

BOOK REVIEW

Testing Prayer: Science and Healing by Candy Gunther Brown. Cambridge, MA: Harvard University Press, 2012. 384 pp. with index. \$25 (hardcover). ISBN: 978-0674064676.

On the evening of September 23, 2003, Francis, a black South African man who was hosting a regional conference at a Pentecostal church, was accosted by four men who told him, “We want to kill you today.” They beat him severely and fled. Francis was taken by car to a local hospital where he was pronounced dead at 11:00 p.m. He was taken to the hospital morgue. Everyone at the church continued to pray for him, however, as did a handful of Christians who gathered around his body in the morgue. At 12:15 a.m., Francis began to breathe. Although his eyes and lips were swollen shut, he managed to croak out two words: “Forgive them.”

The next day, heeding Francis’s words, the church refused to press charges, even when one of the assailants was apprehended. The police were chagrined, convinced that this would encourage more crime. At about the same time, the hospital called the church, asking someone to come pick up Francis immediately. His wounds had inexplicably healed completely. There was no longer any evidence of any trauma, so there was no reason for him to continue taking up space in the hospital. Francis went directly to the police station to make sure his attacker was released. The police denied his request, saying, “How do you forgive someone who has beaten you to death like this?” Finally, they complied. Francis hugged his assailant and told him God loved him. The man believed himself to be a murderer, but as a result of Francis’s kindness and forgiveness he converted to Christianity and became an active evangelist (pp. 252–253).

In 1985, Mahesh Chavda, a healing evangelist, was holding services in Kinshasa, the capital of Zaire, as it was then called. One individual attending the ceremonies was Mulamba Manikai, a man whose six-year-old son had been pronounced dead at 4 a.m. The death certificate specified cerebral malaria as the cause of death. During the religious service, Chavda summoned Manikai and prayed for his son. The man then ran back to the hospital where his brother, Kuamba, had maintained a vigil. Kuamba reported, “It was midday. I was sitting there holding the body of my brother’s son in my arms. Suddenly, I felt his body move. Then he sneezed. He sat up in my arms and asked for something to eat.” Six years later he was still doing well (pp. 259–260).

These narratives are from *Testing Prayer: Science and Healing*, authored by Candy Gunther Brown (2012). Brown is Associate Professor in the Department of Religious Studies, and Adjunct Associate Professor in the American Studies Program, at Indiana University, Bloomington. *Testing Prayer* abounds with dramatic healings following prayer, which, Brown accurately states, is “brimming with surprising twists and turns” that keep a reader engaged. She’s not kidding. The healing narratives range from common ailments such as asthma to lethal diseases that disappear within hours or days. Included are individuals such as those above, who regained vital signs and returned to normal life.

I know, I know. Vital signs in moribund patients can be difficult to detect. Medical personnel make grievous mistakes. Medical documents can be faked. Charlatans masquerade as healers. People often see what they want to see; they are suckers for the miraculous and are easily bamboozled. Spontaneous remissions occur in probably all diseases. Why pay attention to Brown’s reports? Why take healing prayer seriously? (Dossey & Hufford 2005).

Brown is keenly aware of the limitations of people’s stories and the evidential requirements of science. She acknowledges the possibility of mistaken reportage throughout her book. But in spite of these mine fields, what emerges in *Testing Prayer* is a rich, scholarly investigation of a key question: Can scientific tests prove or disprove the healing power of prayer? Her answer to this question is a restrained “no, but.” She states, “Empirical research can reveal much about prayer for healing” (p. 20). [However,] “even if researchers employ a range of methodological perspectives and explanatory models, there are inherent limits to what scientific testing can prove” (p. 10).

Brown realizes that scientists have no “god meters” capable of indicating divine intervention. As a consequence, “Empirical research can measure only certain effects of religious practices and illumine how religious practitioners—as well as scientists—construct their understandings of these practices. Although this book will argue that it is impossible to present definitive scientific proof of the healing power of prayer, the same could be said of many important questions in science” (pp. 10–11).

Skeptics outside of medicine, as well as medical insiders, customarily dismiss healings following prayer with the hand-waiving term “spontaneous remission.” This ubiquitous expression has almost no explanatory power and amounts to saying, “What happens, happens.” Brown attempts to see deeper into these events. She stands in the tradition of Sir William Osler (1849–1919), widely regarded as the father of scientific medicine in the Western world. A century ago Osler observed:

We doctors overlook our own faith cures. Faith in gods cures one . . . faith in little pills, another . . . faith in hypnotic suggestion, a third. Faith has its limitations, but such as we find it, faith is a precious commodity, without which we should be very badly off. (Osler 1901)

Nothing in life is more wonderful than faith—the one great moving force which we can neither weigh in the balance nor test in the crucible. . . . Faith has always been an essential factor in the practice of medicine. . . . Not a psychologist but an ordinary clinical physician concerned in making strong the weak in mind and body, the whole subject is of intense interest to me. (Osler 1910:1470–1472)

A kindred no-nonsense pioneer preceding Brown's explorations was physician Lewis Thomas (1913–1993), who for years directed the research program at Memorial Sloan Kettering Cancer Center. Thomas believed that even if spectacular, anomalous healings were merely spontaneous remissions, they nonetheless offer a huge opportunity for medical science and should not be ignored. He observed:

The rare but spectacular phenomenon of spontaneous remission of cancer patients persists in the annals of medicine, totally inexplicable but real, a hypothetical straw to clutch in the search for cure. . . . It is a fascinating mystery, but at the same time a solid basis for hope in the future: If several hundred patients have succeeded in doing this sort of thing, eliminating vast numbers of malignant cells on their own, the possibility that medicine can learn to accomplish the same thing at will is surely within the reach of imagining. (Thomas 1983:205)

Brown's focus in *Testing Prayer* is on *proximal* intercessory prayer or PIP, prayer that is offered in the presence of the individual in need. Most prayer-and-healing studies conducted since the 1980s have investigated the effects of *distant* intercessory prayer or DIP, because it is easier to conduct randomized, controlled trials using distant rather than proximal prayers. However, there is enormous artificiality in DIP, because intercessors are usually blind to the objects of their prayer except for perhaps a first name and the individual's diagnosis. In contrast, PIP is more "natural." For example, people commonly say they pray for their loved ones. This implies they know who they are, they care deeply for them, and there is no uncertainty on the part of the recipients of prayer as to whether or not they are being prayed for. Moreover, people commonly pray for their loved ones in their presence—i.e. proximally. If PIP introduces methodological issues such as placebo effects and the lack of controls, it at least preserves the *ecological validity* of prayer, how it is used in real life.

Chapter 1 of *Testing Prayer* describes events called the Toronto Blessing, which originated in protracted religious meetings from 1994 to 2006 in a mid-sized Pentecostal church in Ontario, Canada, and how these happenings spawned a worldwide web of pentecostal networks emphasizing healing practices.

Here we confront the big bugaboo of *Testing Prayer*: Brown's emphasis on prayer-based healing in a particular religion. Why just *pentecostal* healing? This exclusive focus will annoy many readers. Some will find it decidedly off-putting. This requires an explanatory detour.

My online dictionary defines "Pentecostal" as "of or relating to Pentecost; of, relating to, or denoting any of a number of Christian movements and individuals emphasizing baptism in the Holy Spirit, evidenced by speaking in tongues, prophecy, healing, and exorcism. [with reference to the baptism in the Holy Spirit at the first Pentecost (Acts 2: 9–11).]" Brown adds, "*Pentecostal* is an umbrella term that encompasses Pentecostal and Charismatic Christians. . . ." (p. 9).

But why focus only on pentecostals? Brown explains, "The global pentecostal networks that emerged from Toronto offer a convenient laboratory, though by no means the only possible setting, for exploring the questions about prayer and science that drive this book. . . . The prevalence of expectant prayer for healing among Pentecostal and Charismatic Christians makes these groups a logical focus for exploring questions about prayer and healing" (pp. 9, 275–276).

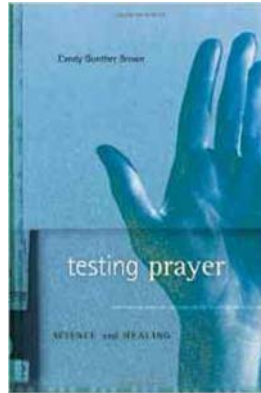
Another reason Brown focuses on pentecostals is their sheer numbers. They are simply handy. "From a handful of adherents at the turn of the twentieth century, pentecostals now account for more than a quarter of the world's 2 billion Christians. By one count, 80 million people in the United States—36 percent of the adult population—self-identify as pentecostals." Why the explosive growth? "The collective force of our research is that the single most significant factor that explains the growth of pentecostalism is the frequency of the perception among both new converts and long-time adherents that they have received divine healing" (pp. 13–14).

Another attractive feature for a researcher is that, worldwide, pentecostals are remarkably diverse. "Participants in such pentecostal networks . . . [transcend] markers of ethnicity, language, and social class, as healing prayer functions as a defining ritual" (p. 276).

So, as best I can tell, Brown focuses on pentecostalism in *Testing Prayer* for purely prudential reasons. There is little or no evidence that she is cheerleading or evangelizing for this or any other religion. In fact, she can be pointedly critical about her subject population. "The effects of globalization, including the globalization of pentecostal networks and

healing practices, are not uniformly benign” (p. 276).

In Chapter 2, “Why Are Biomedical Tests of Prayer Controversial?”, Brown states, “To ask the question of whether science can prove or disprove the healing power of prayer points toward the unparalleled cultural authority of ‘science’ in the modern Western world.” In discussing the torrent of objections lodged by some scientists against testing healing prayer, she charges, “[S]cientists do not always behave dispassionately but can be just as driven by doctrinaire philosophical and theological agendas as can adherents of religious communities” (pp. 276–277). This is my nomination for Understatement of the Year.



She rejects the skeptical contention that healing prayer necessarily requires divine or supernatural intervention, saying, “Although the mechanisms by which prayer may affect health are so far poorly understood, a growing body of empirical evidence points toward plausible physiological and psychosocial mechanisms by which thoughts, emotions, and social interactions influence health—without resorting to ‘supernatural’ explanations” (p. 277).

Brown’s discussion of the mouth-foaming objections of many skeptics is withering, particularly when she shows how opponents of prayer-and-healing research often employ theological reasoning to condemn the theological implications they perceive in this research (p. 84).

Brown’s survey of the history of empirical approaches to prayer is outstanding. She nimbly reviews five centuries of shifting attitudes toward prayer research, and how scientific naturalists and theologians have sometimes changed positions on the issue of whether prayer should be subjected to scientific tests. Her survey includes specific prayer studies from the early nineteenth century onward, focusing on the mid-twentieth century to the present. Her analysis is superb; I know of none better.

Brown also discusses the potential confounds of research in healing prayer. It is probably impossible to achieve pure control groups in a prayer experiment, because patients assigned to the control group may pray for themselves, or their loved ones may pray for them. (Healing experiments with animals presumably overcome this objection, as in the classic healing studies of Bernard Grad and the recent experiments of William Bengston.) Also problematic are *placebo effects*—improvements that occur for psychosomatic reasons because subjects believe they are receiving a

therapeutic intervention, regardless of whether that intervention has any intrinsic therapeutic value. *Empathy effects* are similar, resulting from the concern and attention expressed by a medical or religious healer. *Hawthorne effects* are short-term improvements resulting from the motivation evoked by the attention paid to subjects during a study, regardless of the nature of the experimental intervention. *Hold-back effects* result from the unconscious tendency of subjects being studied before and after an intervention to perform worse at first in order to demonstrate an improvement later. In *demand effects*, subjects may perform better during post-tests in order to meet the presumed expectation of those conducting the study. *Practice effects* are the tendency of subjects to perform tasks better when they have more experience, which can be gained during the course of a study (p. 96).

Chapter 3, “Are Healing Claims Documented?”, deals with the value and limitations of medical documentation in examining healing claims—X-rays, laboratory reports, doctors’ notes, etc. “Medical documents cannot prove that prayer actually accounts for a recovery or that a divine or other suprahuman agent or force is responsible,” Brown says, “or even that a condition has been permanently cured. Nor does the absence of incompleteness of medical documentation constitute evidence of the absence of healing.” Brown shows, however, how medical documents often support prayer healing. “Despite challenges of collecting medical records and the inherent limitations to what such records can reveal, data collected between the 1960s and 2011 do indicate that some, though not all, individuals attesting to religious healing exhibited medically surprising recoveries . . . including from metastasized cancers. This evidence does not, however, by itself explain these recoveries. There are cases in which the medical evidence reveals inflated and even fraudulent claims” (p. 279). Brown also shows how skeptical medical professionals sometimes refuse to acknowledge in their reports strong evidence that anomalous healing has happened following prayer. For example, one investigative committee of medical experts “dismissed as ‘functional’ the dramatic claim of healing from clubfoot—accompanied by a shortened leg and curvature of the spine—of one [woman] without interviewing her, her father, or her own doctor, who had concluded that the recovery was ‘miraculous’” (p. 103).

Chapter 4, “How Do Sufferers Perceive Healing Prayer?”, analyzes written survey data collected from pentecostal conference participants regarding their perceptions of illness and healing. “Demographic factors such as race, nationality, education, income, age, gender, and pentecostal identity did not predict healing needs, expectations, or experiences,” Brown reports. “Respondents were more likely to report healing of a physical than an emotional or spiritual problem; the most common problem noted was

pain.” Moreover, people were not more likely to report the healing of mild conditions of short duration than more severe problems (p. 280).

The failure of educational levels to predict healing contradicts the implications of some skeptics that dupes and the mentally unstable are more likely to be healed through prayer than the highly educated. This prejudice also permeates the history of placebo usage in medicine. It was long believed that placebos were more effective on the weak-minded (Kaptchuk 1998). As de Craen and colleagues report in their historical review of placebos, “The value of placebo was thought inversely related to the intelligence of the patient; the use of a medical ritual was more effective and necessary for ‘unintelligent, neurotic, or inadequate patients’” (de Craen, Kaptchuk, Tijssen, & Kleijnen 1999). Brown’s demographic analysis will hopefully help lay these prejudices to rest where healing prayer is concerned.

Chapter 5, “Can Health Outcomes of Prayer Be Measured?”, is chiefly devoted to Brown’s field experiment in Mozambique—its key features, its rationale, and its shortcomings.

I first came across Brown’s work when her 2010 pilot study was published in a peer-reviewed medical journal: “Study of the Therapeutic Effects of Proximal Intercessory Prayer (STEPP) on Auditory and Visual Impairments in Rural Mozambique” (Brown, Mory, Williams, & McClymond 2010). The publication of this experiment propelled Brown into national attention.

In brief, she and her colleagues prospectively evaluated a consecutive series of 24 Mozambican subjects (19 males, 5 females) reporting auditory (14 subjects) and/or visual (11 subjects) impairments. All the subjects underwent baseline testing of hearing and vision, then all of them received proximal intercessory prayer (PIP). None of the subjects wore hearing aids or corrective lenses. Improvement in both auditory ($p < 0.003$) and visual ($p < 0.02$) abilities was statistically significant following PIP. Generally, the greater the hearing or vision impairment pre-PIP, the greater the post-PIP improvement. The study was essentially replicated in an urban setting in Brazil.

Brown characterizes her experiment as a pilot study. “Pilot” is derived from the Latin and means to guide or steer. A pilot study, thus, is usually a small, preliminary study that suggests the potential for developing a new line of inquiry—in this case, into the clinical effects of proximal intercessory prayer. A storm of criticism erupted. Where were the controls? What about placebo responses? How accurate was the testing? Why so few subjects? The researchers responded by explaining that, in spite of the lack of a control group, the failure to control for possible confounds such as placebo effects, and the small number of subjects, they were nonetheless

following recommendations for pilot studies in a 1998 report, *Scientific Research on Spirituality and Health*, published by the National Institute for Healthcare Research (NIHR):

The first step is to conduct small, or pilot, studies to establish the feasibility and safety of the proposed intervention. Next, one might proceed to small, uncontrolled trials to establish efficacy as well as the size of the effects of the interventions. Then, individual-site (i.e. at a single hospital or clinic), controlled studies could be conducted, followed by large multi-site randomized, double-blind trials to examine the effectiveness of these interventions in the appropriate clinical settings. (p. 223)

Conceding the study's shortcomings, Brown and her research team insisted that they were simply testing whether specific effects could be found at all, which is a goal of all pilot studies.

An important issue for Brown and her colleagues was *ecological validity*, already mentioned—conducting the clinical study in its natural “religious and spiritual settings,” as recommended in the NIHR statement, as opposed to conducting it in a hospital, clinic, or laboratory.

Some of the sternest critics seemed not to have read the actual report. They suggested that the experiments relied on self-reports of improved hearing or vision, such as crude tests of counting raised fingers or responding to hand claps. This was not the case; the study evaluated subjects using standard hearing- and vision-testing equipment and procedures.

Certain critics implied that Mozambicans and/or Brazilians are inherently more susceptible than North Americans to the effects of suggestion and/or religious excitement. Brown shot back, “This proposition dangerously borders on racism and neocolonial cultural arrogance. It should not be assumed that Mozambicans or Brazilians are simply more suggestible than North Americans” (p. 229).

Within a week following publication of the PIP study, more than 200 news articles could be Googled, about 50 of them in languages other than English. While only about one percent of public responses to the study were negative, Brown found them to be “strikingly more ad hominem and dogmatic than substantive.” She and her research team discovered what many researchers in this field have known for decades: Experimental findings that challenge the ideology of materialism can be met with visceral denunciation. As Brown notes, “[One] zealous blogger offered to run me over with a car” (p. 3).

Chapter 6, “Do Healing Experiences Produce Lasting Effects?”, asks what if any lasting effects healing experiences may have on the individuals who claim them. Many of the narratives of individual subjects suggest

lasting effects are real. The effects on individuals are lasting in another way: The perceived healing experience generates ripple or snowball effects on other individuals who become aware of them, so that the healing effects “sometimes travel like waves of increasing magnitude across global . . . networks. . . .” (p. 274).

In the Conclusion, Brown reiterates, “Although science can never prove nor disprove the so-called healing power of prayer, empirical perspectives can reveal a great deal about prayer for healing . . . (p. 275). She ends on a practical note: “Perhaps the most obvious conclusion to draw from findings collected to date is that, regardless of what researchers have to say, people from around the world will continue to pray for healing and perceive healing, and many of them will do so in the context of expanding global pentecostal networks. Given this empirical fact, it seems prudent to draw on as many perspectives and methods as possible to understand the implications for how people will experience the twenty-first century world” (p. 291).

I consider *Testing Prayer* and Brown’s foray into prayer-and-healing research a courageous move. Standing up for even the *possibility* of healing effects from prayer is not the best way to advance one’s career in some quarters of academia. But Brown accomplishes her task gracefully, and she ends on an admirably parsimonious note in which she seems to say, “Here are the pros and cons of this controversial issue. Now you decide.”

In keeping with Brown’s recommendation to “draw on as many perspectives and methods as possible,” I would like to suggest a few.

Prayer healing can be viewed in a different framework than the one Brown uses. Many consciousness researchers invoke the concept of *healing intentionality*—intending, willing, or wishing for a healthy outcome for the person in need (Schwartz & Dossey 2012). This can be an attractive approach in Western cultures in which an increasing number of individuals say they are “spiritual but not religious.” Even those praying to the Christian (or any other) god are *also* intending that healing happens. Thus the concept of healing intentionality is capable of encompassing religion-based prayers as well as secular, non-religious attempts to heal (Dossey 2008).

Testing Prayer could be enriched by acknowledging the large database related to healing intentionality, such as the hundreds of studies involving humans and non-humans referred to as DMILS—*distant mental interaction with living systems*. These studies provide strong evidence that human intentions can influence a variety of biological systems, both proximally and at a distance. The DMILS research has clear implications for both DIP and PIP, since both involve *some* form of mental intention on the part of the intercessor (Dossey 2015).

Finally, I suggest that we are not as theory-poor as Brown implies as to how healing happens. While healing remains mysterious, consciousness researchers are moving beyond the “plausible physiological and psychosocial mechanisms” that she mentions in passing (p. 277).

It is time for researchers in prayer healing, as well as practitioners in modern medicine in general, to engage developments within quantum physics in an attempt to unravel the underlying mechanisms of healing. The quantum phenomena of nonlocality and entanglement are now known to apply not only to the subatomic world, but they also appear to operate in the biological arena where healing takes place. As physicist Vlatko Vedral reports in a seminal article in *Scientific American* (Vedral 2011):

Entanglement and nonlocality were originally believed to exist only in the subatomic world. *Now they have become an issue for biology, medicine and healing. . . .* The quintessential quantum effect, entanglement, can occur in large systems . . . including living organisms. . . . These effects are more pervasive than anyone ever suspected. They may operate in the cells of our body. . . . The entanglements are primary. (Vedral 2011:38–43) [italics added]

Evidence continues to mount for an intrinsic, distant, nonlocal connect-
edness that operates at a distance between whole humans, as well as at a distance between human cells in vitro (Achterberg, Cooke, Richards, Standish, Kozak, & Lake 2005, Tressoldi, Storm, & Radin 2010, Pizzi, Fantasia, Gelain, Rossetti, & Vescovi 2004, Farhadi, Forsyth, Banan, Sheikh, Engen, Fields, & Keshavarzian 2007, Chaban, Cho, Reid, & Norris 2013). As one group of researchers in this area states,

This [data] indicates that traditional cognitive and neuroscience models, which are largely based on classical physical concepts, are incomplete. We speculate that more comprehensive models will require new principles based on a more comprehensive physics. The current candidate is quantum mechanics. (Tressoldi, Storm, & Radin 2010:581–587)

Engaging these quantum-physical phenomena in healing is not necessarily antithetical to a religious perspective because as Brown concludes—rightly, in my view—science is incapable of disproving or proving whether a transcendent entity may underlie any healing event. In other words, it is impossible for science to de-spiritualize healing, in spite of the voluble rants of a few dissenters. In any case, the point is not to coronate quantum physics or any other model as a sufficient explanation for healing, but to think outside the box as new insights unfold.

Testing Prayer is an important contribution to the growing body of

healing research. This book will pay dividends to anyone interested in exploring the crossroads where science, medicine, religion, and spirituality intersect.

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