopkins psychiatrist, revisited these themes in a seminal paper also named, "The Faith that Heals."<sup>2</sup> Frank concurred with Osler that faith "is an important topic that is conspicuously absent from the medical school curriculum,"<sup>2(p127)</sup> and explained that the concept has significant connotations for healing besides its obvious religious context. For Frank, "The most powerful single stimulator of the patient's expectant faith is, of course, the physician himself."<sup>2(p130)</sup> The role of faith in healing, then, was seen as an important marker of the salience of the human mind and its associated functions and effects for medicine and healthcare, a topic just beginning to emerge into the mainstream of biomedical consciousness at the time of Frank's article, published in *The Johns Hopkins Medical Journal* in 1975.

Use of these two words, "faith" and "heals," juxtaposed, in the title of not just one but two historically significant articles in premiere medical journals may be surprising and not a little bit unnerving to those previously unexposed to these now classic

papers. These words, together, evoke curiosity, at best, and controversy, at worst, conjuring up lurid images of fraudulent faith healers and other connotations that for biomedicine might best be relegated to the past. Nonetheless, Osler had something important in mind that he articulated clearly: that the impact of faith is very real and cannot be denied, as honest clinical observation will attest. He noted, "Faith in *St. Johns Hopkins*, as we used to call him, an atmosphere of optimism, and cheerful nurses, worked just the same sort of cures as did Aesculapius at Epidaurus."<sup>1(p1471)</sup>

Frank, too, believed this to be true. "The point," he concluded, "is that all medical and surgical procedures conducted within the walls of Johns Hopkins, although viewed as purely scientific by the staff, mobilize the faith that heals in the patients."<sup>2(p129)</sup> Osler and Frank did not know it at the time that their articles were published, but their sentiments presaged a coming sea change both in our understandings of the determinants of health and in the practice of medicine.

In the 30-plus years since Frank's revisiting of Osler, scientific investigation of the health impact of faith, in a broad sense, has steadily expanded within public health, medicine, and the medical social and behavioral sciences. What many investigators may not realize is that scientists and clinicians have been exploring this topic, empirically, for over a century. Comprehensive literature reviews of the inclusion of religious variables in health and medical surveys have identified epidemiologic investigations that calculated risks or odds of such measures in relation to population-health indices as long ago as the late 19th century.<sup>3</sup> Theoretical exploration of putative faith-health connections, within the nascent literatures of psychiatry and pastoral care, date back even further.<sup>4</sup>

At the beginning of this decade, one comprehensive overview found over 1,200 empirical studies of religion and health that had been published in the peer-reviewed literature.<sup>5</sup> According to various reviews, between three quarters and in excess of 90% of these studies obtained positive findings, depending upon the health outcome in question. Various competing "mechanisms,"

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or scientific explanations, have been posited for these results, grounded in biobehavioral and psychosocial functions or sequelae of religious expression that are posited to mediate putative religion-health connections. These include health-related behavior, social support, positive emotions, healthy beliefs, and positive expectations.<sup>6</sup>

This latter possibility has been suggested as a possible explanation for that subset of studies identifying significant health or healing effects of measures capturing some sort of cognitive self-appraisal of the strength of one's commitment to a religion or to God. These include subjective self-assessments of the depth or magnitude of one's global or overall sense of religiousness. Several notable studies have validated these sorts of measures as significantly health related,<sup>7-17</sup> and the possibility of a salutary function of positive expectations seems a good place to begin in making sense of these findings.

Faith-based expectations also seem to be implicated in studies of ostensible healing sequelae of prayer or religious ministrations among, or offered to, members of clinical cohorts, such as hospitalized medical or psychiatric patients. Several of the studies conducted by Dr Harold G. Koenig and colleagues at Duke University Medical Center over the past 20 years have been of this variety.<sup>18</sup> Koenig, the preeminent clinical researcher in this field, is blunt in his assessment of the operant factor here, attributing results to a "healing power of faith."<sup>18</sup>

The implication of this research and writing, taken together, seems clear: faith can heal. Expressions of faith—in God or in whomever or whatever—are potentially therapeutic. That, we might say, is the "what" of this issue. This conclusion may challenge certain people's negative presumptions and prejudices about religion, and indeed, may be hard to accept for some. But the empirical data speak for themselves. Yet, in fairness, positive findings alone are rarely enough to alter entrenched perceptions about the salience of a potentially new therapeutic agent that, until then, had been unproven. Accordingly, until we can propose answers for the "how" or "why" of a faith-healing connection, not just the "what," this topic will remain marginal and likely controversial, and rightly so.

Before going further, here are a few words on what this paper is *not* about. This is important to clarify, as the juxtaposition of "faith" and "healing" in the context of the medical literature tends to evoke strong reactions and, moreover, implies different things to different people in different fields.

First, this paper is *not* about the impact of religious participation, in general, on health status indicators or on rates of morbidity or mortality. This has been done elsewhere, repeatedly, and is no longer a particularly controversial topic. Epidemiologic research by now has shown that measures of religious identification, practice, feelings, and belief are associated at statistically significant levels with health and disease outcomes across the spectrum of chronic and acute diseases, across the life course, and across myriad social and demographic subgroups of the adult population.<sup>5,6,19</sup> The issue taken up in the present paper pertains to a subdimension of the larger construct of religion, namely the expression of faith.

Second, this paper is *not* about the effects of faith as an explanation for the primary prevention of morbidity or mortality or the promotion of health. This is a subsidiary topic within the

literature on the "epidemiology of religion"<sup>20</sup> and is discussed to some extent in many of the existing reviews of that field.<sup>21</sup> Expressions of faith are believed to exhibit a modest primary-preventive impact, perhaps due to engendering hope, optimism, and positive expectations, factors that have been shown or suggested to influence the occurrence and distribution of physical and psychological well-being. Rather, in this paper faith is examined in clinical rather than epidemiologic context—that is, in relation to the healing of disease, not the prevention of deleterious population-health outcomes. We examine that constellation of cognitions and attitudes borne out of a belief and trust in God and reliance upon God's agency as a putative factor in salutogenesis, or the healing process.

Third, and most emphatically, this paper is *not* about hypothetical supernatural or paranormal types of "faith healing," whether from a distance or more proximally, that invoke potentially unprovable or currently superempirical forces or energies or theories. This, too, has been discussed elsewhere, and, by contrast to the first point above, remains a contentious and controversial topic.<sup>22</sup> Moreover, it has yet to become a serious biomedical or behavioral science topic, garnering instead the attention mostly of physical scientists, parapsychologists, philosophers, and some physicians. No disparagement is meant at all. This provocative and important subject has been explored with great insight and circumspection by respected scholars such as Dr Larry Dossey, the executive editor of this journal, whose discussions of nonlocal consciousness as a factor in healing are foundational for this issue.<sup>23</sup> To be clear, the topic to be discussed in this paper does indeed concern healing, as opposed to disease prevention or population health, as noted, but healing due solely to ostensibly naturalistic forces founded in psychosocial influences operating within the individual whose health is at issue. We are concerned here with the potential healing effect of *one's own faith*, not the faith of benevolent others projected to one from afar through praying or via some unknown or mysterious pathway.

To summarize, the focus here is on one's faith (not distant prayer, not church attendance, not the now ubiquitous "spirituality") as a potential explanation specifically for the healing of one's own disease (not the prevention of morbidity or mortality, not the promotion of health or well-being). Our objective is to show that far from being a topic that scientists and physicians should fear or disparage, there is sound rationale, based on mainstream psychosocial theories, for expecting that faith may exhibit a salutogenic effect in certain circumstances.

## WHAT IS FAITH AND WHAT IS HEALING?

The words *faith* and *healing* carry quite a punch, evoking equal parts gravitas and a vaguely lurid sense, especially within the biomedical sphere. They are emotion-laden terms even in normal discourse, much less in the context of clinical medicine.

To some, faith is a good thing, a noble virtue on par with hope, love, and charity, and something that we all presumably strive to realize in our lives. To others, it is no less than an affront to reason, and rationality, after all, is a presumed cornerstone of Western biomedical science. Likewise, to some, healing connotes all manner of wonderful and disparate phenomena—the

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laying on of hands, full recovery from a disease state, the process by which recovery or remission occurs, or all of the above. To others, the word healing connotes very little of importance, save the adhesion and granulation of a focal lesion, as in the familiar concept of wound healing.

If we are to understand how these two concepts, faith and healing, can be reconciled, we first must be clear on what these two concepts mean. In other words, before we can explore the theoretical, we first must deal with the conceptual. This implies two questions: first, what is faith, and, second, what is healing?

In a religious context, according to most authoritative theological sources, the word faith denotes belief, trust, and obedience, joined together, directed to God or to another divine being,<sup>24</sup> or to the sacred, holy, or divine, in general. How exactly faith is unpacked in the world's various theistic traditions—the calculus regarding its functions in the human psyche and in a human life—varies somewhat, but common threads can be observed. For Muslims, *imān* (faith) is intimately tied into *islām* (submission) and *ihsān* (doing good).<sup>25</sup> These concepts “converge in worship of God and service to others.”<sup>25(p53)</sup> For rabbinic Judaism, *emunah* (faith) is most completely expressed through a combination of *torah* (learning), *avodah* (worship of God), and *g'milut chasadim* (acts of loving kindness) in pursuit of and in service to *emet* (truth), *shalom* (peace), and *din* (justice), according to the Mishnaic Pirke Avot.<sup>26</sup> For the Lutheran minister and systematic theologian Dr Paul Tillich, faith is “ultimate concern,” a perfect balance of reason, emotion, and will.<sup>27</sup>

Despite the divergent cultural and theological origins of these traditions, we can observe considerable congruence. There is a mental or cognitive or intellectual component; an emotional or affective component; and a premium placed on action. In expressing faith, the mind, heart, and body are mutually joined in advancement of a righteous end. The definition of faith proffered here is pretty much standard across theistic traditions. To say, “I am a person of faith,” is to say, “I believe in, trust, and strive to obey God.”

Faith, then, is belief acted on, with instrumentalities of both affect and behavior. Belief and trust, accompanied by an effort to put them into action, ideally create a sense of hope or optimism or expectation that, reinforced, ultimately leads to reliance upon the object of one's faith. As a regular feature of one's mental and emotional constitution, faith then presumably becomes a force for positive change in one's life and, ideally, in the lives of others. Might this include one's health? According to Osler and Frank, faith can be projected onto God, for sure, but also onto one's medical and healthcare providers. No matter, their observations convinced them that this faith, to whomever expressed, may be a significant ally in therapy.

Among Western medical pioneers, Osler was not alone in calling attention to the therapeutic consequences of faith. In 1926, the *Journal of the American Medical Association* published a fascinating three-part series of articles by Dr Alice E. Paulsen on the theme of “religious healing.”<sup>28</sup> This report, prepared under the auspices of the New York Academy of Medicine, is one of the great hidden treasures of early 20th century medicine and an important primary document for historians of mind-body healing. Toward the end of her report, Paulsen thoroughly outlines those “psychologic factors” that may account for faith cures

subsequent to church- or religious-based spiritual healing treatments. This section is essentially a primer of possible explanations for a healing effect of faith, and she broaches this subject matter in a way that would be considered cutting edge still today.

So, how does faith heal? One possibility, according to Paulsen, is by *suggestion*. Through “discussion, reading, recitation, meditation, concentration,” and so on, “[i]nhibitory influences in either the mind or in the body” are counteracted.<sup>28(p1693)</sup> Another possibility is something akin to *hypnosis*—an altered state of consciousness induced by faith, or a faith healer, that enables one to marshal what today we might refer to as self-soothing psychophysiological mechanisms that enhance coping and mitigate pain, symptoms, and morbidity.<sup>29</sup> Yet another possibility is the salutary *emotional effect* of faith—as a result of affirming God's omnipotence, omniscience, omnipresence, and beneficence and the possibility of a personal relationship through which contact and communion with God is possible. Other hypothetical mechanisms or mediators of a faith-healing connection are related to the idea of a *flow of energy* (akin to Qi, perhaps); to characteristic features of *personality, mental attitude, mental states, and instincts*; and, finally, to other “forces not ordinarily recognized.”<sup>28(p1694)</sup> Paulsen concludes her report with a remark notable for its prescience, although she was about 80 years ahead of her time: “The whole problem is a serious one which the medical profession should not ignore.”<sup>28(p1697)</sup>

We now come to our second question: what is healing? This may be a simple question, but it does not elicit a simple answer. Unlike faith, whose meaning converges around a few simple commonalities even among diverse religious traditions, healing means dramatically different things to different people, even within the medical field. In a recent medical journal article, the present author offered the following observation:

To some, healing is an intervention, as in Therapeutic Touch or Reiki. Healing is something done by healers—a therapeutic modality delivered by a practitioner to a client. To others, healing is an outcome, such as recovery from illness or curing of a disease. As a result of treatment, whether conventional or alternative, we hope to experience a healing. To still others, healing is a process—for example, Antonovsky's concept of salutogenesis. When the pathogenic process is halted, we then ideally may begin healing—moving from a state of disease to a state of renewed health.

In some unfortunate pieces of writing, healing is all three of these things at the same time. Healing is something practiced by healers that initiates a healing process so that we may obtain healing. All things to all people, healing, so used, as a construct for systematic research is thus close to worthless.<sup>30(p302)</sup>

We do not claim to be able to resolve this quandary here. What healing “really” is in some ways is an existential question, and, regardless, it remains to be addressed at another time. Like any other word, healing is whatever people agree that it is. The confusion is that in this instance scholars and scientists coalesce around three different meanings. For the present paper, we will keep to the strict biomedical usage: healing in its connotation as an idealized outcome of medical therapy—not as a technique, as among hands-on healers, nor as the process of salutogenesis. In

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other recent works, for those interested, we have explored healing in those other two tenses or connotations, respectively.<sup>31,32</sup>

According to biomedical convention, the word healing, where it is used at all, refers almost exclusively to the adhesion and granulation of a focal lesion such as a dermal wound. Healing thus connotes the successful outcome, the endpoint, of a multifactorial process of recovery, restoration, and, ideally, curing.<sup>33</sup> In nursing, clinical psychology, and a few other fields, healing in this tense, as an outcome, is sometimes used a bit more broadly to refer to things like recovery, remission, and cure, in general, not solely in relation to flesh wounds. When we state that in this paper we will reserve our use of the word healing for the traditional biomedical usage, it is this tense of healing that we have in mind. Healing as an outcome, whether focal or systemic or something in between.

Clearly, we are placing a premium on precise distinctions among both religious concepts and health-related concepts. In this field, when we speak of faith, we should mean faith, not religion, spirituality, prayer, etc. When we speak of healing, we should mean healing, not health, medicine, healthcare, etc. The absence of such conceptual precision in “language” both faith and healing, and the other concepts mentioned, is responsible, in part, for the religion and health field being the conceptual wasteland that it has become, outside of the very top tier of research. If this work has been misunderstood and held in disrepute by those scientists within clinical and biomedical fields who are unfamiliar with both its content and methods, then perhaps the investigators themselves must bear some of the blame. As a pioneer in this field, the present author finds it painful to state this, but he believes it to be undeniably true.

The conceptual weakness of this field is even more exaggerated in the emerging scholarly discourse on distant prayer, energy healing, and nonlocal effects of spirituality. For every Dr Larry Dossey<sup>23</sup> or Dr Daniel Benor,<sup>34</sup> for example, two physicians who know this literature inside and out, there are dozens of mostly uninformed partisans of one stripe or another—religious dogmatists, skeptics, alternative medicine enthusiasts—each advancing a respective take on what this research “means,” yet without a competent grasp of this field’s associated conceptual, theoretical, or methodological bases. It would be a shame to see this same situation take hold with respect to the conversation on faith and healing. Thus, this comprehensive primer, which is offered up to frame the discussion that follows.

### THE SALUTARY EFFECTS OF FAITH

The idea that faith may possess salutary properties is as old as medicine itself.<sup>35</sup> That the cosmic beliefs and attitudes of human beings—about the world in which we live, about the sacred or divine, about how the macrocosm impacts on the microcosm—and the relationship of we humans to these divine forces and realities influence the course of disease has been a common tenet of ancient and esoteric traditions of healing across cultures and throughout history.<sup>36</sup> We can see this in the healing arts of Asclepius and the early church,<sup>37</sup> of the Tibetan *rGyud-bZhr*<sup>38</sup> and Indian Ayurveda,<sup>39</sup> and of myriad other therapeutic systems of assorted gnostics, kabbalists, shamans, initiatory brotherhoods, and mystics, East and West.<sup>36</sup>

The possibility that characteristics, functions, or expressions of religious life may have something to say about the occurrence and distribution of disease among human populations is also a concept of great currency in contemporary Western medicine. The clinical observations of Osler and Frank, borne out in a thousand-plus empirical studies, have inspired notable efforts to reason through the likely mechanisms that may explain such associations in terms of existing, scientifically validated concepts.<sup>21,17,40-42</sup> Health-impacting effects of various dimensions of religious expression explored throughout this literature, including religious faith, have been understood in different ways, specific to the dimension being researched. Current consensus on this issue was briefly summarized in a recent article:

Religious commitment may influence health through promotion of healthy behaviors. Religious fellowship may impact health through facilitating social support. Religious worship may produce positive emotions with preventive or therapeutic benefit. Certain religious beliefs may be consonant with healthy beliefs that foster preventive healthcare practices. Finally, religious faith may create positive expectations that prevent or ameliorate psychological distress. Expressions of religiousness thus mobilize personal and congregational resources that may foster better healthcare use, health practices, and health status.<sup>43</sup> (p1168)

The key feature of this explanatory model for the present paper is the piece about faith. Might faith indeed produce cognitions and attitudes that mitigate the deleterious effects of illness or the stressors and challenges that produce disease? Might there thus be a preventive or therapeutic significance to faith? Other experts concur that this is a real possibility.

For example, Idler hypothesizes two distinct “cognitive consequences” of religion for health: “the reduction of a sense of fatalism or helplessness in the face of the unpredictability of the environment . . . and the fostering of a sense of optimism, . . . a perception that things will turn out all right, whether one has any control over them.”<sup>17(p229)</sup> Vaux understands “the idea that wholesome, internalized, active religious faith does promote health”<sup>44(p526)</sup> to be attributable, in part, to a “sense of immortality,” which he explains as “peace in existence” and “a life-orientation derived from a more basic confidence that alienation from God and self has been overcome, release from eternal death has been accomplished.”<sup>44(p530)</sup> Vanderpool identifies “trust in God and his power” as “a crucial factor in healing” that dates, in the West, to the healing ministry of Jesus,<sup>45(p257)</sup> and that may be interpretable in light of contemporary discoveries related to psychosomatic medicine, biofeedback, and immunology. Allport speaks of the explicitly “therapeutic” and “preventive” functions of what he terms “intrinsic religion,”<sup>46</sup> or an “interiorized” religious outlook grounded in earnest devotion, piety, and absorption in one’s religion and relationship with God, in contrast to an “extrinsic” religiousness based on superficial institutional identification,<sup>47</sup> which he sees as likely harmful to mental health.<sup>46</sup>

The commonality among these observations is that something in the makeup of faith realized—of being faithful, expressing faith, living a life imbued with faith—mobilizes psychological or psychosocial resources that serve to interrupt the course or



progression of the natural history of a respective disease or generalized state of health risk. It may be that faith constitutes something akin to Matarazzo's concept of "behavioral immunogens,"<sup>48</sup> and thus serves to strengthen host resistance and both prevent subsequent pathogenesis and perhaps facilitate salutogenesis, or healing.<sup>21</sup> If so, then faith merits consideration as a construct whose instrumentalities may be of considerable importance for future investigations of "the natural history of health."<sup>32</sup>

Before tackling the question of how exactly it is that faith manifests its ostensible salutary or salutogenic function or functions, we first must demonstrate how it is that religions stimulate and reinforce faith. That is, before any concerted effort to theorize about the healing properties of religious faith, we need to establish the connection between religion and faith. This may sound like a funny thing to say; after all, faith is a presumed correlate of religious practice, at least ideally. Religious messages, originating in sacred texts and reinforced from the pulpit, in religious doctrines, and in formal and informal congregational interactions, serve to nourish an expectation of God's abiding interest in the circumstances of the lives of the faithful. Sacred words of divine promise that encourage belief, trust, and obedience thus work to reify the covenant of faith that binds humans to God.

Scriptural references to salutogenic or generally salutary effects of religious faith represent a consistent theme within the sacred writings of diverse faith traditions. Promises of healing made to the faithful, however status as a person of faith is construed in respective traditions, are found in holy texts of both theistic and nontheistic religions. These include passages that frame such guarantees by using words like health, healing, longevity, sickness, illness, or disease, as well as passages promising a broader sense of protection for all of one's endeavors and circumstances, inclusive of physical well-being but more encompassing than plain reference to health. For example:

- *Judaism*: You shall serve the Lord your God, and He will bless your bread and your water. And I will remove sickness from your midst.<sup>49</sup>
- *Christianity*: Put on the full armor of God, that you may be able to stand firm against the wiles of the devil.<sup>50</sup>
- *Islam*: Allah is all-sufficient for the man who puts his trust in him. . . . He will bring ease after hardship.<sup>51</sup>
- *Hinduism*: Those who follow my doctrine and who have faith, and have a good will, find through pure work their freedom.<sup>52</sup>
- *Buddhism*: By faith, by virtue and energy, by deep contemplation and vision, by wisdom and by right action, you shall overcome the sorrows of life.<sup>53</sup>
- *Taoism*: Following the way from the start he may be said to accumulate an abundance of virtue; accumulating an abundance of virtue there is nothing he cannot overcome.<sup>54</sup>

It is important to recognize that such messages as are promulgated in sacred texts may be construed by the faithful as constituting a divine promise. This is an important point, especially if we are to understand a link between such words and a putative healing power. These messages typically make this very point explicitly—that God, or the divine, guarantees something of last-

ing value to those of faith. Taken to heart, such words may serve to instill and reinforce expectations of blessing, including of healing or restored health, even in the face of tremendous physical and life challenges.

### EXAMPLES FROM THE JEWISH CANON

To exemplify this further, let us now examine one particular faith tradition in greater depth. The religion that has been chosen is Judaism, specifically rabbinic or post-Temple Judaism. This is the Jewish religion of the past two millennia, a religion of rabbis and synagogues and rabbinic codes of conduct based on the oral Torah. This tradition—think of it as Judaism version 2.0—stands in contrast to the Judaism of the Bible, a religion of priests and temple sacrifices, an essential distinction that may be unfamiliar to non-Jews. The relation between faith and healing (and other health-related outcomes) is a topic that has been much explored in Jewish rabbinic texts since the redaction of the oral Torah and its commentaries. Entire volumes, in fact, have been written that synthesize and organize biblical, Talmudic, and Midrashic teachings about the body, about human physiology, and about medicine and healing. One notable example is Preuss's monumental *Biblical and Talmudic Medicine*,<sup>55</sup> a veritable textbook of medicine derived from these sources. The most obvious medieval example would be the work of Moses ben Maimon (Maimonides), both philosophical theologian and physician, who wrote prolifically on each topic and on their intersection.<sup>56</sup>

But, first, a few words on what constitutes the Jewish canon, including the rabbinic literature. According to the traditional view, when God gave Torah to Moses on Sinai, both a written Torah (the Bible) and a lengthier oral Torah were given. The latter was passed down by oral tradition until the beginning of the common era, when a generation of rabbis known as the Tannaim redacted this material into the Mishnah, a philosophical legal code. A subsequent generation of rabbis, known as the Amoraim, commented upon and analyzed the Mishnah and its gloss, the Tosefta, and the record of their debates and discussions is preserved in the Gemara. Two sets of Gemarot were produced, one by the rabbinic academies of the Holy Land and, later, one by the rabbis of Babylonia. The Mishnah together with each associated Gemara are known as the Talmud, and there were thus two of them—the Talmud of the Holy Land, known as the Yerushalmi, and the Talmud of Babylonia, known as the Bavli or, simply, the Talmud. At the same time, much as the rabbinic commentaries on Mishnah were gathered into the Talmud, so the ongoing rabbinic commentaries on the Torah began to be collected into a literature known as the Midrash. This consists of both *halakhic* (legal) and *aggadic* (folkloric, historical, philosophical) material, produced by many generations of rabbis. Finally, generations of commentaries and glosses on all of this material continued to be produced into the last millennium, some of it gathered together into various codes governing human behavior, such as the Shulchan Aruch. This literature, too, spawned commentaries and glosses that continued to be produced into the 19th century, including a body of work known as *mussar*, concerning personal morality and ethics.

For the traditionally religious Jew, there is continuity from Sinai through all of these rabbinic commentaries. The rabbinic

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literature thus carries a measured canonical authority that, for some, is on a par with the Bible. Throughout this writing, God's promise of healing and well-being to the faithful has been a significant theme. These factors combine to make healing a subject of considerable spiritual gravitas for religious Jews.

The following citations of verses and passages provides a representative exegetical overview of Jewish canon (Torah, Mishnah, Talmuds, Midrash) on the role and importance of faith for a variety of health-related outcomes or categories, including the healing of disease. Not all of these verses specifically address the concept of healing, as narrowly defined in this paper. But they are referenced nonetheless to underscore the idea that sacred texts include messages about the spectrum of possible health-related endpoints that may reinforce the expectations of the faithful regarding the beneficence and omnipotence of God when it comes to a caring concern for the human condition.

### Longevity

Obedience to God, a part of our definition of faith, is a significant factor in longevity, according to a variety of sources. This obedience is manifested primarily in ethical behavior and in pursuits that strengthen one for morally imbued action, such as steadfastness in learning the scriptures and trust in God. A consequence of acting unethically, and immorally, is premature mortality. This is a consistent theme of both the Bible and rabbinic literature. But for those who act in accord with the highest Jewish values, in "total faith," according to the commentary on Deuteronomy 4:40 in the Orthodox *The Chumash: The Stone Edition*,<sup>57</sup> God promises the reward of a long life. The great French sage, Rashi, understood the promise to "prolong your days" as an explicit "declaration of the reward for obedience to God."<sup>58</sup>

In the Torah, longevity is promised to those who honor their father and mother,<sup>59</sup> who do not kill both a mother bird along with her fledglings or eggs,<sup>60</sup> and who utilize honest weights and measures in their business dealings.<sup>61</sup> In the *n'viim*, or prophetic works, this same promise is made to those who "will revere the Lord, worship Him, and obey Him, and will not flout the Lord's command."<sup>62</sup> In the *k'tuvim*, or poetic and historical writings and scrolls, premature mortality is foreordained for men guilty of murder and treachery,<sup>63</sup> while "length of days" will be bestowed upon those who are devoted to God,<sup>64</sup> who remember God's teachings and retain His commandments,<sup>65</sup> and who find wisdom and attain understanding.<sup>66</sup>

These themes carry over into the rabbinic writings. In the Talmud, longevity is attributed to arriving early at synagogue and staying late,<sup>67</sup> reading the weekly Torah portion together with the congregation,<sup>68</sup> eschewing impatience in one's home and never falling asleep in synagogue,<sup>69</sup> and maintaining care in never degrading or cursing another person and in being generous with one's money.<sup>70</sup> In the Midrash, length of days is said to await one who is steadfast in matters of learning,<sup>71</sup> who puts on *t'fillin*,<sup>72</sup> who engages in righteousness,<sup>73</sup> who receives Moses' teachings,<sup>74</sup> who has "never stepped over the heads of the holy people,"<sup>75</sup> who obeys even those precepts that most people may consider vain and trifling,<sup>76</sup> and whose balance of merit outweighs his sin.<sup>77</sup>

### Disease Risk

The greatest risk of disease, according to biblical and rabbinic sources, is willful sin, disobedience to the commandments. This includes both personal sins, which result in illness or shortened life, and collective wantonness, which leads to devastating results of epidemiologic significance for the entire community. For the most part, these are not merely acts of unethical behavior, the flipside of those actions that promote longevity. Rather, they are acts of idolatry or unfaithfulness to God—disobedience to or disavowal of God's authority, as in the infamous incident with the Golden Calf. Also strongly punished are acts of unfaithfulness to one's spouse, as in adultery and other expressions of sexual immorality.

According to Rabbi Eli Munk, "there is a unity among religion, ethics, and physical hygiene" such that "health rules are placed on the same level as rules of morality, love of others, and respect for justice."<sup>78</sup> Consequently, says Munk, "one has to seek the causes of certain physical ailments in the psychological and spiritual realms, and vice versa." But, ultimately, the message is one of optimism, for *t'shuvah* (return, repentance) is restorative—it serves to "temper judgment's severe decree,"<sup>79</sup> in the words of the High Holy Days liturgy.

In the Torah, disease is visited upon—or at least promised to—those who in some way flaunt God's law or His authority. This includes a plague to those guilty of the sin of the Golden Calf,<sup>80</sup> consumption and fever to those who fail to observe all of God's commandments and who break His covenant,<sup>81</sup> instant annihilation to those guilty of "incessant mutterings" against Moses,<sup>82</sup> a plague also to those who profane themselves through "whoring" and by committing idolatry through worship and sacrifices involving alien gods,<sup>83</sup> pestilence and other curses (consumption, fever, inflammation) to those who ignore the commandments,<sup>84</sup> and "all the other diseases and plagues that are not mentioned in this book of Teaching, until you are wiped out" because of failure to heed God.<sup>85</sup>

The rabbinic literature continues this thread, with a twist. In the Talmud, Joseph is said to have succumbed before his brothers because "he assumed airs of authority."<sup>86</sup> But God is also said to crush a man "with painful sufferings" on account of being pleased with him.<sup>87</sup> The Midrash is less inscrutable in its reasoning, more in keeping with the warnings given in the Torah. But the idea that disease and suffering in some way even the score for sin, and thus should be welcomed, is still present. The *chasidim* (holy ones) are reported to have suffered with stomach trouble for up to three weeks, and thus experienced the cleansing effects of sickness.<sup>88</sup> Isaac is said to have "demanded suffering," pleading for sufficient misery such that "the Attribute of Judgment will not be stretched out against him."<sup>89</sup> At the same time, the rabbis also recognized that, all things being equal, disease was an unpleasant punishment doled out on account of sin, especially the sins of enemies of Israel.<sup>90</sup> Jeering at the commandments and failing to act with beneficence were said to leave a gate open for the physician,<sup>91</sup> an outcome also due to slander<sup>92,93</sup> and "the iniquity of the wicked."<sup>92</sup>

### Mental Health and Well-Being

*Ashrei*, typically translated as happiness or flourishing, as in the Aristotelian *eudaimonia*, is an important theme throughout the

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Jewish canon. Great effort is made to identify the sources of happiness, such as in the 145th Psalm, and to encourage the faithful accordingly. Faith in God—that is, belief and trust and obedience, just as we have defined it here—is depicted as the obvious key to peace of mind. This is grounded, say the rabbis, in recognition of the covenant of obligations that bind us to God. So long as we fulfill our responsibilities to God and to others, then God will fulfill those owed to us.

According to the teachings of Rabbi Levi Yitzchak of Berdichev, “As we come to recognize our interrelatedness with God, we can reject the usual path of taking Him for granted and, by doing that, we can develop a deeper appreciation of our selves, of God, and of the interconnectedness of His reality and ours.”<sup>94</sup> Where this leads to a deepening of religious piety, noted the great Talmudic scholar Dr Ephraim Urbach, “the very observance of [a] commandment can afford the one who fulfils it a feeling of gratification and joy.”<sup>95</sup> That, in turn, defines how we may come to experience *ashrei*: it is “blessing, well-being, and length of days.”<sup>94</sup> Serenity, equanimity, fearlessness, peace of mind—for some of us, these may be tangible fruits of faith.

In the Torah, the simplest way to ensure that things “may go well with you” is to observe God’s laws and commandments.<sup>96</sup> Those who, in turn, experience God’s deliverance are truly happy.<sup>97</sup> The *k’tuvim* specify this further. Happy are those who take refuge in God,<sup>98</sup> whose transgression is forgiven and “whose sin is covered over,”<sup>99</sup> whose spirit is not deceitful,<sup>99</sup> who are “thoughtful of the wretched,”<sup>100</sup> who have been disciplined by God and instructed in His teaching,<sup>101</sup> who fear God and are “ardently devoted” to His commandments,<sup>102</sup> who trust in God,<sup>103</sup> and who “heed instruction.”<sup>104</sup>

To this, the Talmud adds that happiness comes to one “whose labour was in the Torah and who has given pleasure to his Creator,”<sup>105</sup> who acts meritoriously,<sup>106</sup> and “who hears abuse of himself and ignores it.”<sup>107</sup> To such people, the rabbis said, “a hundred evils pass him by.”<sup>107</sup> In the Midrash, happiness is promised to “the righteous who turn the Attribute of Judgment into the Attribute of Mercy,”<sup>108</sup> those who depart the world with a good name,<sup>109</sup> and those who are worthy to behold the sweet light of the World to Come.<sup>110</sup> God’s holy presence, moreover, is a source of “seven joys.”<sup>111</sup>

### Disease Prevention

The prevention of disease and other maladies and calamities is a function of multiple factors, according to the Bible and the rabbis. There is the matter of ethical behavior and obedience to the commandments, as in our discussions of longevity and disease risk, but also the theme of happiness and joy, as in our discussion of mental health and well-being. Both sets of factors are precursors to good health, and, without either, a person or community is susceptible to disease or morbidity, respectively. Jewish sacred writings thus anticipate contemporary research and writing on the mind-body connection. They also suggest something akin to a public health impact, as in the Conservative Torah commentary *Etz Hayim*, which suggests that “a community is blessed by having in its midst a handful of individuals who commit themselves to a more strenuous religious regimen.”<sup>112</sup>(pp799-800)

The Torah’s most famous declaration of what might be termed primary prevention is found in Exodus: “If you will heed the Lord your God diligently, doing what is upright in His sight, giving ear to His commandments and keeping all His laws, then I will not bring upon you any of the diseases that I brought upon the Egyptians, for I the Lord am your healer.”<sup>113</sup> An example of secondary prevention, in the public health context, is found in Numbers, where Aaron, upon Moses’ order, burned incense and “made expiation for the people,” thus curtailing an ongoing plague.<sup>114</sup> The *k’tuvim* also attribute preventive effects to following the “road of righteousness,”<sup>115</sup> maintaining a joyful heart,<sup>116</sup> and trusting in God and thus keeping one’s fears at bay.<sup>117</sup>

The rabbis add several more elements to this list. In the Mishnah, health is promised to who observe the Torah, both in this world and “in the world to come.”<sup>118</sup> The Talmud, likewise, states that, for one who occupies himself with Torah, his learning “becomes an elixir of life to him.”<sup>119</sup> Moreover, for such learned souls, even “the tongue of the wise” is a source of health.<sup>120</sup> To this, the Midrash adds the act of anonymous charity<sup>121</sup> and reading the words of Torah.<sup>122,123</sup> Both of these actions are a source of health and deliverance.

### Healing

The instrumentality of faith for healing is recognized both in the Bible and by the rabbis. The salience of belief, trust, and obedience—elements of our working definition of faith—has been held to be of significant therapeutic advantage. Other features or sequelae of faith, notably the concept of repentance, of turning away from sin, especially in regard to improper speech, are implicated in restoration of the body. Restoration of one’s relationship with God, according to covenantal specifications, in turn is seen as a determinant factor in recovery from illness, healing of wounds, and curing of diseases.

If a single idea could summarize the rabbinic perspective on healing, it would be this from *Etz Hayim*, that “recovery from illness is the combined result of our actions, our attitudes, and divine grace.”<sup>112</sup>(p662) An interesting theme, that repeats itself, is that even an undeserving people ultimately will be found worthy of healing. This is borne out by the words of God through the Prophet Isaiah: “For their sinful greed I was angry; I struck them and turned away my wrath. Though stubborn, they follow the way of their hearts, I note how they fare and will heal them.”<sup>124</sup> This is no small consolation to a “stiffnecked people”<sup>125</sup> whose obstinacy and backsliding are a continuing source of self-inflicted grief.

The Torah, in the *n’viim*, appears to correlate healing with salvation: God is the source of both<sup>126</sup> and thus not just our redeemer but also our healer and the curer of our wounds.<sup>127</sup> Accordingly, healing and “a sun of victory” are promised to those who revere God’s name.<sup>128</sup> In the *k’tuvim*, God’s healing is attributed to His forgiving of our sins,<sup>129</sup> to fearing God and shunning evil,<sup>130</sup> to heeding God’s words,<sup>131</sup> to the speech of the wise,<sup>132</sup> and to “pleasant words.”<sup>133</sup>

The rabbis have much to say about healing, mostly in accord with what has already been recorded in the Torah, but with some new insights. In the Mishnah, healing is attributed to the “fluent” prayers of others.<sup>134</sup> The Talmud attributes healing to the work of physicians, to whom permission was granted by God to



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heal.<sup>135</sup> At the same time, the surest way to heal pains anywhere in the body is for one to “occupy himself with the study of the Torah.”<sup>136</sup> Other myriad sources of healing include penitence,<sup>137</sup> the preordination of God,<sup>138</sup> forgiveness,<sup>139</sup> humility and the avoidance of slander,<sup>140</sup> and God’s use of “the whirlwind.”<sup>141</sup> The Midrash expands this list of potential agents of healing to include “everything” (except for idolatry, immorality, and murder),<sup>142</sup> from the visitation of a friend or family member<sup>143</sup> to the experience of redemption.<sup>144</sup> Indeed, there is an interesting relationship between healing and redemption. According to the rabbis, “All the sins that a man committed while he stood firm upon his feet, the Holy One, blessed be He, remits for him during his illness.”<sup>145</sup>

Collectively, these verses outline God’s promise of longer life, better health, and healing, both individually and communally, across the natural history of disease. From this evidence, one may construct the thesis that the observant Jew who considers both Torah and the whole of the Jewish canon, biblical and rabbinic, to be God-given can be secure in the expectation of God’s promised intent to protect and heal. No matter whether or not this is “really” so. The truth claims of these religious texts are not at issue here. Nor are we concerned with whether or not all of these verses make for good theology. That, too, can be debated. Rather, it is the anticipation of healing or health as a result of the practice of faith, as promised in sacred writings, that is what we should take away from this brief summary overview. This idea informs the discussion in the next section.

## **THEORETICAL PERSPECTIVES ON FAITH AND HEALING**

To this point, we have focused on two questions: what is faith and what is healing? Examples were then provided from one specific faith tradition, Judaism, that identify expectation of a health-impacting or healing power of faith (belief and trust in and obedience to God) as a normative feature of religious commitment. We now come to a third question: how does faith heal?

To answer this question, this section will draw on a wealth of contemporary writing from within the behavioral sciences, mostly from psychology. Academic psychologists, working from various perspectives in various fields and within various disciplines, have proposed theories that in full or in part are consonant with the idea that features of our working definition of faith may be salutogenic. These theories, some confirmed by empirical study, suggest that concepts of belief and trust, as well as steadfastness, directed outward in relation to God or to human others, may exert an influence on our general physical and psychological well-being.

Taken together, the psychological perspectives to be surveyed point to a healing power of faith that is notable on account of three defining traits: (1) it is naturalistic, (2) it is consistent with current scientific understandings of mind-body interaction, and (3) it does not require belief in any supernatural agency. This is not to say that such divine forces are not at work in our universe—the present author, for one, is a believer—just that a faith-healing connection can readily be understood without reference to ideas that are outside of the province of scientific observation.

In other words, contemporary psychological theory can account for and make sense of the idea of a healing power of faith.

### **Hope**

As noted, faith has been defined as a confluence of belief, trust, and obedience in relation to God or the divine. Operationally, as expressed through the dynamics of a human psyche in the context of healing or any other good, a fourth concept comes into play: the expectation of a positive reward or outcome. These dynamics, of cognition and conation, characterize the positive, goal-directed thinking and motivational state that, according to the late Dr C.R. Snyder, defines hope.<sup>146,147</sup>

For the better part of 20 years, Dr Snyder, longtime director of the training program in clinical psychology at the University of Kansas, developed a substantive theory of hope, identifying its components, functions and expressions, correlates, and instrumentalities for the human condition, including health. Fundamentally, he described hope as “the sum of perceived capabilities to produce routes to desired goals, along with the perceived motivation to use those routes.”<sup>148(p8)</sup> Accordingly, hope consists of three interacting elements that he termed goals, pathways, and agency. Goals “provide the endpoints or anchors of mental action sequences.”<sup>148(p9)</sup> Pathways are the “[r]outes to the desired goals [and] are absolutely essential for successful hopeful thoughts,” as they tap “the perceived ability to produce plausible routes to goals.”<sup>148(p9)</sup> Agency “is the motivational component to propel people along their imagined routes to goals.”<sup>148(p10)</sup> These latter two elements are also referred to as “waypower” and “willpower,” respectively.<sup>149</sup> Snyder’s hope theory thus emphasizes and “gives causative eminence to”<sup>148(p11)</sup> our thoughts and our thinking, as opposed to understandings of our relation to our expectations that are based primarily on emotions. Hope is thus also distinctive from other related constructs, such as optimism, self-efficacy, self-esteem, and problem solving.<sup>146</sup>

Evidence links hope, as constructed here, with a variety of health indicators. These include studies implicating hope in the primary prevention of both physical and psychological morbidity, as well as research pointing to secondary-preventive effects—that is, the elimination, reduction, or containment of existing medical problems.<sup>146</sup> People rated as “high hope,” according to existing measures, have been found to take part in more cancer preventive activities, to participate in greater physical exercise, to engage in fewer high-risk sexual behaviors, and to cope better with severe arthritis, major burn injuries, spinal cord injuries, fibromyalgia, and blindness. Findings also link hopefulness with greater pain endurance, better medication compliance, lower rates of affective disorders, and a more successful response to psychotherapy.<sup>146</sup> As a factor productive of health and healing, hope may operate as a moderator, a mediator, or causally, depending upon the context.<sup>147</sup>

Importantly, other evidence also suggests an empirical connection of hope with dimensions of religious expression. For example, among religious individuals, according to research by a former student of Snyder, prayer is associated with higher levels of hope.<sup>149</sup> More recent findings confirm that religious faith contributes to the agency component of hope through engen-



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dering use of prayer as a coping strategy.<sup>150</sup> Snyder suggests that this comes about because prayer

enhances the religious person's sense of mental energy . . . through recharging of the mind and body. . . . In the process of becoming quiet and clearing the mind of other thoughts, the praying (or meditating) person shuts off the draining processes associated with attending to various daily stressors. Beyond lessening the depletion of mental energy, we also can gain refreshment from focusing on some simple and familiar thoughts.<sup>149(p62)</sup>

Hopefulness thus may be a principal sequela of an active faith in God operating in one's life. This kind of living faith may elicit positive expectations that can serve to marshal the requisite agency thinking for meeting one's life goals, whether long-term or more immediate. Belief, and trust, in the efficaciousness of one's subsequent actions in pursuit of such goals—even if these consist solely of praying to God—are cornerstones of our working definition of faith.

In sum, the nascent field growing up around the study of hope affirms that there is good reason to believe that positive expectations may impact upon human health and well-being. A faith that mobilizes such expectations thus may exploit cognitive resources that can contribute to the salutogenic process.

### Learned Optimism

Another take on the positive expectancies that shape and drive subsequent behavior is found in the work of Dr Martin E.P. Seligman on learned optimism. Dr Seligman, professor of psychology at the University of Pennsylvania and a former president of the American Psychological Association, defines optimists as those "who see bad events as temporary, controllable, and local."<sup>151(p133)</sup> In contrast, pessimists are "people who interpret bad events as permanent and pervasive." His work on optimism evolved from his celebrated earlier research on learned helplessness. He was searching for a way to understand why some people were vulnerable to challenging events, whereas others appeared to be invulnerable. The answer was found in one's characteristic explanatory style, their habitual manner of making causal attributions subsequent to unfortunate occurrences.<sup>152</sup>

Through his research, Seligman concluded that an optimistic explanatory style is a stable and adaptive trait that drives how one responds to the circumstances of life. Moreover, it is not just the opposite of pessimism; it has its own unique psychological construction. According to Dr Christopher Peterson, professor of psychology at the University of Michigan, "optimism is not just a cognitive characteristic: It has inherent emotional and motivational components."<sup>152(p49)</sup> Optimism is thus distinct from hope, although the two constructs are clearly similar. Seligman also understands explanatory style to be learned and, thus, subject to change through cognitive therapy. Accordingly, he understands the learning process for optimism through cognitive psychology's familiar "ABC" model:

When we encounter adversity, we react by thinking about it. Our thoughts rapidly congeal into beliefs. These beliefs become so habitual that we don't even realize we have them

unless we stop and focus on them. And they don't just sit there idly; they have consequences. The beliefs are the direct cause of what we feel and what we do next. They can spell the difference between dejection and giving up, on the one hand, and well-being and constructive action on the other.<sup>153(p211)</sup>

As part of a therapeutic strategy to enhance the learning of an optimistic explanatory style, Seligman elaborates the ABC model to an ABCDE model.<sup>153</sup> The *D* signifies *d*isputation, an effort to vigorously dispute one's negative beliefs; the *E* stands for *e*nergization, the self-observed thoughts and feelings that arise when one succeeds in addressing these beliefs. Through this process, a pessimist can learn to lead an optimistic life.

By now, hundreds of studies of optimism have investigated this construct in relation to all manner of physical and psychological health outcomes,<sup>154</sup> as well as to physiological indicators such as cell-mediated immunity.<sup>155</sup> These include prospective epidemiologic investigations that associate baseline optimism with subsequent physical health status decades later,<sup>156</sup> as well as with longevity and decreased mortality rates.<sup>151</sup> Considerable effort has been given to theorizing on possible mechanisms—that is, mediators—of a salutogenic effect of optimism. Peterson has usefully categorized these as immunological, emotional, cognitive, social, and behavioral.<sup>157</sup> Specific mediators proposed for an optimism-health connection include immunological robustness, absence of negative mood, health-promoting behavior, experience of fewer challenging life events, greater medical compliance, and less associated depression.<sup>151,152</sup>

Just like hope, optimism is both a sequela of and intrinsically helps to define faith. The expectations engendered by and constituting an optimistic personality style resonate with the idealized expectancies of a person of faith in relation to the object of that faith, such as God or another divine being. Research evidence from Dr Amy L. Ai and colleagues links faith to dispositional optimism,<sup>150</sup> and for medically ill patients "may suggest a pathway of healing through the link of active spiritual coping with a positive attitude."<sup>158(p77)</sup> Specifically, she adds, "spiritually rooted active coping along with a patient's intention to survive may be more important than any content or type of prayer in sustaining their positive attitudes under the circumstance of a life crisis."<sup>158(p77)</sup>

In sum, the by now expansive literature on learned optimism and its correlates points to a developmental process by which positive expectations, reinforced by an adaptive way of thinking about and responding to life events, may serve as powerful stimuli of internal psychological resources that can foster healing. The literatures on hope and learned optimism, taken together, are strong evidence that our expectancies can become realities given the right cognitive circumstances.

### Positive Illusions

Central to our working definition of faith is the psychological category of belief. In religious context, this entails belief in God or in other divine beings, such as Jesus or the Holy Spirit or ministering angels. But, as noted by Osler,<sup>1</sup> this may also encompass belief in the wonder-working capabilities of one's healthcare providers or of the institution of medicine, or in the absolute certainty of one's eventual recovery, for whatever reasons. Some

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of these beliefs may be grounded in past experiences and thus in rational appraisals of “reality,” as it were. Other such beliefs may be unfounded, at least in these terms. Two important questions arise: do the content of these beliefs matter, and do they matter for health and healing?

Dr Shelley E. Taylor, distinguished professor of psychology at UCLA, has spent the past three decades exploring the salience of illusive thoughts for physical and mental health. The connection is, perhaps surprisingly, a salutary one, leading to her to describe these ostensible protective factors as “positive illusions.”<sup>159</sup> These “adaptive fictions”<sup>159(pix)</sup>—the key word here being *adaptive*—are functional for us because they provide an “illusion of control”<sup>159(p29)</sup> and reinforce a heroic self-image that can facilitate the cultivation of positive moods, the motivation of health-directed behavior, actions undertaken to enhance personal growth, and the strengthening of functional responses to stressful events. Each of these things, in turn, may contribute to mental health and well-being.<sup>160</sup> Illusions, then, are expressions of “cognitive adaptation”<sup>161</sup> and are “essential to normal cognitive functioning”<sup>162(p1167)</sup> inasmuch as they may be effective in the cognitive management of threats.

When Taylor and her colleagues first described this phenomenon, it was met with some resistance. Efforts were made to clarify what distinguishes a positive illusion from, say, the grandiose delusions of narcissists and others with personality disorders. “Self-aggrandizing self-perceptions,” “the illusion of control,” and “unrealistic optimism”—the three components of this construct—are salutary or salutogenic up to a point. Empirical evidence confirms the health-benefiting impact of these “fictions”; they are indeed adaptive.<sup>162</sup> They serve to buffer effects of stress on health, reduce psychological distress, and promote positive well-being.<sup>162</sup> At the same time, moderation is the key; more illusion is not necessarily better, nor are all illusions created equal. Narcissistic delusions, hallucinations, and gross misperceptions of physical reality may contribute to, and are in fact markers of, psychopathology.<sup>162</sup> Neither is there evidence that the simple illusions of which Taylor speaks are capable of magic or miracles—curing cancer all by themselves, for example.<sup>162</sup>

What can account for a health-impacting function of illusions? Taylor and her colleagues recently hypothesized several possible mechanisms that might explain how illusions “influence the course of physical disease.”<sup>163(p100)</sup> These include “an impact on emotional states, which may affect the physiology and neuroendocrine underpinnings of disease states,” direct ties to “physiological changes prognostic for illness and to the development of several chronic diseases,” “physiological concomitants . . . related to altered immune processes,” “promoting better health behaviors,” and the promotion of “good social relationships” that may lead to “more social support” or “more [effectiveness] at mobilizing it during times of stress.”<sup>163(p100)</sup> This model has proven especially useful for understanding the salutogenic function of illusions for immune status (CD4 T helper cells), psychological adjustment, and the course of illness among men with HIV infection.<sup>163</sup>

Taylor has described the “readjustment process” that occurs concomitantly with cognitive adaptation to a personally threatening event such as a health challenge. Illusions serve three adaptive functions. They constitute

a search for meaning in the experience, an attempt to regain mastery over the event in particular and over one’s life more generally, and an effort to enhance one’s self-esteem—to feel good about oneself despite the personal setback.<sup>161(p1161)</sup>

This observation suggests a positive link between the concept of illusions and that of faith. The provision of meaning and order to the chaos of existence is a vital function of religion, as noted by the anthropologist Dr Clifford Geertz,<sup>164</sup> and may be indispensable in enabling both physical and psychological survival of the most terrifying and life-threatening experiences, as the psychiatrist Dr Viktor E. Frankl famously explained.<sup>165</sup> Belief in a loving and saving source of being, a reliever of suffering and a redeemer of our worst travails, can sustain us in the face of pain and fear of death. Does it matter if these beliefs are factual or illusory? Frankl made the case for “tragic optimism”<sup>165(pp159-179)</sup> as adaptive and functional even among prisoners in Nazi concentration camps. The notion of positive illusions thus offers some insight into how faith may function in a salutogenic capacity.

But, this concept may contribute in another way. Theory and research on positive illusions may provide a helpful window into a putative faith-healing connection for religious nonbelievers, legion among biomedical scientists, who may understand any expression of religious faith to be inherently illusional. One need not endorse the existence of a divine being to recognize the value of such beliefs in constructing a cognitive framework that may serve a very real salutogenic function among believers.

In sum, the fascinating work on positive illusions describes how our beliefs, irrespective of their grounding in objective reality, can marshal salutary physiological and psychophysiological forces. Together with the literatures on hope and learned optimism, this work contributes to an understanding of how the cognitive dimension of faith may exhibit a substantial and observable influence on the body.

### Opening Up

Another important feature of our definition of faith is the concept of trust. It is one thing to believe in the existence of the object of one’s faith, God, for instance. It is another to take the next step: to open oneself up to God, to disclose one’s most intimate secrets confident of a safe, nonjudgmental response. This kind of self-disclosure and concomitant expectations partly characterize the way that people typically pray, a principal expression of faith. An especially interesting take on the issue of trust is offered by Dr James W. Pennebaker, chairman of the Department of Psychology at the University of Texas. He has spent the past three decades conducting research on the psychology of “opening up,”<sup>166</sup> on disclosure, confiding in other people. His research has been instrumental both in describing this concept and in documenting its consequences for health and healing. He is clear about what is at the core of this issue: “Central to true self-disclosure is an overriding sense of trust.”<sup>166(p119)</sup>

Pennebaker’s research has served to advance the emerging field of narrative psychology, the study of how the stories that people tell about themselves and about how they experience themselves serve to shape their life course. This storytelling or disclosure can take any form—verbal, written, directed to others, directed to oneself; the health value is comparable.<sup>167(p1246)</sup> Pennebaker has defined disclosure as “the act of constructing sto-

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ries,” which is “a natural human process that helps individuals to understand their experiences and themselves.” This in turn provides “a sense of predictability and control over their lives,” thus rendering “the emotional effects of that experience more manageable.”<sup>167(p1243)</sup> Opening up to others is therefore not just an abstract psychological construct of interest only to researchers. Its clinical application is apparent: “Disclosure is unequivocally at the core of therapy.”<sup>167(p1243)</sup>

Early on, Pennebaker considered failure to disclose to be a form of inhibition, which he believed might explain a putative health risk of nondisclosure. He surmised that

active inhibition [is] a form of physiological work. This inhibitory work, reflected in autonomic and central nervous system activity, could be viewed as a long-term low-level stressor. Such stress, then, could cause or exacerbate psychosomatic processes, thereby increasing the risk of illness and other stress-related disturbances.<sup>168(p164)</sup>

He has since come to recognize a cognitive element in disclosure, and that disclosure cannot be understood simply in the context of the expressive release that it might entail. He has also begun to explore the social context of disclosure, which may be an important element in making sense of its impact on health.<sup>169</sup>

Pennebaker’s studies, alone and with colleagues, have documented the health effects of opening up on a variety of health and healing outcomes in a variety of populations. These studies have revealed a consistently positive effect of disclosure to others, especially writing about traumatic experiences. For example, disclosure has been associated with reductions in physician utilization, improved immune function (in terms of enhanced T-helper cell activity), greater psychological well-being according to both subjective and objective measures, and salutary psychosomatic processes (such as heightened autonomic nervous system activity).<sup>168,170</sup> Especially interesting research, from more than 20 years ago, showed that disclosure was associated with increases in two measures of cellular immune function—blastogenic response of T-lymphocytes to mitogenic (PHA and ConA) stimulation—and a concomitant decrease in health center patient visits.<sup>171</sup>

As with hope, learned optimism, and positive illusions, researchers have not been content just to document empirical connections to health or physiological outcomes. Serious efforts have been made to understand the reasons for disclosure’s apparent impact on healing. Pennebaker has proposed several mechanisms. These include the possibilities that disclosure causes one to become more health conscious, thus leading to changes in health-related behaviors; causes heightened self-expression, thus resulting in a venting of the emotions; and/or causes one to cognitively reframe how traumatic events are thought about, thus making the experience more coherent—that is, enabling an easier integration of the emotional responses so that one can successfully move on.<sup>167</sup> He also proposed long-term cognitive change induced by disclosure as another potential mediator of health improvement.<sup>170</sup> The empirical evidence for these mechanisms, Pennebaker noted, is sketchy at best, but they provide a useful starting point for efforts to explain a disclosure-healing association.<sup>167</sup>

Pennebaker has also observed a connection between disclosure and faith. This certainly makes sense, conceptually, even in the absence of empirical validation. Disclosure, after all, partly defines the act of praying, a principal expression of faith, as noted. What is prayer if not opening up to God or the divine? Pennebaker and colleagues indeed have reported on the intimate connection of faith and prayer and disclosure, notably in the context of subsequent health improvement. From research conducted on how people coped with bereavement from widowhood, Pennebaker concluded, “The more people prayed about their deceased spouse, the healthier they were. Prayer, in fact, worked the same way as talking to friends about death. It is easy to see why this is true: Prayer is a form of disclosure or confiding.”<sup>166(p35)</sup> A subsequent study of Christian seminarians undergoing difficult personal experiences found that disclosure, in the form of prayers or letters written to God, served to enhance psychological well-being as measured by levels of positive affect. The authors suggested that “Prayers about difficult life experiences may function as disclosures to God.”<sup>172(p30)</sup>

In sum, the possibility that opening up, confiding in others, may be a significant factor in coping with psychological distress and in promoting health, well-being, and physiological responses correlative of healing alerts us to the powerfully salutary role of trust in the context of human relationships. Projected onto God or a divine other, such an attitude combined with reinforced beliefs and expectations of its salience may represent a significant determinant of salutogenic outcomes such as recovery, remission, and restoration of function.

### **Psychoneuroimmunology and Placebos**

An important issue to address with regard to belief and trust, and positive expectations in general, is the matter of mechanism. This has been touched upon in the synopses of each of our four respective constructs and associated theories: hope, learned optimism, positive illusions, and opening up. But a question remains: how do we tie this all together, specifically in the context of human physiology and pathophysiology? Without making these connections, any talk of a healing power of faith remains speculative, even in the face of empirical evidence and convincing, or suggestive, theories.

In the context of the present paper, this question relates to what we might term the how or why of an observable effect of faith on healing. Two related topics come into play here. The first of these is the familiar if mysterious idea of placebos. The second is the quickly emerging scientific field of psychoneuroimmunology (PNI). Both of these topics broach concepts that are typically invoked in discussions of mind-body healing. Moreover, the observed salutary effects of faith and other religious constructs—not just for healing, but for the promotion of health and the prevention of illness—are often attributed tacitly, by default, to one or the other of these two constructs, placebo<sup>173</sup> or psychoneuroimmunologic<sup>174</sup> effects. It seems, at times, that these concepts are invoked as residual catchall, fail-safe categories of explanation for this subject. That is, if one does not wish to pursue a more earnest scientific investigation of putative faith-healing (or religion-health) linkages, then the simplest course is to attribute the whole phenomenon to the placebo effect or to PNI, without



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further detail or explanation. Such an approach does not do this subject justice.

If we are to understand how it is that psychological constructs and theories can account for a faith-healing connection, as we have proposed, then we need to deconstruct this connection sufficiently to answer this question: is there reason to believe that the kinds of faith-related psychological functions that we have described can exhibit a salutogenic effect on the human body? Discussion of placebos and PNI has something valuable to add to this subject, and the basic sciences of each construct can shed light on how, specifically, faith can engender healing.

In 1995, the U.S. National Institutes of Health (NIH) convened a series of special expert panels to survey theoretical and methodological topics related to the young field of complementary and alternative medicine. One of the panels, chaired by anthropologist Dr Daniel E. Moerman, was tasked with considering the placebo effect, the well-known observation that expectation of a salutogenic outcome is often therapeutic. In the report of their deliberations, they noted that according to a MEDLINE search, at the time, over 17,000 articles had been published on the topic of placebos (a number that is now north of 28,000), yet “far less is known than unknown about them.”<sup>175(p141)</sup> These effects “are dramatic and powerful, often swamping the specific effects of particular agents.”<sup>175(p141)</sup> Significant effects have been identified for numerous medical and psychotherapeutic outcomes. The panel noted that “it is regularly the case that 70% of patients can achieve good or excellent results with procedures subsequently shown to be ineffective in clinical trials.”<sup>175(p141)</sup> In other words, “some 2/3 or more of patients can be expected to experience substantial improvement when patient and therapist believe in the treatment provided, regardless of what it is.”<sup>175(p142)</sup>

The potential connection to the present topic is apparent. Belief in the efficacy of a putative healing agent, such as the concomitants of faith (ie, God, prayer, religious obedience), and trust in the myriad canonical promises of healing, may be productive of a generally therapeutic effect that exceeds or at least complements any specific effects of medical therapy. In other words, faith or prayer, or at least affirming the efficacy of faith or prayer, can indeed heal. Dr Esther M. Sternberg, director of the integrative neural immune program at the NIH, concurs.

If prayers do heal, and they surely do, at least a part of their effect must be placebo: the belief that they will heal. To say that the part of healing brought about by the act of praying could come through the placebo effect, is not to say it is fake, but rather to give it a very real explanation. However the placebo effect is brought into action, whether by making a prayer or by believing in a pill, once in play, it acts through well-defined nerve pathways and molecules—molecules that can have profound effects on how immune cells function. A part of prayer’s effect might come from removing stress—reversing that burst of hormones that can suppress immune function.<sup>176</sup>

Scholarly work on these “well-defined nerve pathways and molecules” and their effects on immune function is a key to making sense of placebos and, thus, perhaps how faith heals. Psychoneuroimmunology, the study of the interactions between

behavior, brain, and immunity, may lead us to identify mechanisms of action that underlie the workings of the various psychological theories and constructs identified above. Discoveries of the past three decades have led us to recognize that the central nervous system is intimately connected to the immune system.<sup>177</sup> The brain regulates immunity, this immune modulation constituting both neurological and psychological functions. The latter, in turn, may encompass the activity of behaviors and thoughts and emotions. But this is a two-way street: the immune system modulates behavior, thoughts, and emotions just as the latter modulate immunity. This hardwiring of our bodies has been described as “a bidirectional interacting set of processes, each regulating the other. Psychological processes can influence this network and in turn be modulated by it.”<sup>177(p1014)</sup>

These ideas were first formally articulated by psychologist Dr Robert Ader and his colleague, immunologist Dr Nicholas Cohen, both from the University of Rochester, whose experiments with rats and mice confirmed that immunosuppression could be behaviorally conditioned, with concomitant effects on subsequent illness and mortality.<sup>178,179</sup> Mental cues were shown to be capable of altering physiology through conditioning of the immune system at the autonomic level. Psychoneuroimmunology was the term that Ader settled on to describe this phenomenon, in the first edition of his famous text of the same name published in 1981, and it has since become a flourishing field.<sup>180</sup>

This description of PNI, as conceived of by Ader, underscores the behaviorist inclinations of early researchers in the field. Subsequent research has shown that the observed interactions of psychology and physiology are much more varied and expansive than in the original formulations of PNI. Other physiological systems besides the immune system and other psychological functions besides behavior have been identified as part of a much bigger picture of interactions. The endocrine system, for one, also comes into play. According to renowned endocrinologist Dr Seymour Reichlin, at the time a professor at Tufts:

The nervous, endocrine, and immune systems interact to adapt to infection, inflammation, and tissue injury. Neural control is mediated in several ways: through the neuroendocrine regulation of the secretion of hypothalamic and pituitary hormones, autonomic nervous system-induced activation of epinephrine secretion and of peripheral sympathetic fibers that innervate lymphoid tissue, and sensory neurons that secrete immunoregulatory neuropeptides such as substance P and somatostatin. . . . These regulatory interactions influence the manifestations and course of disease.<sup>181(p1251-1252)</sup>

Furthermore, Reichlin noted, the “inhibition of neuroendocrinimmune function”<sup>181(p1251)</sup> could be attributable not just to behavior or autonomic signals, but to aspects of personality, coping style, or emotional state. Psychological factors that have been implicated as influential in immunity and subsequent disease susceptibility include naturalistic and acute stressors, affect (including depressive and other mood disorders), parameters of interpersonal relationships (including loneliness, marital disruption, and availability of social support), and personality characteristics (such as repression/denial). Such factors have been found to influence immune-system-mediated disease outcomes

of various types: infectious diseases (including upper respiratory infections, herpesvirus infections, and AIDS), autoimmune diseases, and cancer.<sup>182</sup>

Accordingly, some have suggested that PNI, as a descriptor for this field and these phenomena, is something of a misnomer. In her book *Molecules of Emotion*, Dr Candace B. Pert, Johns Hopkins-trained neuroscientist and discoverer of neuropeptide opioid receptors, describes her opposition to the term psychoneuroimmunology as due to its being “not only inaccurate, because it reveals only part of the picture, but also redundant.”<sup>183</sup> She notes that she had proposed instead, unsuccessfully, the term “psychoimmunoendocrinology,” which makes a point of “including the endocrine system, to make it clear that we were looking at a network hookup of multisystems, not just the brain and the immune system.”<sup>183</sup>

Interestingly, this perspective goes back a long way. One noted review of the influence of the brain and psyche on immunity and disease susceptibility, published in 1979 (two years before the Ader book appeared), highlighted the interactions of the immune system with the neuroendocrine system as well as the influence of psychological states such as stressful life changes and their sequelae.<sup>184</sup> In fact, this perspective goes back even further. In the mid-19th century, according to an excellent historical analysis coauthored by Harvard internist Dr Herbert Benson, “Disease was defined as an unnatural imbalance in a person that was caused by the interaction of biological, behavioral, moral, psychological, and spiritual factors.”<sup>185(p5)</sup> By the early 20th century, with the rationalization of medical knowledge and its concomitant reductionistic and materialistic emphases, the “focus shifted from individual patients” and their multiple interacting systems “to universal aspects of disease pathology.”<sup>185(p6)</sup> Among other casualties of this shift away from wholism was that “the placebo effect was lost,”<sup>185(p7)</sup> and stayed lost for over half a century.

Contemporary research on mind-body interactions has succeeded in bringing these issues back to the fore. This research has identified correlations between psychological factors and physiological effects; correlations between discrete psychological events and biomolecular responses; and intercommunication among the nervous, endocrine, and immune systems at the cellular level.<sup>185(p8)</sup> Significantly, this intercommunication has been explored specifically in the context of faith.<sup>174</sup> Koenig and his colleagues at Duke, using multiwave epidemiologic data gathered from 1,718 subjects aged 65 and older, found that higher levels of religious attendance, in 1989, were associated with lower levels of plasma interleukin-6, in 1992, as well as with immune-inflammatory markers alpha-2 globulin, fibrin dimers, polymorphonuclear leukocytes, and lymphocytes.<sup>186</sup> Faith-guided behavior, they concluded, is apparently associated with a healthy immune system, although, they also noted, the exact mechanism remains to be verified.

This provocative study led to an invited conference, in the summer of 1999, bringing together a dozen of the world’s leading psychoneuroimmunologists, theologians, and physicians. The goal was to review advances in PNI with an eye toward how they may serve “to stimulate thinking about how religious beliefs and practices might influence health through known physiological mechanisms.”<sup>174(p3)</sup> The conference produced more questions than answers, but the most valuable product was a road-

map of proposed avenues for research that would go a long way toward validating many of the ideas broached in the present paper. These included proposed studies of the biochemical characteristics (eg, catecholamine, cortisol, serotonin, endorphins) of people of faith, the neurobiological underpinnings of psychological trait clusters (ie, the hormonal milieu of the central nervous system) of people of faith, the susceptibility of viral infections or the progression of viral diseases (eg, herpes zoster, influenza, HIV) among people of various degrees of faith expression, the short-term and long-term temporal course of immune changes subsequent to expressions of faith, and the immune system’s response to vaccine (ie, time for seroconversion, antibody T-cell responses) among people with various levels of religious faith.<sup>187</sup> The report of this thoughtful and significant gathering was published by Oxford University Press, in 2002, as an academic book, *The Link between Religion and Health: Psychoneuroimmunology and the Faith Factor*.<sup>174</sup> It is well worth obtaining by anyone with even a modicum of interest in this subject.

In sum, theory and research on PNI, placebos, and related topics offer a way to make sense of an observed faith-healing connection and its putative explanation as a psychologically mediated phenomenon. Expressions of faith mobilize beliefs and attitudes that, along with concomitant affects, may elicit a cascade of physiological sequelae that impact on immunity and, as a result, on parameters of health and disease.

### A Typology of Mechanisms

The concepts and theories implicit in these various psychological perspectives can be rearranged into a typology of hypothesized mechanisms, or rather classes of mechanisms, by which faith can heal (see Table 1). To be clear, these are hypotheses—for none of these mechanisms is there a large body of empirical findings validating its putative mediating function specifically within the context of research on faith and healing. But each of these proposed explanations for an observed faith-healing connection is consistent with current scientific theory and research in academic psychology, as just discussed. This typology is the author’s take on how we might synthesize and summarize the material presented in this paper so far. In sum, faith can heal by way of what are termed behavioral/conative, interpersonal, cognitive, affective, and psychophysiological mechanisms.

First, faith can heal by motivating healthy behaviors that strengthen the body’s resistance and facilitate salutogenesis. This has been termed the *behavioral/conative mechanism*. Behaviors, and their conative (motivational) influences, are capable of directly conditioning and regulating the endocrine and immune systems. Health-related behaviors grounded in faith-based be-

**Table 1.** Typology of Hypothesized Mechanisms for a Salutogenic Effect of Faith

Type 1	Behavioral/conative
Type 2	Interpersonal
Type 3	Cognitive
Type 4	Affective
Type 5	Psychophysiological

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liefs and attitudes, such as related to smoking, drinking, exercise, diet, and the like, also can impact upon healing through diminishing the risk of comorbidity and other impediments to recovery from disease, as shown through decades of research in behavioral epidemiology.

Second, faith can heal by connecting one to groups of like-minded people who can offer tangible and emotional support and encouragement. This has been termed the *interpersonal mechanism*. Disclosure evokes cognitive and affective responses, which can ameliorate stress and moderate its deleterious effects on human physiology. In addition, confiding in others, human or divine, and reinforcing reciprocal bonds of assistance among individuals, or with divine others, has both health-promotive and disease-preventive consequences for populations, as shown through decades of social and epidemiologic research on social support.

Third, faith can heal by establishing a mental framework that affirms one's innate healing ability. This has been termed the *cognitive mechanism*. Salutary physiological sequelae have been identified for the illusions by which we live our lives as well as for the kinds of thinking and explanatory styles that we utilize to make sense of and accommodate ourselves to our experiences and our place in the world. So many of these thoughts and beliefs originate in supernatural ideations that are internalized early on in one's religious developmental trajectory and that shape subsequent efforts to frame the experience of life challenges, such as disease or health-related functional limitations.

Fourth, faith can heal by engendering soothing emotions that buffer or mitigate the harmful effects of stress. This has been termed the *affective mechanism*. The linkages among affect, cognition, and various physiological systems and markers are by now well validated empirically. The positive feelings elicited by faith-based thoughts, beliefs, and experiences, personal or communal, both may mediate the physical impact of challenging circumstances or events and may directly modulate immune system parameters indicative of pathophysiology. The influence of emotions on health, in principle, thus may be health-promotive, disease-preventive, and salutogenic.

Fifth, faith can heal by providing hope for the future that enables burdens to be borne and pain to be tolerated. This has been termed the *psychophysiological mechanism*. The mental health sequelae of hope and optimism and similar explanatory styles is well established. Psychosomatic markers of mind-body interaction include mental self-regulation of selected physiological parameters and is validated by the reduction of symptomatology and pain and the restoration of function. In a sense, all five of these mechanisms could be considered "psychophysiological," but the term is being reserved for the more traditional usage of links between mental processes and somatic responses. The belief and trust implicit in expressions of religious faith are consonant with the kinds of mental actions that are known to produce bodily responses that are measurable and clinically significant.

Each of these five hypothetical mechanisms or explanations for a faith-healing connection is grounded in existing psychological, psychosocial, or biobehavioral theories of the determinants of human physiology, physical or psychological health, and/or the healing of disease. In the language of causation used in epidemiology and medicine, each of these mechanisms is thus

"plausible" and "coherent."<sup>188,189</sup> They are plausible in that they are consistent with current theoretical understandings of human disease, health, and healing, especially within health psychology. They are coherent in that they are consistent with the biological facts of the natural history of disease and health, at least according to psychophysiological and biobehavioral research.

These five classes of mechanisms by no means exhaust all of the possible explanations for a connection between faith and healing. For example, faith may be capable of healing through a mechanism related to the concept of transcendence—through the uniquely human ability to experience unitive states of consciousness through which one may transcend identification with the physicality of the body, with its associated symptoms and pain, and thus better withstand negative somatic experiences associated with illness.<sup>190</sup> Faith may also be productive of healing by dint of the nonlocal characteristics of consciousness, engendered by or associated with expressions of faith and also implicated in the healing and remission of disease, as described throughout the writing of Dr Larry Dossey.<sup>191</sup> But detailing the case for these latter possibilities is beyond the scope of the present paper, which is limited by design to the explicitly psychological mediation of a faith-healing relationship.

To summarize, acknowledging a putative healing power of faith in no way requires us to acquiesce to nonscientific or unproven explanations, to concepts or ideas that violate current understandings of the impact of the mind on the body as put forth from within subdisciplines and fields of academic psychology. The idea that faith may be a salutary influence on physical or psychological pathology is consistent with existing theory and research. Regardless of one's beliefs as to the existence or non-existence of divine or supernatural influences on human lives, mobilized by expressions of faith or otherwise, we can make sense of a faith-healing connection through explanations firmly situated within naturalistic bounds. To quote from Dr Howard S. Friedman, distinguished professor of psychology at the University of California, Riverside, what we know about the self-healing properties of the human psyche, from decades of empirical research and thoughtful theory building, affirms the reality of "miraculous results without miracles."<sup>192</sup>

## CONCLUSIONS

The encounter between "faith" and "healing" is not the unsurmountable chasm that some may believe it to be. Both terms, faith and healing, for sure are heavily emotion-laden and carry the baggage of superstition as well as typically loose conceptual engagement, to put it delicately. Still, careful examination of these constructs, beginning with more precise definitions, has enabled an exploration of their ostensible linkages with what should be seen as hopeful results. That faith, constructed as a congruence of belief, trust, and obedience, may exhibit salutogenic properties is not nearly as improbable as one might imagine at first glance. Psychological theory and research from the mainstream of the field suggest several avenues of connection, and explanation, for an observed healing effect of faith. This is attributed to what have been termed behavioral/conative, interpersonal, cognitive, affective, and psychophysiological mechanisms. That faith can be a powerful force mobilized in service of physical healing is not an unreasonable conclusion.



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An important element in this discussion is the demonstration that messages promoting faith—belief in God, trust that God’s province extends to the physical well-being of the faithful, and obedience and loyalty to God—both are plentiful and reinforce an expectation of healing. Religious piety and spiritual development, as defined by the tenets of respective faith traditions, thus serve to advance a healing function, at least ideally. In the present paper, this point has been exemplified by extensive reference to the literature of biblical and classical rabbinic Judaism.

This observation is not limited to Judaism. The same exercise could have been conducted from the perspective of Islam, for example, by drawing upon an exegesis of the Qur’an and associated *hadith* literature. This may be a task worth exploring by a contemporary Muslim scholar interested in the relation of faith and healing in that tradition. Indeed, a recent preliminary effort along these lines has drawn similar conclusions to those offered in the present paper.<sup>193</sup> The take-home point is this: messages promulgated in the sacred writings of respective religions may marshal a faith among believers that can engender psychological responses conducive to healing.

What do these observations have to say to scientists and clinicians? Is there something substantively real and important here, besides the perfunctory “implications” that typically close review articles on novel subjects? Most certainly. For one, faith is a legitimate topic for research at the interface of biomedical science, psychology, and medicine. The word *faith*, and indeed the word *healing*, as discussed earlier, share certain unsavory connotations that have served to inhibit closer empirical scrutiny of their ostensible connection. As has been shown, however, there is considerable scientifically supportable reason to believe that faith may exhibit a tangible influence on the healing process. Moreover, the possibility of such a connection does not require us to believe in forces or phenomena that are impossible, are improbable, or push the limits of current psychosocial or biobehavioral understanding.

But this begs the questions: what kind of faith, and faith in what? As Dr William James suggested over a century ago, there are two polarities of faith: concomitants of the religion of the “healthy-minded soul” and of the religion of the “sick soul.”<sup>194</sup> Healthy-minded and sick expressions of faith are quite distinct—in the objects of faith, in the expectations of such a faith, and in the observed outcomes in the lives of the faithful. For healthy-minded souls, their faith reflects “the tendency which looks on all things and sees that they are good.”<sup>194(p83)</sup> Healthy-minded faith is thus the faith of people who are literally healthy-minded, whose minds or psyches are intrinsically hopeful, optimistic, positive, kind, and prone to happiness. For sick souls, by contrast, their faith reflects and is an expression of a damaged psyche, which may take the form of “positive and active anguish, a sort of psychical neuralgia wholly unknown to healthy life.”<sup>194(p126)</sup> In extremis, according to James, this may manifest in a plethora of sick attitudes and behaviors, including loathing, irritation, exasperation, self-mistrust, self-despair, suspicion, anxiety, trepidation, and fear.<sup>194(p126)</sup> Clearly, the faith of those healthy-minded souls who volunteer at a soup kitchen or clothing bank, in service to disadvantaged others, with a smile and good cheer, for example, is not the faith of those sick souls whose hours are spent picketing the funerals of AIDS victims or

fallen soldiers, with signs containing vile and sexually demented taunts praising God for hating the deceased and sending them to hell.

Much of James’ description of the healthy-minded and sick religious polarities recalls Allport’s much later discussion of intrinsic and extrinsic religion.<sup>47</sup> As subsequent research has shown, faith motivated by intrinsic religion is associated with empathy, open-mindedness, self-esteem, altruism, and social responsibility. Extrinsically motivated faith, by contrast, is associated with all manner of evils, personal and societal, beginning with Allport’s own famous correlation of this polarity of faith with proclivities toward racial and religious prejudice, authoritarianism, and fascism.<sup>47</sup>

Sick or distorted faith thus suggests itself as a font of psychopathology, which may have expressed somatic consequences. This was finally acknowledged by the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), published by the American Psychiatric Association in 1994, which added a diagnostic category (V62.89) termed “religious or spiritual problem.”<sup>195</sup> This was defined broadly as a situation in which “the focus of clinical attention is a religious or spiritual problem.”<sup>195(p300)</sup> Examples given included loss or questioning of faith, problems related to conversion, and questioning one’s spiritual values. The new category reflected an emerging sensitivity among psychiatrists to the idea that certain expressions of religious faith may serve as a source of or may reflect psychological conflict.<sup>196</sup>

Although the tone of this diagnostic innovation is not necessarily optimistic when it comes to religion, it was a significant and important development, nonetheless. In the earlier DSM-III-R, for example, the American Psychiatric Association seemed to take it as a matter of faith, so to speak, that any and all religious expression inherently signified psychopathology. There was no separate religious diagnostic category, as in the DSM-IV, and where religious references were made they were almost exclusively negative—as features of clinical cases exemplifying cognitive incoherence, catatonia, delusion, magical thinking, hallucinations, primitive cultures, schizotypal disorders, cult membership, and so on.<sup>197,198</sup> These biases and insensitivities were thoroughly exposed almost 20 years ago, which led to the new construct in the fourth edition. For the first time, formal acknowledgment was made of the potentially clinical significance of measured and selected experiences related to one’s religion that departed from normative expressions of religious faith. Psychiatry had acquiesced to the idea that features of one’s religious life, where distorted or disrupted rather than inherently so, could significantly and observably impact upon psychological health. The implication here is still a bit one sided, though, in keeping with the historical perspective of academic psychiatry toward religion and religious faith.<sup>199</sup> As this paper has shown, there is another side to this story.

Distorted faith can indeed be an impediment to well-being and healing—no serious observer would deny this point. But a healthy-minded, intrinsically motivated faith can also be a clinician’s ally, just as Osler, Paulsen, and Frank long ago suggested. Indeed, according to Osler, “faith has always been an essential factor in the practice of medicine.”<sup>1(p1471)</sup> This is so whether we are speaking of faith in the physician, leading to compliance;

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faith in the efficacy of medical care, leading to positive expectations and, perhaps, to a salutary placebo effect; or faith in a divine being, leading to psychosomatic benefits, or—as the religious themselves might claim—a divine blessing, or an expectation of such. Each of these expressions of faith has long been and continues to be instrumental in the healing of medical patients wherever medicine and the other healing arts are practiced.

Faith in God can be a resource by which one may “heal thyself,”<sup>200</sup> but not solely due to simplistic conceptions of cause and effect that dominate thinking in the religion and health field. Faith does not “cause” healing, as Drs Joel James Shuman and Keith G. Meador have cogently noted,<sup>200</sup> at least not in the way that most physicians and scientists understand causation. True faith in God, earnest and heartfelt piety and reconciliation with the transcendent source of being, is not a product that can be glommed and then used to improve one’s health. Rather, to borrow a distinctly biological metaphor, faith may provide the agar or medium on which healing can grow. Or a different metaphor: faith may condition the soil in which a salutogenic tree can take root. The idea here is the same—that healing may occur subsequent to expressions of faith that serve to establish the psychological environment necessary for a salutogenic response. But important caveats are in order.

First, faith alone is not a unique determinant of healing; it operates in conjunction with many others. Features of human hosts and their environments, together with any therapeutic agents, all work in tandem, mysteriously one might say, to foster a positive result, the course of which may vary considerably among people with the same diagnosis. Second, unless we are speaking of the healing of a focal lesion (and perhaps even there), healing is itself expansively multidimensional and is thus not easily defined by a particular outcome or marker. The calculus over what *is* healing is just as complex as over what *causes* or *antecedes* healing. Third, as has been described in this paper, the mechanisms by which faith and healing are connected are complicated and many. The good news is that this connection can be understood in the context of scientifically acceptable explanations for mind-body interaction. The challenging news is that this is not reducible to a single mechanism, captured in a pithy sound bite, that operates identically in all people all of the time and that accounts for the totality of the observed effect. Faith and healing and their relation to each other are thus not unlike any other pair of exposure and outcome variables that we might choose to explore in a biomedical, clinical, or population-health context.

So, faith may be capable of engendering healing, by contributing to and supporting ongoing salutogenic tendencies within the human body and psyche. But faith is not a discrete commodity, so to speak, and ought not be viewed in the way that we regrettably have come to view diet and exercise and meditation and routine preventive checkups. Faith is not some discrete “thing” that we can “do,” something to “plug in” to our “life style,” and thus attain some sort of amorphous state of “wellness.” Such a notion, such a misconstrued notion of faith, is, if anything, the therapeutic version of martyred Pastor Dietrich Bonhoeffer’s famous theological concept of “cheap grace.”<sup>201</sup>

As noted, the answer to the question of how faith heals can be found in the inherencies of our normal psychological makeup

and is thus readily interpretable by contemporary psychological theory. For some of us who have labored in the wilds of this area of research for going on 25 years, this should be satisfying news. Admittedly, this is not as sexy a formulation of a putative faith-healing relationship as attributing solely magically causal properties to faith, such as in some interpretations of the controversial literature on the healing power of distant prayer. But to a social or biomedical scientist or public health professional, like the present author, what has been described suggests a much more intriguing, widespread, and optimistic contribution of faith. Moreover, it suggests avenues of contribution that extend beyond the individualistic perspective that dominates contemporary discourse on healing.

Faith, rather than conceived of solely as a personal characteristic of discrete and separated beings, can also be understood as a communally defined and experienced phenomenon. Belief and trust in and obedience to God or the divine, especially for the Western monotheisms, is about more than just what “I” think or feel or do. Faith expressed is about translating one’s deepest sense of connection with the divine into a divinely inspired or mandated course of action, which is acted upon collectively. For Jews, the *telos* or endpoint is *tikkun olam* (repair or perfection of the world); for Christians, it is the Great Commission to take up the cross and carry it into the world; for Muslims, it is submission or surrender to God’s will for the perfection of humankind. Healthy-minded faith is the fuel that produces constructive social and cultural transformation—it inspires and directs acts of compassion, mercy, and justice. This was true for the communities of faith that instigated and provided leadership for the US civil rights movement, and it is true today in many fields.

In the healthcare arena, this reading of faith—of divine belief, trust, and obedience—suggests an instrumentality for communities of faith in ongoing policy discussions about health-related social change, especially regarding how we might better accommodate the needs of underserved and underinsured populations. Many communities of faith, notably Reform Jews, United Methodists, Roman Catholics, and African-American Baptists, have taken this role seriously for decades. The public health implications of a faith-healing connection are thus another important subject for further exploration. To be clear, the point being made here is not tangential to the topic of this paper’s analysis. The impact of faith on healing has significant and meaningful application within communities of faith and within society as a whole qua whole, just as it does within the bodies or souls of individual persons of faith.

If medicine and religion see themselves as enemies, this is only because of their mutual misreading of their otherwise shared functions. Both medicine and religion *postulate* axioms or principles about human life, *reflect* these postulates in the values that undergird its actions, *prescribe and proscribe* acceptable boundaries for dealing with human beings, *establish* institutions and roles for embodying these morally underwritten actions, *alleviate* the discomforts and challenges of human existence, and, in so doing, *manage* particular domains of human life.<sup>202</sup> Ideally, these two institutions, medicine and religion, should be allies, as Osler hoped. Each serves to support and reinforce the work of the other in pursuit of physical and psychological well-being and, ideally, communal well-being as well. Together, they may

create a synergy that could be an especially powerful force for health and wholeness for individuals and for the collective.

It is hoped that this description of a faith-healing connection as both reasonable and accountable to naturalistic theories of the psychology of healing will represent a modest step toward rapprochement between medicine and religion. These institutions ought to be coworkers and not enemies. Their current opposition seems to mirror a similar split between the carnal and the spiritual in our own individual and collective psyches. But just as new psychologies have emerged to mend this intrapsychic split, so, too, has the time arrived for substantial dialogue between the institutions of medicine and religion. Encouraging trends are visible that an ongoing dialogue is indeed being fostered. Course electives in undergraduate and graduate medical education, academic research centers, large-scale funded research programs, articles in high-profile peer-reviewed scholarly journals, endowed chairs at Texas and Emory and Duke (although each as yet unfilled)—these are all markers that each camp is becoming increasingly accommodated to the idea that there is something to discuss and that the ensuing discussion is in the best interest of faith communities, the healing professions, and the general public.

Feeling comfortable in exploring a faith-healing connection is imperative if we are ever to recognize, in full, the sources of comfort and meaning that enable suffering people to cope with and adapt to the challenges of illness and of life. Blocking off an entire realm of human experience on account of misperceptions or mistaken connotations serves no one and only reinforces the sick-making reductionistic view of human beings as a collection of fragmented and disconnected parts or levels: physical, mental, emotional, spiritual. If we are to fulfill our charge as scientists or clinicians, then we need to take up the call first issued by Osler a century ago and be willing to consider in earnest the possibility of a “faith that heals.”

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