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## God and Health: What more is there to say?

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Is being religious, on average, something that is not just good for the soul, but also good for the body -- good for one's physical health? That is to say, are people who go to church or synagogue, or mosque or some other house of worship) likely to live longer than people who don't? Might strong faith be a factor in recovery from serious illness? Does personal meditative practice and contemplative prayer enhance immune functioning and reduce stress? Is it possible that so-called intercessory prayer – active prayer for another person's health – can really affect the course of recovery?

For more than a decade, a modest but voluble group of medical researchers have argued that the evidence tending to support a direct health bonus for religious and spiritual people is growing. The 2000 *Handbook of Religion and Health*, co-edited by several of the leaders in this area, identified no fewer than 1,600 published research articles wholly or largely concerned with the topic, and largely tending to support the hypothesis (though many of these concerned the impact of religiosity on mental rather than physical health, a less contentious and more established theme in the psychiatric literature).<sup>1</sup>

The past 15 years also saw the founding of new academic centers – the somewhat misleadingly titled National Institute for Healthcare Research (reconstituted in 2002 as the International Center for the Integration of Health and Spirituality); the George Washington Center Institute for Spirituality and Health; the Center for Spirituality and Health at the University of Florida; the Center for Spirituality and Healing at University of Minnesota; the Interfaith Health Program at Emory University; and the Center for the Study of Religion/Spirituality and Health at Duke Medical School (recently renamed the Duke Center for Spirituality, Theology and Health).

Medical school education has been influenced by these developments. Whereas in the early 1990s, only three medical schools in the United States offered any kind of instruction related to religion or spirituality, in 2001 some 70 (out of a total of 125) reported offering such instruction.<sup>2</sup> More recently, manuals targeted at clinicians, like the Templeton Foundation's 2007 *What Do I Say? Talking With Patients About Spirituality*, suggest that the conversation has now moved beyond debating the data. Religion and spirituality, so important to so many ill patients, is no longer something that can be left to pastors and chaplains. Doctors too need to find ways to engage with it, not only for the sake of encouraging a more compassionate approach to health care (although that is one reason), but because doing so may lead to improved health outcomes.<sup>3</sup>

As all these developments have been underway, the popular press has tracked them with considerable zeal. The (likely) good news of better health through religion has found its way into articles published in sources ranging from *Newsweek* to the *New York*

*Times*, from *Prevention Magazine* to *Psychology Today*, not to speak of countless regional newspaper pieces.<sup>4</sup> By the late 1990s, a new self-help publishing niche had also appeared, marketing books that mixed distilled versions of the research findings with inspiring stories from the clinic and a series of practical recommendations for the rest of us: *The Faith Factor*, by Dale Matthews, *Timeless Healing*, by Herbert Benson, *The Healing Power of Faith* by Harold Koenig, and *God, Faith, and Health*, by Jeff Levin.<sup>5</sup>

By the end of the 1990s, also, the boldness and public visibility of these developments also begun to produce a distinct backlash, especially within mainstream medicine. Richard Sloan, a professor of behavioral medicine at Columbia University, was (and is) the most visible leader of that assault. His opening salvo was a 1999 article published in *The Lancet*, in which he and a statistician colleague, Emilia Bagiella, reviewed a wide swathe of the epidemiological studies widely cited in support of the connection (with a focus on cardiovascular diseases, Sloan's specialty). They concluded that virtually all were methodologically substandard. Some used very small sample sizes, other did not control properly for confounding variables and multiple comparisons. For example, Sloan and Bagiella noted that many of the original studies claiming that regular church attendance is associated with good health tended not to take into account the fact that people who are ill often are housebound and cannot attend church in the first place.<sup>6</sup>

In publishing this and other critiques of this sort, Sloan was not merely taking a swipe at what he saw as sloppy science; he was also defending a secular institution -- modern medicine -- against an intrusion of what he called "faith-based propaganda." The press material for his recent book on the entire enterprise, *Blind Faith: the Unholy Alliance of Religion and Medicine*, summed up what for him has been at stake:

*Blind Faith* presents readers with a chilling version of a world where weak science is embraced as established fact, critical ethical issues are ignored, significant practical considerations are abandoned, and religion itself is trivialized. As twenty-first century America increasingly turns its back on science, the danger of health care being invaded by faith-related propaganda is a genuine threat to the practice of a compassionate yet evidence based medicine.<sup>7</sup>

#### ***Four Claims and their Histories***

All of which is to say: there has been hype, and there has been heat. And, more recently, it seems to me, there has been a sense of stalemate. All sides have spoken. The critics have remained unconvinced. The advocates have remained resolved. Given all this, is there anything new to say that might provide some perspective and energy to move the conversation in some new, more productive direction?

I think there is. My own starting point is an apparently simple observation. People tend to speak about the question of a link between religion, spirituality and improved health outcomes as if it is a single claim that must be defended or challenged whole-cloth. In fact, it is not. What it really consists of are four discrete claims:

- Church attendance increases longevity and resistance to disease
- Spiritual practices (like meditation) reduce stress and enhance health

- Faith in God can facilitate recovery from serious illness
- Prayer for another can change the outcome of disease

These four claims do all bear on some kind of larger argument connecting religion and spirituality to physical health, but they do not do so in the same way. Each is embedded in a very distinct culture of biomedical or behavioral research, and each stands in quite a distinct relationship to religion. Until the 1990s (for reasons I will discuss in due course), they were rarely, if ever discussed together. The question is: when they were discussed *separately*, what did each of the discussions in question look like? And how might knowing the answer to this question position us to think better than we currently do about the religion-health enterprise going forward? In this essay, I propose to find out. I will proceed first by taking each of the four claims in turn.

### ***Church attendance increases longevity and resistance to disease***

The origins of this claim go back to the post WWII era that was seeing growing public health concern with the rising incidence of heart disease in the United States. In these years, new large epidemiological studies such as The Framingham Heart Study and the Seven Countries Study had begun to pinpoint high fat diet and smoking as two key risk factors for the disease, and most of the attention of the medical profession was therefore on sorting out the degree of risk and the potential practical implications thereof.<sup>8</sup>

Then something unexpected happened: epidemiologists and behavioral scientists discovered a town called Roseto, Pennsylvania --an Italian-American community in the heartland of Pennsylvania. What made the town so interesting was that in comparison with its two neighboring towns, Bangor, PA and Nazareth, PA, Roseto seemed to be a virtual haven from heart disease (despite being serviced by the same water supply and hospital). Nationally, it was known at the time, the frequency of death from heart disease rises with age. In Roseto, however, it was near zero for men aged 55-64. For men over 65, the rate was half the national average.<sup>9</sup>

Why should people in Roseto suffer from so much less heart disease than people in the rest of the country? The answer, some researchers suggested, did not have to do with their diet (which was high in fat) or their levels of smoking (which was high), but with something quite different: the fact that the Rosetans lived in a very tight-knit community organized around family and church. It was their intensely communal Old World lifestyle that protected them, the researchers concluded and if they were ever to abandon that lifestyle (as one researcher, Stewart Wolf warned), Roseto would cease to be a modern Shangri-la in the heart of America. Sure enough, a new generation of young Rosetans began to rebel against the old ways: marrying out of their faith, abandoning multi-generational homes, and buying swimming pools and second cars. In 1971, the first heart attack death of a person younger than 45 years old occurred in the town. And in spite of new efforts by townspeople to cut down on smoking and fat consumption, coronary heart disease more than doubled through the 1970s, hypertension tripled, and there was a substantial increase in strokes. By the end of the decade, the number of fatal

heart attacks in the town had risen to the national average. Wolf's prediction, it seemed clear, had come tragically true.<sup>10</sup> Shangri-la was no more.

Roseto was just a case study, but it helped pave the way for new epidemiological research that began to investigate prospectively a possible link between health and what, by the mid-1970s, started to be called "social support." Were people who were deeply embedded in their communities less likely to die of heart disease (and other diseases) than people who were more socially isolated? In the early 1970s, Lisa Berkman, a graduate student at the University of California, Berkeley, undertook a dissertation project that involved analyzing an existing set of data from a 1965 public health survey of close to 7,000 people living in Alameda County, California. Because the survey had followed then-recent World Health Organization recommendations that "health" be defined by reference not just to physical, but also to mental and social well-being, the participants in the 1965 survey had answered questions about their marital state, number of friends, and memberships in religious and voluntary organizations. In 1974, researchers had collected the nine-year mortality data on this group of people, but no one had thought to look for possible links between differences in the density of social networks and different mortality outcomes. Berkman's job now was to do just that.

What she found was stunning: in every age and sex category, people who in 1965 had reported the fewest social ties were, nine years later, up to three times more likely to have died than those who had reported the most social ties. This correlation held true even after factors such as socio-economic status, smoking, alcohol use, obesity, physical activity, and use of preventive health services were accounted for.<sup>11</sup> Berkman's methodology was rigorous, and her results seemed unequivocal. Other epidemiological studies, looking at other populations, would later confirm them.<sup>12</sup> Soon, there seemed to be no real room for doubt: having friends, being married, belonging to civic organizations, belonging to a church, were all conducive to healthier and longer life.

And perhaps belonging to a church brought *special* benefits? Stewart Wolf, in his study of Roseto, PA, had been impressed by the extent to which much of social life in that town revolved around the local Catholic church, but he had not explicitly flagged church attendance as a key independent variable responsible for the Rosetans's good health.. There had also been some studies in the 1950s and 1960s that called attention to the relatively low incidence of cancer and heart disease among certain minority Christian denominations like Mormons and Seventh Day Adventists; it had been assumed, though, that the statistics here could be explained by the fact that these denominations tended to discourage their members from engaging in unhealthy behaviors like smoking and alcohol use.<sup>13</sup>

Maybe, however, there was more to say. Two years before Berkman's study appeared, Johns Hopkins epidemiologist George Comstock had published an article called "Church Attendance and Health" that seemed to complicate the picture. The study had analyzed data from a 1963 private census conducted in Washington County, Maryland, and determined infrequent church attenders were at twice the risk of death from arteriosclerotic heart disease than men and women who attended church once a

week or more. Death rates from cirrhosis, emphysema, and suicide were also higher among infrequent attenders.<sup>14</sup>

In the discussion section of his article, Comstock had made clear that he simply did not know why the data had revealed the associations they had – he could only speculate:

More exciting hypotheses can be generated from the inverse association of church attendance with arteriosclerotic disease. Does this association merely reflect the ‘good guy’ or ‘Leo Durocher’ syndrome (‘Nice guys finish last’)? Is it related to the sense of identification with a supportive group? Are churchgoers likely to have Type B personalities . . .? Or is the effect mediated through peace of mind and release of tensions?<sup>15</sup>

It would not be until the 1990s that very many people would follow up on Comstock’s work, but by the end of the decade, the literature was peppered with other studies that seemed to affirm the truth of the basic correlation he had observed: by then, church attendance had been associated with everything with lower blood pressure, less hypertension, fewer health problems generally in old age, and even overall longer life. Most people were inclined to assume that the correlations were best understood, not as a function of something as a special case of the now widely-accepted link between social embeddedness, social support and reduced mortality. Churches, the argument went, provide health benefits because they offer their members an unusually committed and comforting sort of community. They reliably provide a buffer against stress, they reach out to the sick, and they likely inspire ill people to seek medical assistance earlier than they might otherwise have because they knew others cared about their health.

Or was this really the whole story? In 1996, an Israeli epidemiologist named Jeremy and his colleagues had compared mortality rates in a cluster of matched secular and a cluster of religious kibbutzim between 1970 and 1985 (a methodological approach that Richard Sloan would later sharply criticize). They found that mortality in the secular kibbutzim was nearly twice that of mortality on the religious kibbutzim – even though, the authors insisted, “there was no difference in social support or frequency of social contact between religious and secular kibbutzim.”<sup>16</sup> Eight years later, in 2002, some researchers in California returned to the Alameda County data used by Berkman in the 1970s and upped the ante further. After controlling explicitly for factors such as reported degree of social connectivity, and differences in specific health behaviors that could be a consequence of religious belief (avoidance of alcohol or smoking), they had found an independent effect of church attendance on health. .<sup>17</sup> The challenge was clear: other mechanisms beyond social support might be necessary to account for the apparent health benefits of an active religious lifestyle.

What other mechanism might be contenders? We come now to the next claim widely invoked by the larger research tradition concerned with the health benefits of religion.

*Spiritual practices (like meditation) reduce stress and enhance health*

Virtually all religions encourage or facilitate opportunities for adherents to participate regularly in contemplative activities like focused prayer and meditation. These practices, some suggest say, may enhance health by reducing stress, which, when chronic, increases one's susceptibility to any number of both common and serious maladies.<sup>18</sup> It sounds plausible, but is there any direct evidence? The story of how people came to believe there might be has its roots in the psychedelic culture of 1960s America, a time and place that also saw a great interest among the youth of the time in Eastern philosophy and especially meditation. The youth were not interested in meditation because they hoped it would make them healthier; they were interested in it because they believed it offered a drug free route to altered or expanded states of consciousness. In 1967, the *New York Times* did a feature on the growth of Hindu ashrams in the country, and interviewed one young woman who made the connection clear: "I kept thinking that through the constant use of LSD, I'd return to the religious feeling I had with it the first time. But it never came and I met Swami. I gave up drugs. I was hooked on religion and on yoga. I'm a better person now. I'm not hung up on myself anymore." Tellingly, a teacher of Hinduism at that ashram – possibly even this young woman's teacher – was a lot less sanguine about women like this one. He complained to the same journalist about women like these in the following way. "They are exhibitionists. They have no discipline and what are they really learning about Hinduism. This trend toward a drug culture is very dangerous."<sup>19</sup>

The point about discipline is important, because it could help partially explain what happened next: the rise in the United States of Transcendental Meditation or TM, a quick-and-easy form of meditation that provided an alternative to hours of practice in an ashram. Taught by the Maharishi Mashesh Yogi from India, the claim of TM was that a mere 15-20 minutes of practice twice a day would help a person's mind would become more peaceful, more intelligent, and more creative.

Still, all this might have remained just one more minor offering on the Eastern marketplace of 1960s practices had it not been for the fact that the Beatles met the Maharishi in the late 1960s and decided to make him their teacher. This led to other [celebrity endorsements] and suddenly TM had become the path to psychedelic bliss and peace; everyone wanted to learn it, and the Maharishi became a cult figure, declared by the *New York Times* in 1969 to be the "chief guru of the Western world."<sup>20</sup>

The relationship with the Beatles soured in 1968 (on retreat in India with him, some became convinced that the Maharishi had made unwanted advances on a female member of their party). That is important, because it led to a shift in the cultural positioning of TM. The Maharishi and his staff decided to stop pursuing fickle celebrities and instead woo the scientific community. Initially, though, the scientists who showed up to talk about TM were physicists who were interested in the extent to which the TM meditative state might be explicable as a quantum physical phenomenon."<sup>21</sup>

Then, in 1969, a graduate student at the University of California in Los Angeles, M. Robert Keith Wallace, decided to research the physiological effects of TM for his dissertation, and almost single-handedly changed the focus of that scientific conversation.

Wallace recruited college students who had taken a course in TM, hooked them up to various measuring instruments, asked them to meditate, and found that on average they showed, significant changes in their physiological state: reductions in oxygen consumption; reductions in resting heart rate; and changes in skin resistance.

Most significantly, from Wallace's perspective, they also showed significant changes in their brain waves. EEG results showed, Wallace felt, a highly coherent pattern of brain wave activity, one that he believed to be different from anything previously reported in the literature. The Maharishi and his followers had long claimed that TM practice produced a unique state of consciousness. Wallace, it seemed, had now proven them right. In 1970, Wallace announced his discovery of a "fourth major state of consciousness" in the flagship journal, *Science*:

Physiologically, the state produced by transcendental meditation seems to be distinct from commonly encountered states of consciousness, such as wakefulness, sleep, and dreaming, and from altered states of consciousness, such as hypnosis and autosuggestion.<sup>22</sup>

Again, this was a development that had little, if any obvious relevance for the larger claim that meditative practices might offer direct health benefits. It was the cardiologist Herbert Benson at Harvard Medical School who took the research one further step away from its counterculture roots and one further step into medical practice. Benson had been interested in the possibility that stress increased one's risk for heart disease – a new and controversial idea at the time. During the second half of the 1960s, he had using biofeedback methods to reduce what he believed to be stress-induced high blood pressure in his patients.

He had been working with monkeys to try to perfect the paradigm when a group of TM practitioners came to him and said he should work with them instead. They could do what he was trying to accomplish without biofeedback machines or any cumbersome conditioning techniques. Through the simple practices of TM, they could lower their blood pressure at will. At first, Benson refused; meditation was not a practice with any perceived medical implications, and he could see no reason to shift the focus of his research. But the young TM practitioners persisted, and finally Benson relented; he would give them a chance to prove their claim. When he first began studying the TM practitioners, he had not known of Wallace's work; but upon discovering it, he proposed a collaboration. Wallace moved to Harvard, and he, Benson and a third colleague, Archie F. Wilson, developed a new protocol to study their subjects. Blood pressure, heart rate, brain waves, rates of metabolism and rates of breathing were all to be measured under two conditions: first, the subjects would be asked to sit quietly for 20 minutes; and second, they would be asked to sit quietly and meditate – repeat their mantra, etc. -- for 20 minutes. The aim was to assess the distinctive contribution – if any – of meditation. "What we found," Benson later recalled, "was astounding. Through the simple act of changing their thought patterns, the subjects experienced decreases in their metabolism, breathing rate and brain wave frequency."<sup>23</sup>

It wasn't the altered states of consciousness observed in his meditating subjects that astounded Benson – so far as he was concerned, the patterns of brain wave activity seen in their EEGs was evidence merely that they were very relaxed. What astounded him, rather, were the effects that meditation produced on visceral and autonomic functioning. Taken together, these seemed to amount to a systematic reversal of the “fight or flight” or stress response that he eventually called “the relaxation response.”

The discovery of the relaxation response was a very specific turning point in the history of the claim that interests us here: a moment of explicit and deliberate break with both the counterculture and specific religious traditions.. Meditation, Benson insisted, was simply a natural and universal technology for creating certain clinically desirable physiological effects.

Beginning in the 1980s, Benson found both a comrade and, to a certain extent, a rival in physicist-turned-meditation teacher, Jon Kabat-Zinn. In 1979 Kabat-Zinn began to teach patients a type of meditative practice that was derived, not from Hindu-based mantra practices but from a certain attention-stabilizing technique cultivated in Theravada Buddhism called *vipassana*. More difficult to theorize as a “stress reducer” than Benson’s relaxation response (the practice can be quite taxing), nevertheless, Kabat-Zinn’s Stress Reduction Clinic at the University of Massachusetts Medical School in Worcester, MA proved highly popular as an alternative vision of the therapeutic power of meditation, particularly after it was featured in the widely-viewed 1993 PBS television documentary hosted by Bill Moyers, *Healing and the Mind*. In books and articles, Kabat-Zinn and his colleagues claimed that mindfulness practice not only helps chronic patients cope better with their disorders; it actually improves their health and resistance to disease, perhaps by strengthening the immune system.<sup>24</sup>

With all their differences, Benson and Kabat-Zinn shared a fundamentally secularizing vision for meditative practice: the therapeutic benefits of meditation, they insist, can be gained without any commitment to, or even real knowledge of, the Asian religious traditions that spawned them. Indeed, one did not even need to be religious to practice meditation, because the techniques worked regardless of faith or belief system. “...Even though it [the relaxation response] has been evoked in the religions of both East and West for most of recorded history,” Benson reassured his readers in his best-selling guide to the practice, *Relaxation Response*, “you don’t have to engage in any rites or esoteric practices to bring it forth.”<sup>25</sup> Or, as a journalist put it in 1975, Benson had taught her that meditation need have little, if anything to do with religious practices; it was instead and above all “a terrific aspirin, a wonderful kind of bromide.”<sup>26</sup>

This did not mean that religious people need no apply. Even as he downplayed the counterculture and exotic Eastern roots of the relaxation response, Benson made a point of emphasizing its complete compatibility with more familiar (to American readers) Christian religious traditions. In interviews, he talked frequently about how, when he first began spreading the word about the relaxation response, he was “startled at the excitement among the religious pros” in the Christian community. They told him that, in introducing them to the relaxation response, he had reminded them of the power of such

practices in their own tradition, with which they had largely lost touch. "This is why I came into church work in the first place,' said one, 'and I'd lost it'..."<sup>27</sup>

### ***Faith in God can facilitate recovery from serious illness***

The original conversation around the claim that meditation is good for one's health emphasized its utilitarian benefits and that fact that it could be practiced to equal advantage by the religious or irreligious alike. The original conversation around the third claim invoked in the current religion-health movement is structurally similar: it was that *belief or faith* in a higher power is also good for one's health – and the specifics of the theology or faith tradition in question do not matter. All beliefs in a higher power are equal, because -- or so it is assumed -- they demonstrate equivalent capacities to marshal the body's endogenous healing abilities.

As Benson has put it in a later book *Timeless Healing*:

I describe "God" with a capital "G" in this book but nevertheless hope readers will understand that I am referring to all the deities of the Judeo-Christian, Buddhist, Muslim, and Hindu traditions, to gods and goddesses, as well as to all spirits worshipped and beloved by humans all over the world and throughout history. In my scientific observations, I have observed that no matter what name you give the Infinite Absolute you worship, no matter what theology you ascribe to, the results of believing in God are the same.<sup>28</sup>

Where did this idea come from? Ironically enough, it lay in a certain unconventional interpretation of the Christian promise of healing through faith. Again and again, the Jesus of the Gospels says to those who seek him out, "Your faith has healed you."<sup>29</sup> In the mid-19<sup>th</sup>-century, a time of great unrest both with mainstream medicine and mainstream religion, certain unorthodox Christian groups sprang up that reasoned as follows: given that God promises that those who have faith will be healed, then why not forget about going to doctors and instead work on cultivating our psychological capacity for faith? Why not in this sense use faith as an alternative to medicine?

Christian in its initial inspiration, some – not all – of the people who spoke this way nevertheless found justification for their thinking in the teachings of various popular occult or esoteric movements of the time like Theosophy and Rosicrucianism, movements which were telling Americans in a range of ways that their minds possessed latent spiritual and other powers, knowledge of which had been lost in the mists of time, but which they could learn to tap. Going under names like "Divine Science," "religious science," "practical Christianity," "Christian science," "New Thought," or sometimes simply *mind-cure*, these more or less occult Christian groups thus promoted the use of a range of techniques – mantras, affirmations, imagery exercises – designed to help a person cultivate belief in his or her capacity for health, even against all odds and appearances.

William James, observing the movements at the turn of the 20<sup>th</sup>-century,

described them in the following way:

“The blind have been made to see, the halt to walk; lifelong invalids have had their health restored. . . . One hears of the “Gospel of Relaxation,” of the “Don’t Worry Movement,” of people who repeat to themselves, “Youth, health, vigor!”<sup>30</sup>

As a movement, mind-cure drew on the larger currents of anti-authoritarianism and individualism of the time; indeed, it came to function as a kind of early-20<sup>th</sup> century counter-culture.<sup>31</sup> The movement’s leaders appealed to a larger popular culture of alternative therapies that collectively aimed to challenge the authority and competence of mainstream medicine;<sup>32</sup> and at the same time, they appealed to a larger popular culture of alternative religiosity that was rebelling against the perceived spiritual inadequacies of older forms of Protestantism such as Congregationalism and Episcopalianism.

Nevertheless, over time, an understanding that had begin as a vision of how to access the power of God turned into a vision of how to access *the healing power of one’s own mind*. More and more, people began to argue that faith was not just a precondition for divine healing; it was a healing power in its own right – humans now commanded their own capacity to bring about miracles, or near-miracles, through right thinking and right attitude.

The miracles, moreover, were increasingly understood to be not just of the medical variety. By the time we reach the early 20<sup>th</sup>-century, a time dominated by an increasing form of bare-knuckle capitalism in the United States, positive thinking was increasingly touted, not just as a magic-sesame door to health, but also to wealth.<sup>33</sup> Automobile magnate Henry Ford was so persuaded of the power of mind cure thinking to facilitate worldly success that he ordered bulk copies of an enormously popular early-20<sup>th</sup>-century New Thought book, Ralph Waldo Trine’s *In Tune with the Infinite*, and had them distributed to various high-profile industrialists. Ford’s famous comment, “If you think you can, you can. And if you think you can’t, you’re right,” is mind cure doctrines tailored to the no-nonsense world of young capitalist America.

Even children in these days were offered age-appropriate versions of the new success-minded New Thought. In 1906, a Sunday school publication called *Wellsprings for Young People* published a little story called “Thinking one can.” The story was about a little locomotive that agreed to pull a heavy load over a great hill after all the big engines refused to try – and who succeeded because he believed that he would. In 1930, the publishing house Platt & Munk published a version of the story (that had been retold several times since 1906) under the title *The Little Engine that Could*. In this version, the little engine struggles up the hill chanting his mantra “I think I can, I think I can,” over and over, until he succeeds.<sup>34</sup>

But it was not until World War II that the power of positive thinking really penetrated the consciousness of the ordinary man and woman on the street, thanks to the strategically folksy style of the reverend and best-selling author, Norman Vincent Peale.

Mind-cure advocates had always been some hobbled in their efforts to mainstream their message by a tendency to indulge in woolly language and make repeated gestures to apparent exotic and esoteric beliefs about the laws of the universe. Peale was much more straightforward. His 1952 run-away best-seller *The Power of Positive Thinking* opened with the ringing words: "Believe in yourself! Have faith in your abilities!"<sup>35</sup> And his argument was driven, not by reference to spiritual vibrations, or divine laws of attraction, but by endless inspiring antidotes in which ordinary people experience remarkable changes in their lives. Here's one example:

Smith has never again had need to revert to the habit of taking tablets. He learned the amazing power of positive thinking to heal. Let me repeat. The technique is to believe that you are going to be better, believe that positive thinking is going to work for you, and remedial forces actually will be set in motion.<sup>36</sup>

Over the course of several decades, Peale conveyed the message of the power of the positive to untold millions of Americans through his sermons, his weekly radio show, his newsletters and magazines, and above all his best-selling books. The effect of all this was that, by the late 1960s, the power of positive thinking had become a central part of mainstream American popular culture.

Popular interest, however, had not yet been turned into medical interest, let alone into any kind of investigation into what kind of power, if any, was really in play here. Even American psychosomatic medicine, focused as it was on Freud and psychoanalytic perspectives, seems barely to have registered the existence of the faith healers and positive thinkers. Indeed, the only reference to positive thinking to appear in the journal *Psychosomatic Medicine* before 1970 was in an article from 1962 by George Vaillant on psychosomatic aspects of schizophrenia. Here Vaillant made reference to the importance of "confidence and faith" in certain therapeutic processes, only to note wryly that he was aware that such encouragements would sound "pretty banal" to readers of that journal. After all, he said, "we are physicians, not purveyors of positive thinking."<sup>37</sup>

The general sense that positive thinking was a fine ideology for self-help gurus and preachers but of no interest to serious medicine did not begin to change until 1976, when the well-known political analyst and editor, Norman Cousins was diagnosed by his doctors with a terrible degenerative disorder called ankylosing spondylitis (which causes the breakdown of collagen, the fibrous tissue that binds together the body's cells) and decided to engage in an experiment in radical self-healing. He refused to believe in his grim diagnosis, checked himself out of the hospital, into a hotel, had Marx Brothers' films and other humorous material brought in, and proceeded to "laugh himself" back to health.

Many have heard the story of Cousins' remarkable recovery, but in fact what is most interesting about it, from an historical perspective, is not that he got better— the older mind cure literature on positive thinking was filled with remarkable stories like Cousins.' What is most interesting about it is that he told his tale, not in the pages of a Norman Vincent Peale-style best-seller, but in the pages of the *New England Journal of*

*Medicine* –to an overwhelmingly supportive response. He later talked about how he received more than 2,000 personal letters from physicians praising him for his courage, and expressing their interest in his case.

Why did this happen? The short answer is timing: the 1970s represented a time when mainstream medicine felt itself under significant fire from the general public to an degree not seen since at least the late 19<sup>th</sup>-century, condemned for its allegedly impersonal, mechanistic approach to treatment and its preoccupation with its own professional well-being over the well-being of its patients.

Consequently, this era became a time when patients, for the first time in a long time, began to question the authority of mainstream medicine, began to think of themselves as consumers with the right to shop around for alternatives, and began to find some of their alternatives in so-called holistic approaches to healing—biofeedback, meditation, acupuncture, herbs, and dietary regimes – that all were seen as at once less mechanistic, more connected to the whole experience of illness, mind and body, and more empowering of patients.

Against this backdrop, Cousins caught the attention of physicians because he seemed to offer them a way to be part of the holistic medicine solution rather than to remain part the problem. He made a point of praising his own physician as an open-minded man who was willing to work with him, and implied that partnerships of the sort he had experienced might be an ideal for many patients. Most important, perhaps, he offered a now receptive medical profession an opportunity to claim the high ground in an arena important to patients. If positive thinking works, Cousins suggested, it does not work by magic; there will be a physiology and a biochemistry to the processes involved, one that medical science can research. Once it starts to do this, patients will realize that there is no contradiction between their hunger for holistic approaches to healing and medicine’s authority as gatekeepers of evidence-based therapeutic practice.

It helped that the same period in which Cousins was making this argument saw the emergence of new evidence for communication pathways between the brain and the immune system – the emergence of the new field of so-called psycho-neuroimmunology. For some, these developments seemed as if they might offer a new framework for an ambitious new research efforts to explore the effects of both negative and positive attitudes and emotions on immune functioning. Within a few years, Cousins had accepted an invitation to join the medical faculty of the University of California in Los Angeles as Adjunct Professor of Medical Humanities, where he proceeded to oversee research on the biochemistry of healing and the emotions. In the 1980s, he spearheaded a task force to explore the medical potential of psychoneuroimmunology. The Norman Cousins Center for Psychoneuroimmunology is still active at UCLA today.

In the 1990s, matters took a further new turn, when scientific research into the effects of positive thinking began to focus on an unlikely phenomenon: the placebo effect. For a long time, the placebo effect had been defined as the subjective (but not truly curative) response that gullible patients often have to inactive “sugar pills.” In this

understanding evoking the placebo effect was tolerated (just barely) as a form of very occasional benevolent deception that doctors might practice on patients who couldn't be otherwise helped or didn't really have anything wrong with them.<sup>38</sup> Since the late 1970s, however, the placebo effect had been slowly rehabilitated as a true physiological phenomenon. The new ruling wisdom is that those infamous sugar pills -- or, rather, the patient's faith in those pills -- triggers changes in biochemistry that in turn lead to true healing processes. Since the turn of the new millennium, new brain imaging studies have shown (for example) startling similarities between the brain changes seen in patients given morphine and those seen in patients who received plain saline solution (but believed they had been given morphine).<sup>39</sup>

The collective effect of all these developments has been to turn the healing power of a certain kind of positive expectation -- call it positive thinking, call it faith -- into an entity that has nothing to do with God's compassion or providence, and everything to do with certain intriguing realities of human psychology and physiology. There is an innate capacity for our bodies to try to bring into being, to the best of their ability, the optimistic scenarios that we fervently believe in.

Some people have gone even further. Perhaps, they have said, the placebo-inducing effects of belief in God might even explain why, from an evolutionary perspective, the human species is so incorrigibly religious in the first place. Maybe it is because, in the eons of human history before medicine developed any truly effective treatments, people's *faith* in the possibility of supernatural healings (not the reality of supernatural healings itself) was pretty much all they had to keep them healthy.<sup>40</sup>

### ***Prayer for another can change the outcome of disease***

The idea that one might be able to explain the healing power of strong faith by reference to the psychobiological power of the placebo effect stands in striking tension to the final claim that is invoked by people who wish to argue that religion is good for one's health. In fact, the last claim stands in tension with all three of the other claims I have reviewed so far. This is because this last claim, *a priori*, rejects the relevance of the naturalistic explanations for the health benefits of religion that are available, at least in principle, to researchers interested in the other three claims. This is what this last claim says: Prayer works.

Prayer works, not just because it provides a sense of social connection, or reduces stress, or evokes the body's own endogenous healing capacities through the placebo effect. No, prayer itself changes people's health in ways that are independent of all of those other factors—indeed, in ways that seem to operate independently of all known psychological or psychobiological human mechanisms in general.

How do we know this? We know this, some say, because when seriously ill patients are randomized into a "prayer group" and a "control group," there is some evidence that the sick people who are prayed for by others ("intercessory prayer") improve more quickly or have fewer complications associated with their recovery than

those in the control group. This happens even when the prayed-for people do not know whether or not they are in the “active treatment” group, and even (in at least one study) when they do not know they are being prayed for at all.

The idea of testing the efficacy of prayer through scientific means and measures has a longer history than many probably realize. The first detailed proposal stems from 1872, when the English *Contemporary Review* published an anonymous essay (later attributed to the London surgeon Henry Thompson) called "The 'Prayer for the Sick' - Hints Towards a Serious Attempt to Estimate Its Value." In it, he proposed that:

[O]ne single ward or hospital, under the care of first-rate physicians and surgeons, containing certain numbers of patients afflicted with those diseases which have been best studied, and of which the mortality rates are best known, whether the diseases are those which are treated by medical or surgical remedies, should be, during a period of not less, say, than three or five years, made the object of special prayer by the whole body of the faithful, and that, at the end of that time, the mortality rates should be compared with the past rates and also with that of other leading hospitals, similarly well managed, during the same period. <sup>41</sup>

The significance of Thompson’s proposal was clear to all who read it at the time: it represented a sharp challenge by the medical community to the authority of the clergy, and particularly to the clerical practice of calling for special days set aside for prayer to (say) stem the tide of an epidemic, or aid in the recovery of a member of the royal family. Historian Frank Turner has explained: “As a private, personal practice, prayer was not problematic to a Victorian scientist or physician. It became so only when, as in the case of prayers on special occasions, it was [in the words of John Tyndall, one of England’s leading 19<sup>th</sup>-century scientists] ‘forced upon his attention as a form of physical energy, or as the equivalent of such energy.’” <sup>42</sup> If the clergy would insist on presenting prayer as a quasi-rival to the techniques of natural science and medicine, then it was only right, said its critics, that prayer should be assessed by the metrics of natural science and medicine.

Thompson’s prospective study was never carried out, though the “prayer gauge” debate (as it came to be called) continued to inspire vigorous discussion in the press for close to a decade. Francis Galton, however – one of the early founders of modern statistical methods --did take up the question in a different way. Noting that the Anglican liturgy included formal prayers for the long life of the reigning monarch, Galton’s idea was to compare the longevity of members of the British royal family to those of other people of privilege, to see whether the outpouring of prayers to God on behalf of the former actually made a difference to their life span. What he found was that the opposite was true: the royals were “literally the shortest-lived of all who have the advantage of affluence,” even when deaths by accident or violence were excluded. Taking his investigations further revealed that, when the life spans of eminent members of the clergy were compared to that of eminent lawyers and physicians, the clergy--assumed by him to be the most prayerful group—also turned out to be “the shortest lived of the three.” <sup>43</sup>

It was another anti-clerical triumph for the naturalists, and they brushed off the protests of the clergy that one cannot test God in this way, or reduce prayer's degree of efficacy to a number. All of which makes the next chapter in the development of this idea all the more ironic: the resurrection a full century later of the idea of using statistical methods for testing the efficacy of prayer, but promoted now, *not* by those with an anti-clerical axe to grind, but by devout people, most of them Christians, looking to use the methods of science to demonstrate God's reality and power to a skeptical world.

To repeat a point I made above: Modern advocates of the scientific study of prayer are not interested in the effectiveness of any healings produced by the putative psychobiological effects of faith, such as the placebo effect. For them, if there is even a chance that any kind of subjective process contributed to the healing process, then the outcome must be deemed null and void, a failure. Individual testimonials of a miraculous healing on their own also count for little. To know for sure if something is going on, one needs large cohorts of patients and ways of comparing their outcomes to one another. For both these reasons, modern advocates for studying the efficacy of prayer favor the specific experimental design that was originally designed to control for the influence of unwanted psychological factors when testing for the efficacy of drugs: the randomized placebo-controlled clinical trial. This method, it is hoped, will allow researchers to distinguish all known "natural" factors that might be in play from effects supposed to be a direct result of divine intervention.

In the late 1980s, a widely-touted study published in the *Southern Medical Journal* claimed for the first time to have found such effects. The principle investigator Randolph Byrd studied 393 patients who had been admitted to the coronary care unit of the San Francisco General Hospital.<sup>44</sup> The patients were randomly assigned into two groups, one of which was prayed for and another which would not (there was no attempt to stop family members and others from praying for the people in the control group, leading later analysts to engage in rather odd discussion about the effects of "background" prayer and "prayer dosage"). The so-called intercessors or "pray-ers" were all self-identified "born again" Christians who already claimed to pray daily and to go to church. Their assignment was to pray daily for a speedy recovery of "their" patients with no complications.

The results showed no difference in the speed of recovery between the two groups, but Byrd found that, on six out of 26 kinds of possible complications, the prayed for patients did better on a statistically significant level than the controls, and the controls did not do better than the prayed for groups on any of the measures.<sup>45</sup> In 1999, a Kansas-based researcher, William Harris – also active in the Intelligent Design movement -- claimed to have replicated Byrd's findings with a larger population sample. The Harris replication actually did not find improvement on any of the specific measures of improvement identified by Byrd, but rather found improvement on other measures.<sup>46</sup>

For some believers, this was enough to declare early victory. Dale Matthews, an internist who taught at Georgetown University School of Medicine in Washington, D.C., had been researching the "faith factor" in medicine since the early 1990s. In 1997, he told

a 1997 graduating class of medical students to get ready, because – he said -- “the medicine of the future is going to be prayer and Prozac.”<sup>47</sup> Disappointingly, Matthews’ own study on “the effect of intercessory prayer upon the clinical course of patients with rheumatoid arthritis” failed in 2002 to show any effects<sup>48</sup>

Still, the positive claims from the Byrd and Harris studies were enough to keep interest in the idea of studying prayer alive for some years –certainly, among the devout (critics like Richard Sloan dismissed the studies as deeply flawed methodologically). Significantly, the prayer studies were rarely discussed within mainstream medicine, but they found a firm place in forums concerned to document ways in which science was finding evidence for the existence of God. For some, clinical trials of prayer came to have a cultural and theological significance similar to arguments for the anthropic principle from physics (the idea that the universe was deliberately constructed to support intelligent life), alleged fundamental problems with evolutionary theory and evidence for Creation, and presentations of the evidence for near-death and out-of-body experiences.<sup>49</sup>

Moreover, the fact that the most apparently successful studies had tested the efficacy of *Christian* prayer was not lost on some people. One Christian fundamentalist website from this period that posted evidence from science for the reality of the Judeo-Christian God crowed: “*No other religion has succeeded in scientifically demonstrating that prayer to their God has any efficacy in healing.*” Its authors went on:

Obviously, science has demonstrated in three separate studies the efficacy of Christian prayer in medical studies. There is no "scientific" (non-spiritual) explanation for the *cause* of the medical effects demonstrated in these studies. The only logical, but not testable, explanation is that God exists and answers the prayers of Christians ....<sup>50</sup>

In fact, matters here were more complicated than the Christian authors of this website perhaps realized. There was (and is) a wholly different way of conceptualizing the project to study prayer: one rooted less in Christian beliefs in an omnipotent God who personally responds to supplications, and more in New Age explorations of the paranormal. Maybe prayer works, some people suggested, not because a personal God responds to a supplication, but because human beings are spiritual creatures with the ability to use their minds to influence the health of another through “nonlocal,” “quantum” or “distant” healing methods.

In the 1990s, the Texas internist Larry Dossey emerged as the most visible advocate of this alternative approach to prayer, especially in the wake of his 1993 best-selling book *Healing Words: The Power of Prayer and the Practice of Medicine*.<sup>51</sup> A key study for him and others coming out of this alternative tradition – a study that, significantly, seems to have been largely ignored by the Christian advocates of prayer studies – was a 1998 interfaith study of “distant healing” led by parapsychologists Fred Sicher and Elisabeth Targ at the California Pacific Medical Center in San Francisco. Forty patients with advanced AIDS living in the San Francisco Bay area were recruited for a six month trial, and divided into an active treatment and control group. The

interveners for the study consisted of forty practicing healers that self-identified variously as Christians, Jews, Buddhists, Native American shamans, and graduates of "bioenergetic" schools. The healers were given photographs of the AIDS victims, their first names, and their blood counts. Rather than ask God to help the patients, the healers were instead asked to direct an "intention" for health and well-being to the subject. The authors claim (though others have criticized their methods and interpretations) that the twenty AIDS patients who received the "healing energy" had "fewer and less severe new illnesses, fewer doctor visits, fewer hospitalizations, and improved mood" than the twenty patients in the control group who did not receive the energy.<sup>52</sup>

For several years, matters remained in this unsettled and somewhat heated state. Then, in 2006, the history took a new turn. *The American Heart Journal* published a paper reporting the results of what had been widely touted as the definitive and methodologically most rigorous study of the effects of prayer on health to date. Headed by the Harvard Medical School professor Herbert Benson, the study had involved close to 2,000 cardiac patients undergoing surgery in six hospital sites: 604 of the patients were told that it was possible that they would be prayed for (and possible that they would not be), and were then *in fact* prayed for. 597 of the patients were told that it was possible that they would be prayed for (and possible that they would not be) and were then *in fact not* prayed for. A final group was told that people would be definitely praying for them -- and *this was done*.<sup>53</sup>

The implicit rationale for adding the third arm to the trial (a group of people who know they are being prayed for) was to compare the difference between blinded prayer (prayer in which there was no possibility of a placebo effect operating) and unblinded prayer (prayer involving both God – perhaps -- *and* the placebo effect). The assumption was that, if blinded prayer is effective, then unblinded prayer would be even more so. It was not what happened. There was no difference in recovery between the first two groups; in this sense, the experiment had failed to confirm the independent effectiveness of prayer. There was, however, an effect seen in the people in the group who knew for certain that they were going to be prayed for: they did worse than the other two groups. In the words of the researchers: "*certainty of receiving* intercessory prayer was associated with a higher incidence of complications."<sup>54</sup>

It was a troubling conclusion, even leaving aside the question of prayer's independent efficacy, since it suggested that prayer, even as a human activity, was not unambiguously a benign intervention. No one knew why the results had come out the way they had, but there was speculation. The author of an editorial that accompanied the 2006 publication proposed, for example, that the study design might have inadvertently elicited a negative placebo effect: "Approaching a patient to participate in a prayer study before a procedure could inadvertently alarm a patient, 'You mean I'm so sick that I might need prayer?'"<sup>55</sup> Be that as it may, these discouraging study results seem for the time being to have significantly dampened enthusiasm for designing new clinical trials to study the efficacy of prayer. Even though it is still true, as the *Washington Post* observed in 2006, that "prayer is the most common complement to mainstream medicine, far outpacing acupuncture, herbs, vitamins and other alternative remedies,"<sup>56</sup> I am not aware

of any new trials in process as of this writing (October, 2008).

### ***Taking Stock***

I have been placing a great deal of emphasis on the fact that the argument for a link between religion and spirituality and health consists actually of four distinct claims, each with a complex history of its own. I believe that this is a fact that matters for a number of reasons. It matters first, because realizing that we actually have four arguments, rather than one, in play here has the potentially immediately to lower the temperature in the debate. Individual researchers can feel free disaggregate the different claims from one another, if they wish, and focus on one or more to the exclusion of the others. That is to say, people who are interested (say) in the epidemiological data linking church attendance to longevity need not feel they have joined the same club as the people interested (for example) in clinical studies or prayer, or in fMRI studies of meditating monks.

In addition, having a better grasp of the original historical conversation about each of the four claims – appreciating the secular tenor of some, the faith-based tenor of another, the debunking tenor of still another -- helps us better understand why the claim that spirituality or religion is good for your health will never be equivalent to the claim that going to the gym is good for your health, or a low-fat diet is good for your health. Larger cultural, ethical, even political stakes have always been in play, and continue to be. Lining up four histories alongside one another may also help us to realize, perhaps more clearly than we did before, the extent to which the stake in play are potentially in tension with one another. Most obviously, some fit, at least in principle, comfortably within the current norms of scientific and medical naturalism. Others – above all the prayer research -- are efforts, in effect, to cause a rent in the fabric of scientific naturalism.

Let us recall that it is only since the 1990s that we have had a field called “religion and health” that appears to function as an integrated arena (a journal called *Religion and Health* was established in 1962, but its mandate was very clearly to encourage dialogue between religion, psychiatry, and the other mental health professions). Where did it come from? It turns out to have been fueled by the efforts of a relatively small group of medical researchers: David Larson (now deceased), Harold Koenig, Jeff Levin and (later) Dale Matthews and Herbert Benson. All of these men had interests, for different reasons, in forging closer ties between religion and medicine. Until the early 1990s, none of them imagine they would be in a position to create a new field. As Levin and Koenig recalled in 2005: “Less than twenty years ago the entire religion and health field was basically the three of us [Levin, Koenig, and Larson], and sometimes a few others, huddled together in a corner somewhere at various professional meetings.”<sup>57</sup>

Things changed for these men, and for the field in 1987 with the founding of the John Templeton Foundation. The original mission of the Foundation was to “pursue new insights at the boundary between theology and science;” however, the foundation made an early decision to invest strongly and strategically in the area of interfaces between

health and faith. The reasons for this may have to do with a personal passion of its founder, Sir John Templeton. Though he always self-identified as a Presbyterian, Sir John Templeton was significantly influenced as a young man by the health-oriented focus of the various mind-cure and New Thought movements discussed earlier in this essay, including Christian Science, Unity Church (of which his mother was a member) and Religious Science.<sup>58</sup>

Through the 1990s, the Foundation thus funded men like Larson, Levin, Koenig, Matthews, and Benson to carry out synthetic literature reviews concerned with the health benefits of religion, mount new clinical trials (including most of the most visible later prayer studies), organize conferences and speaker series, and create books and articles for broader audiences. The Foundation also provided funds to help establish new academic centers on the topic, and created an incentive program, managed by Dale Matthews, to encourage academics to develop new courses concerned with religion and health. All this had the effect of putting what had been a disconnected set of traditions into the same frame of reference for the first time.

There is precedent for a philanthropic foundation playing an instrumental role in discipline-building. In the 1930s and 1940s, for example, the Rockefeller Foundation, under the direction of Alan Gregg, played a decisive strategic role in creating the then-new interdisciplinary field of psychosomatic medicine.<sup>59</sup> One difference, however, between psychosomatic medicine and the field of religion and health was that the former was intellectually animated by an overarching intellectual commitment to integrating psychoanalytic perspectives with the best of physiological research of the time. What holds the religion and health field together, in contrast, is less a clear intellectual vision of integration, and more an implicit ethical conviction that demonstrating the health benefits of religious practice may have the effect of blurring the boundaries between pastoral care and medical care. An important goal for these advocates is a moral transformation of medical practice.

Harold Koenig, who spearheaded the mammoth literature review of the religion-health link published in the *Handbook of Religion and Health*, put the matter clearly in the foreword to that book:

Patients are caught ...wishing to have their diseases diagnosed and treated competently with the latest technology, yet having social, psychological, and spiritual needs that are being ignored because of an increasingly streamlined health care system that overemphasizes the physical over the spiritual. ...Scientific medicine has been magnificently successful but is challenged to figure out how the ancient and venerable tradition of 'doctor as healer' fits in and how to connect practically at the bedside with the way most human beings deal psychologically with life-threatening disease, which is broadly spiritual/religious.<sup>60</sup>

This takes me to an obvious question. How likely is it that collating, publicizing and encouraging new studies into the health benefits of religion – of any kind – will in fact result in a medicine that is more spiritual and sensitive to the religious needs of

patients? It is not obvious. In 1990, the *New York Times* essayist and literary critic Anatole Broyard – dying of prostate cancer – wrote a series of moving meditations on his experiences that seem relevant to this question. “[T]he real narrative of dying now is that you die in a machine,” he began, subjected to one high-tech test after another, while “you” -- the suffering person -- is rendered irrelevant and invisible. Musing on this fact, Broyard wrote:

I wouldn't demand a lot of my doctor's time. I just wish he would brood upon my situation for perhaps five minutes, that he would give me his whole mind at least once, be bonded with me for a brief space, survey my soul as well as my flesh to get at my illness, for each man is ill in his own way.... Just as he orders blood tests and bone scans of my body, I'd like my doctor to scan me, to grope for my spirit as well as my prostate. Without such recognition, I am nothing but my illness.<sup>61</sup>

Broyard did not want his doctor to tell him he should pray because it might help his cancer, or that he should consider going to church for his health (even assuming – as in fact was not the case – that he was a religious man). What he wanted was for his doctor to stop trying to fix him and instead to spend a little time beholding him as he was – listening to what was in his soul, listening to his efforts to make meaning of his experience. In this sense, he was articulating in a very personal way what critics of modern medicine have long said: namely, that the kind of moral transformation of modern medicine to which we should aspire is one in which it learns to expand its thinking beyond one that judges all things according to a utilitarian calculus of health

If the project of the religion and health field is in some sense to evaluate spiritual practices according to that same utilitarian calculus, then how likely is it to serve as the kind of moral leaven within medicine that its advocates desire? Medical science may well wish to continue to pursue research into the range of ways in which religious practice and belief result in beneficial changes to health. It is, however, perhaps a mistake to try to harness all that work together in the service of an ethical project. It seems distinctly unlikely that the ethical and existential limitations of modern medicine can be met by its simply becoming an even more expansive version of what it has always been. Above all, we do not want to foreclose for ourselves, even implicitly, the almost certain possibility that there are values in life worth protecting beyond the utilitarian, and perspectives worth defending that cannot be translated into the language of the laboratory and statistics.

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<sup>1</sup> Harold G. Koenig, Michael E. McCullough, David B. Larson, *Handbook of Religion and Health*. Oxford University Press, 2000; also see a special January 2003 section of *American Psychologist*, with three densely-referenced articles devoted to “Spirituality, Religion, and Health” as an “emerging research field.” *American Psychologist* (January 2003) 58 (1): 24-74.

<sup>2</sup> Jeff Levin, Harold G. Koenig, ed, *Faith, Medicine, and Science: A Festschrift in honor of Dr. David B. Larson*, Binghamton, NY: The Hawthorn Pastoral Press, 2005, p. 20.

<sup>3</sup> Elizabeth Johnston Taylor, *What Do I Say? Talking with Patients about Spirituality*, Templeton Foundation Press, 2007

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<sup>4</sup> Herbert Benson, "Should you consult Dr. God?" *Prevention*, Dec 1996, v48, n12, pp. 60-67; John Christy, "Prayer as medicine," *Forbes*, March 23 1998, v161, n6, p136-7.; Dossey, Larry, "Prayer is good medicine: the evidence for spiritual healing is, one of medical science's best-kept secrets," in *Saturday Evening Post*, Nov-Dec 1997, v269, n6, p. 52(6);

<sup>5</sup> Dale Matthews (with Connie Clark) *The Faith Factor: Proof of the Healing Power of Prayer*. New York: Penguin, 1999; Herbert Benson (with Marg Stark), *Timeless Healing: The Power and Biology of Belief* (New York: Scribner, 1996); Bruce Epperly, *Spirituality and Health, Health and Spirituality* (Mystic, CT: Twenty-Third Publications, 1997); Harold G. Koenig, *The Healing Power of Faith*. New York: Simon and Schuster, 1999; Jeff Levin, *God, Faith and Health: Exploring the Spirituality-Healing Connection*. New York: John Wiley and Sons, 2001.

<sup>6</sup> Sloan, R., E. Bagiella, et al. (1999). "Religion, spirituality, and medicine [review]." *Lancet* 353: 664-7.

<sup>7</sup> <http://www.blindfaithbook.com/>. See also Sloan, "Religion and Ethics: an online companion to the weekly television news program (July 1, 2005, episode 844): <http://www.pbs.org/wnet/religionandethics/week844/interview2.html>; Sloan, R, Bagiella, E, Van de Creek, L, et al. "Should physicians prescribe religious activities?" *New England Journal of Medicine* (2000), Slomski AJ. "Should doctors prescribe religion?" *Med Econ* 2000;77(1):145-59; 342:1913-6; Marwick C. "Should physicians prescribe prayer for health? Spiritual aspects of well-being considered," *JAMA* 1995;273:1561-2; Koenig HG, Idler E, Kasl S, et al. "Religion, spirituality, and medicine: a rebuttal to skeptics," *Int J Psychiatry Med* 1999;29:123-31.

<sup>8</sup> J.T, Doyle, T.R. Dawber, W.B. Kannel, A.S. Heslin, H.A. Kahn (1962) "Cigarette smoking and coronary heart disease; combined experience of the Albany and Framingham studies,". *N.Engl.J.Med.* 266:796-801; Ancel Keys, C. Aravanis, H.W. Blackburn, F.S.P. Van Buchem, R. Buzina, B.S. Djordjevic, A.S. Dontas, F. Fidanza, M.J. Karvonen, N. Kimura, D. Lekos, M. Monti, V. Puddu, H.L. Taylor (1967) "Epidemiologic studies related to coronary heart disease: characteristics of men aged 40-59 in seven countries," *Acta Med Scand* (Suppl to vol. 460) 1-392.

<sup>9</sup> C. Stout, J. Marrow, E.N. Brandten, J., S. Wolf (1964), "Unusually low incidence of death in myocardial infarction. Study of an Italian American community in Pennsylvania," *Journal of the American Medical Association (JAMA)* 188 (June 8, 1964): 845-9.

<sup>10</sup> Stewart Wolf (1997), "Visceral responses to the social environment, *Acta Physiol Scand* Suppl, 640:140-3.

<sup>11</sup> L. F. Berkman, S.L. Syme (1979) "Social networks, host resistance, and mortality: A nine-year follow-up study of Alameda County residents," *American Journal of Epidemiology* 109/2: 186-204. For some further background to the Alameda County study and Berkman's use of its data, see Robin M. Henig, *People's Health: A Memoir of Public Health and Its Evolution at Harvard*. Washington, DC, USA: National Academy Press, 1996.

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<sup>12</sup> For the classic overview of all these studies, see J.S. House, K. R. Landis, et al. (1988). "Social relationships and health." *Science* 241(4865): 540-5.

<sup>13</sup> J.E. Enstrom, "Cancer mortality among Mormons," *Cancer* (1975) 36: 825-41; J.L. Lyon, M.R. Klauber, et al, "Cancer incidence in Mormons and non-Mormons in Utah, 1966-1970," *New England Journal of Medicine* (1976) 294: 129-33; J.L. Lyon, H.P. Wetzler, et al., "Cardiovascular mortality in Mormons and non-Mormons in Utah, 1969-1971," *American Journal of Epidemiology* (1978) 108: 357-66; E.L. Wynder, F.R. Lemon, et al., "Cancer and coronary artery disease among Seventh Day Adventists," *Cancer* (1959) 12: 1016-29, R.L. Phyllips, "Role of life-style and dietary habits in risk of cancer among Seventh-Day Adventist men," *JAMA* (1966) 198: 137-46.

<sup>14</sup> George W. Comstock, Kay B. Partridge, "Church attendance and health," *Journal of Chronic Disease* (1972) 25:665-72, reprinted in the *American Journal of Epidemiology* (2008) 168, No. 7: 819-826

<sup>15</sup> George W. Comstock, Kay B. Partridge, "Church attendance and health," p. 361.

<sup>16</sup> J.D. Kark, G. Shemi, Y. Friedlander, O. Martin, O. Manor, and S.H. Blondheim, "Does Religious Observance Promote Health? Mortality in Secular vs. Religious Kibbutzim in Israel," *American Journal of Public Health*, 86 (1996), 341-346; and J.D. Kark, S. Carmel, R. Sinnreich N. Goldberger, Y. Friedlander (1996), "Psychosocial factors among members of religious and secular kibbutzim" *Israeli Journal of Medical Science*, Mar-Apr;32(3-4):185-94

<sup>17</sup> "Even after controlling for health behaviors and social connections, weekly attenders remained at significantly or marginally significantly less risk of mortality from circulatory diseases (RH = 1.21,  $p < 0.05$ ), digestive diseases (RH = 1.99,  $p < 0.10$ ), and respiratory diseases (RH = 1.66,  $p < 0.10$ ), suggesting that religious involvement may offer protection against death by each of these diseases through mechanisms beyond improved health behaviors and social connections." Doug Oman, J. Kurata, W.J. Strawbridge, R. Cohen, "Religious Attendance and cause of death over 31 years," *The International Journal of Psychiatry in Medicine* (2002) 32 (1): 69-89, p. 80.

<sup>18</sup> The development and popularization of the concept of "stress" as we today understand was led after World War II by the Viennese-born physiologist, Hans Selye, who came to Canada (the University of Montreal) in the 1930s. See, e.g., Hans Selye, "The Evolution of the Stress Concept," *American Scientist*, 61 (1973): 692-699. For more on the history of stress, see John W. Mason, "A Historical View of the Stress Field," Part II, *Journal of Human Stress* 1 (June, 1975): 22-36.

<sup>19</sup> "Hinduism in New York: A Growing Religion," *New York Times* (Nov 2, 1967), p. 49.

<sup>20</sup> Barney Lefferts, "Chief Guru of the Western World," *New York Times* (December 17, 1967)

<sup>21</sup> Lawrence J. Domash, "The Transcendental Meditation Technique and Quantum Physics," published in *Scientific Research on Maharishi's Transcendental Meditation and TM-Sidhi Program: Collected Papers*, 2<sup>nd</sup> edition, vol. 1, eds. David W. Orme-Johnson and John T. Farrow (West Germany: Maharishi European University Press, 1977), pp. 652-670.

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- <sup>22</sup> Robert Keith Wallace, "Physiological Effects of Transcendental Meditation" *Science* 167 (1970): 1751-1754, cited p.1754. See also Robert Keith Wallace, "Proposed Fourth Major State of Consciousness," *Scientific Research on Maharishi's Transcendental Meditation and TM-Sidhi Program: Collected Papers*, 2<sup>nd</sup> edition, vol. 1, eds. David W. Orme-Johnson and John T. Farrow (West Germany: Maharishi European University Press, 1977) pp. 43-78.
- <sup>23</sup> Herbert Benson, "Mind-Body Pioneer - Mind/Body Medical Institute," *Psychology Today* (May 2001).
- <sup>24</sup> Kabat-Zinn, J. (1982). "An outpatient program in behavioral medicine for chronic pain patients based on the practice of mindfulness meditation: Theoretical considerations and preliminary results," *General Hospital Psychiatry*, 4, 33-47; Kabat-Zinn, J., Lipworth, L., & Burney, R. (1985). "The clinical use of mindfulness meditation for the self-regulation of chronic pain," *Journal of Behavioral Medicine*, 8(2), 163-190; Kabat-Zinn, J. (1991). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness* (New York: Delacorte); Kabat-Zinn, J., Wheeler, E., Light, T., Skillings, A., Scharf, M.J., Copley, T.G., et al. (1998) "Influence of a mindfulness meditation-based stress reduction intervention on rates of skin clearing in patients with moderate to severe psoriasis undergoing phototherapy (UBV) and photochemotherapy (PUVA)," *Psychosomatic Medicine*, 60(5), 625-632; and, most recently, R. Davidson, et al., "Alterations in Brain and Immune Function Produced by Mindfulness Meditation," *Psychosomatic Medicine* 65:564-570 (2003).
- <sup>25</sup> Herbert Benson, *The Relaxation Response*, (New York: Avon Books, 1976 [1975]), p. 117.
- <sup>26</sup> Maggie Scarf, "Tuning down with TM," *New York Times* (1857-Current file). February 9, 1975. Proquest Historical Newspapers. *The New York Times*, p. 216.
- <sup>27</sup> *Psychology Today* (October 1989)
- <sup>28</sup> Herbert Benson (with Marg Stark), *Timeless Healing: The Power and Biology of Belief* (New York: Scribner, 1996) p. 200.
- <sup>29</sup> Luke 8:48; Mark 10:51-52; Luke 17:19; Matthew 9: 29-30.
- <sup>30</sup> See William James, "The Religion of Healthy-Mindedness," Lectures IV and V from *The Varieties of Human Experience: A Study in Human Nature*, (NY: Penguin Books, 1902 [1987]).
- <sup>31</sup> See, for instance, Robert C. Fuller, *Alternative Medicine and American Religious Life* (New York: Oxford University Press, 1989) and Norman Gevitz, ed., *Other Healers: Unorthodox Medicine in America* (Baltimore: Johns Hopkins University Press, 1988).
- <sup>32</sup> The alternative medicine of this period also included such bodily-based healing systems as Thomsonism --a gentle healing method based on ideas about vital energies -- homeopathy, and therapeutic mesmerism. See John Harley Warner, "Medical Sectarianism, Therapeutic Conflict, and the Shaping of Orthodox Professional Identity in Antebellum American Medicine," in Bynum and Porter, eds. *Medical Fringe and Medical Orthodoxy*, pp. 234-260.

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<sup>33</sup> Wallace D. Wattles, *The Science of Getting Rich*, 1910, Chapter 5, "Increasing Life," on-line at: <http://www.successdoctor.com/wattles/index.htm>

<sup>34</sup> Roy E. Plotnick, "In Search of Watty Piper: A Brief History of the 'Little Engine' Story: Now Celebrating One Hundred Years of Thinking I Can!" <http://tigger.uic.edu/~plotnick/littleng.html>

<sup>35</sup> Norman Vincent Peale, *The Power of Positive Thinking*, New York: Simon and Schuster (a Fireside Book), 1952, p. 1.

<sup>36</sup> Norman Vincent Peale, *The Amazing Results of Positive Thinking*. New York: Prentice hall, 1959, p. 214 (in a chapter entitled "Better Health through Positive Thinking").

<sup>37</sup> George R. Vaillant, (1962) "Tuberculosis: an Historical Analogy to Schizophrenia," *Psychosomatic Medicine* 24 (3): 225-233, cited p. 231.

<sup>38</sup> See O.H. Pepper, "A Note on the Placebo," *American J. of Pharmacy* 1945; 117: 409-412. See also RPC Handfield-Jones, "A Bottle of Medicine from the Doctor," *The Lancet* 1953; Oct. 17: 823-825. For more on this history, see my "Seeing' the placebo effect: Historical legacies and present opportunities," in *The Science of the Placebo: Toward an Interdisciplinary Research Agenda*, eds. A. Kleinman, H. Guess, L. Engel, J. Kusek. London: British Medical Association, 2001.

<sup>39</sup> P. Petrovic et al., "Placebo and opioid analgesia - Imaging a shared neuronal network," *Science*, 295:1737-40, 2002.

<sup>40</sup> Cf. Andrew Newberg & Eugene Aquili *Why God Won't Go Away: Brain Science and the Biology of Belief* (New York: Ballantine Books, 2002); Patrick Glynn's *God: The Evidence* (Rocklin, CA: Prima Publishing, 1997); Nicholas Humphrey, (2000) "Great Expectations: The Evolutionary Psychology of Faith-Healing and the Placebo response," in *Proceedings of the 27th International Congress of Psychology*. eds. Lars Backman and Claes von Hofsteden, Psychology Press.

<sup>41</sup> Anonymous [H. Thompson]. "The 'Prayer for the Sick' - hints towards a serious attempt to estimate its value," *Contemporary Review* (1872);20:205-10.

<sup>42</sup> Frank Miller Turner, *Contesting Cultural Authority: Essays in Victorian Intellectual Life*, Cambridge: Cambridge University Press, 1993, p. 153.

<sup>43</sup> Francis Galton, "Statistical inquiries into the efficacy of prayer," *Fortnightly Review*, vol.xii. n.s. (1872) pp.125-135

<sup>44</sup> Before Byrd, there were two other studies, both with negative results: CRB Joyce, Welldon RMC, "The objective efficacy of prayer: a double-blind clinical trial," *J Chronic Dis.* 18 (1965):367-377; P.J. Collipp, "The efficacy of prayer: a triple-blind study," *Med Times.* 97 (1969):201-204.

<sup>45</sup> Byrd RJ., "Positive therapeutic effects of intercessory prayer in a coronary care unit population," *Southern Medical Journal* (1988) 81:826-829

<sup>46</sup> Harris WS, Gowda M, Kolb JW, et al. "A randomized, controlled trial of the effects of remote, intercessory prayer on outcomes in patients admitted to the coronary care unit," *Arch Intern Med.* 159 (1999):2273-2278. For the transcript of a March 13, 2001 debate

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<sup>47</sup> Sides H., "The calibration of belief," *New York Times Magazine* (December 7, 1997):92-95. Reprinted as: "Prescription: Prayer. *St. Petersburg Times* (December 29, 1997;D1-2.

<sup>48</sup> For documentation of Matthews' grants and projects, see "Dr. Dale Matthews accomplishments, accreditations, etc." at "Dr. Dale Matthews: The Awesome Power of God," <http://awesomepower.net/matthewsfull.htm>; for a discussion of the failed study, see Gary P. Posner, "Study Yields No Evidence for Medical Efficacy of Distant Intercessory Prayer: A Follow-up Commentary," *The Scientific Review of Alternative Medicine*, Vol. 6, No. 1, Winter 2002. Also on-line at: <http://members.aol.com/garypos/prayerstudyafterpub.html>

<sup>49</sup> See, for example, Patrick Glynn's *God: The Evidence* (Rocklin, CA: Prima Publishing, 1997).

<sup>50</sup> "Evidence for God from Science: Harmony between the Bible and Science": <http://www.godandscience.org/index.html>.

<sup>51</sup> Larry Dossey, *Healing Words: The Power of Prayer and the Practice of Medicine* (San Francisco: Harper, 1993).

<sup>52</sup> Fred Sicher, Elizabeth Targ, Dan Moore, Helene S. Smith, "A randomized, double-blind study of the effects of distant healing in a population with advanced AIDS," *Western Journal of Medicine* 1998, 169(6), 356-363.

<sup>53</sup> Benson H, Dusek JA, Sherwood JB, et al. Study of the Therapeutic Effects of Intercessory Prayer (STEP) in cardiac bypass patients: a multicenter randomized trial of uncertainty and certainty of receiving intercessory prayer. *Am Heart J* 2006;151:934-942.

<sup>54</sup> Herbert Benson, J.A. Dusek *et al.* (2006) "Study of the Therapeutic Effects of Intercessory Prayer (STEP) in cardiac bypass patients: a multicenter randomized trial of uncertainty and certainty of receiving intercessory prayer." *American Heart Journal*; 151(4): 934-42

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<sup>56</sup> Rob Stein, "Researchers Look at Prayer and Healing: Conclusions and Premises Debated as Big Study's Release Nears," *Washington Post* (March 24, 2006). Page A01, online at: [http://www.washingtonpost.com/wpdyn/content/article/2006/03/23/AR2006032302177\\_2.html](http://www.washingtonpost.com/wpdyn/content/article/2006/03/23/AR2006032302177_2.html)

<sup>57</sup> Jeff Levin, Harold G. Koenig, eds., *Faith, Medicine, and Science: A Festschrift in honor of Dr. David B. Larson*, Binghamton, NY: The Hawthorn Pastoral Press, 2005, p. xxv.

<sup>58</sup> John Sedgwick, *The Unlikely Philanthropic Odyssey of Sir John Templeton*, Worth Business eBooks (July/August 2000). <http://www.ebookmall.com/ebook/67163-ebook.htm>

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<sup>59</sup> Theodore M. Brown, "Alan Gregg and the Rockefeller Foundation's support of Franz Alexander's psychosomatic research," *Bulletin of the History of Medicine* (1987) 61 (2): 155-82.

<sup>60</sup> Harold G. Koenig, Michael E. McCullough, David B. Larson, *Handbook of Religion and Health*. Oxford University Press, 2000, p. 5.

<sup>61</sup> Anatole Broyard, *Intoxicated by my Illness and other Writings on Life and Death* (Greenwich, CT: Fawcett Books, 1993).