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Placebo Effects and Science Journalism at the Mind/Body Boundary

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One morning last fall, I woke up one morning to find an unexpected torrent of email in my in-box. Friends and strangers were asking me if I had seen the previous night's broadcast of *The Colbert Report*. For those who don't know, *The Colbert Report* is a popular show on cable TV in America starring Stephen Colbert, a comedian who plays the role of a slick, relentlessly self-possessed conservative commentator in the style of Bill O'Reilly or Glenn Beck. Colbert had based one of the segments of the previous night's broadcast on an article of mine that had just been published in *Wired* magazine called "The Placebo Problem." In his wry and engaging way, Colbert played with the notion that pharmaceutical companies are suddenly facing the challenge of sugar pills that have become miraculously powerful in clinical trials—indeed, proving more effective than the drugs that these companies are trying to test. Colbert suggested that taking sugar pills might be a better idea.

This was a satirical version of the real problem I'd written about, which has been an open secret in Big Pharma for a decade or more, but had not been talked about much in the mainstream press. An astonishing range of the pharmaceutical industry's biggest-selling products, accounting for billions of dollars in sales each year worldwide—including antidepressants, anti-anxiety medications, pain relievers, blood pressure pills, even antihistamines—are having an increasingly hard time demonstrating their efficacy in trials, because the health of volunteers in placebo control groups improves as much or more as the health of volunteers in the groups receiving the real drugs. While researching the article, I was told by a senior drug developer for Merck and Lilly that even drugs that had been approved by the FDA a couple of decades ago, such as Prozac, might not be approved now because their therapeutic effects would be swamped by placebo effects in clinical trials.

As the real scientists in this room have written about at length in books like Irving Kirsch's *The Emperor's New Drugs,* this is a highly complex issue involving a web of social, cultural, medical, and statistical factors, ranging from where clinical trials are conducted (that is, increasingly among the desperately poor in countries like China and India, rather than among students and housewives on college campuses like this one in North America), to the medical establishment's ever-broadening definitions of disease, particularly mood disorders (diagnoses that often seem to have as much to do with drug companies seeking to extend their patent protection on blockbuster products as with serving the needs of patients). The reason we're all here today is to understand some of the social dynamics behind the placebo effect, which is becoming an increasingly popular item of cultural fascination, with more and more articles and news broadcasts devoted each month to the subject.

One of the luckiest things that can happen to a journalist is when multiple stars align to encourage the creation of a large readership that is eager to absorb the substance and implications of a subject that he or she is writing about. I'd like to talk about some of the reasons why even TV comedians and young Netsurfers who would normally be barely interested in the intricacies of clinical trials might have been intrigued enough to read my article, as well as some of the challenges I faced when writing it—some of which had to do with the complexity

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of the subject itself, and some to do with the realities of science journalism in the year 2010. I also want to say straight out that I attribute the somewhat surprising level of response to the article not to my own journalistic abilities, but to a great unmet need in our culture to acknowledge the role that factors beyond the contents of a pill play in healing. I believe that while many people first become beguiled by the placebo effect because it seems like some interesting kind of fraud or trick, the subject is inherently haunting and provocative because it hints at the deeper truth that what we think and how we interact with other people—particularly those in positions of medical authority—has a profound, demonstrable, physical, measurable effect on our well-being.

As several people pointed out in the course of my research, the term "placebo effect" is really a misnomer, because by their very definition, placebos have no effect at all—unless they're so-called active placebos, designed to trigger side effects like dry mouth or feelings of dizziness, and thus deepen the deception necessary to incite the body's natural healing response. As Daniel Moerman has articulated so wonderfully, a more accurate term would be "the meaning effect," because it depends on the meaning that we invest in the fake pills, the people who give them to us, the settings in which we take them, and how we conceptualize health and disease.

It's also important to remember that while the social factors contributing to this meaning effect are varied and subtle, we all experienced the placebo effect at the age of 3 or so, when, in the wake of some playtime mishap, Mummy told us that she would kiss the boo-boo and make it better. As every parent and child knows, a mother's kind words or a ride on daddy's shoulders can be marvelously effective medicine—and the need for that kind of attention from someone we trust is something we never outgrow, even when the problems that ail us become enormously complex and daunting.

Behind the cartoon notion of mysteriously powerful sugar pills is a desperate hunger for people to feel that they are, in some way, in control of their health, within certain limits. In that sense, though my article focused on the problems for drug companies that placebo effects create in clinical trials, I think its real appeal was a subtext hinting at the indivisible unity of mind and matter, thought and physiology, the individual and the social group, biology and belief.

We live in an increasingly polarized world, when right-wingers and left-wingers, liberals and conservatives, scientists and lay people, New Agers and skeptics, bloggers and mainstream media pundits, people of faith and people of skepticism, those in the medical establishment and those who challenge the assumptions of the medical establishment, seem to have less and less common ground, and more and more of what the American author Jack Kerouac (whose parents were Québecois) called "new reasons for spitefulness." We are getting better at distrusting one another, yelling at one another, and preaching to the choir, and worse at understanding one another and exploring issues with people who have different opinions or come from different backgrounds. Meanwhile, the placebo effect flickers on the horizon of body and mind, insisting on the salubrious power of transcending the categories that enslave us.

One of the reasons that my article was able to draw people into the cultural conversation about placebo who might not otherwise be interested in suspiciously soft-sounding topics like "mind–body healing" is that the editor-in-chief of *Wired* magazine, Chris Anderson, is profoundly allergic to what he might call "woo."

Sounding appropriately like a word drawn from the lexicon of Chinese herbal medicine or some other ancient healing art, *woo* has become the catchphrase du jour among hipsters for anything that reeks of junk science, quackery, hippie mysticism, religious fundamentalism,

or other forms of irrational belief. I was painfully aware that even using the phrase "mind–body"—with a hyphen—would immediately set off Chris Anderson's *woo* alarms, and that unless my evocative subject was approached from a strictly hard-nosed, business oriented, quantifiable perspective, I would be asking for trouble.

My strategy was to craft the article as a kind of journalistic Trojan horse. From the outside, it would look like a no-nonsense story about Big Pharma and its multiple billions of dollars lost annually in R&D because of this unexpectedly unruly variable in clinical trials. On the inside, however, the story would engage concepts that are harder to quantify, such as the therapeutic value of bedside manner. In short, I was trying to write a story that might catch the interest even of someone who might never read an article about meditation, hypnosis, or psychedelics. My Trojan Horse strategy seems to have succeeded in a getting people like Ezra Klein at the *Washington Post* to link to the article, but it also meant that I was unable to include certain intriguing anecdotes that I came across in my research, while others were eliminated by editors who were all well aware of the editor-in-chief's visceral distrust of anything that can't be plotted on a spreadsheet or rendered as a cheeky infographic.

I'd like to mention a couple of those lost pieces of the story here, in part because they'll never see the light of day anywhere else, and I feel that they were indeed part of the big picture that we are here to attempt to clarify and describe together.

One of them was a story told to me by Harvard's Ted Kaptchuk, whom some of you may know personally. Certainly almost anyone who has studied the placebo effect in an academic setting has come across his work. I first heard his name many years ago as the author of a book called *The Web That Has No Weaver*, one of the primary texts that made readers in the West aware of acupuncture and Chinese herbal medicine. In fact, I believe that Kaptchuk was the first Westerner to earn a graduate degree in Chinese medicine in China. I remember seeing copies of *The Web That Has No Weaver* on many a bookshelf in Santa Cruz, California, alongside copies of *Our Bodies, Ourselves*—a manifesto that challenged women to take control of their own health—and copies of the *Co-Evolution Quarterly*, a provocative, thoughtful, and generally invigorating magazine that was edited by Kevin Kelly, who would later become one of the senior editors of *Wired* in its heady early days.

In the years since that era, Kaptchuk had done what few of his peers were able to do, which is to cross the Woo Divide, and become part of the medical establishment at Harvard, bringing with him not only his extensive knowledge of Asian medicine but his innate Jewish skepticism, some of which Kaptchuk has exercised on the very same beliefs shared by many of the people who elevated his book to the status of a new kind of alternative medical bible. I visited him at home on a snowy afternoon in Cambridge, not knowing what sort of person I was going to see: a venerable old hippie or a buttoned-down academic who had long ago disavowed the quote-unquote naïve views of his past? The answer, thankfully, was neither, though the Ted Kaptchuk who came to the door looked more like a rabbi than an aging tam tam drummer, with a hand-knitted kippah over his long forelocks. When I asked him about his current status of having one foot in the medical establishment and the other in the world of alternative medicine, he said, "I piss everyone off. That's my job."

At one point, I asked him to talk about the formative influences in his past that had given him some insight into the placebo effect. He told me that a decade or so ago, he had been the director of a pain clinic in Boston. Several clients at the clinic told Kaptchuk that they felt much better after talking to an older Jewish staff member named Victor. But Victor wasn't supposed to be treating patients, just evaluating them for treatment and referring them to others. So Kaptchuk went to Victor and asked him, "What the hell are you doing with these patients?" And Victor's reply was, "Ted, when I was working in the infirmary at Auschwitz, I would get two aspirins a week to treat thousands of people. So I dissolved them in a big bucket, gave everyone a spoonful, and listened to them. That's how I learned to help people."

What Victor learned in the Auschwitz infirmary is something that the medical establishment once understood as indispensable to the art of healing. Indeed, until the mid-20th century, injecting art into the mechanics of healing was essential, because until then, very few of the tinctures and extracts in the doctor's traditional black bag had any therapeutic benefit whatsoever. Most of these alleged medicines, which had been passed down from physician to physician for hundreds of years, seem quaint or even obviously absurd now. One of the items in the standard pharmacopeias, for example, was an odiferous concoction called theriac, used from the time of Mithridates VI of Pontus—65 years before the birth of Christ—up through the 1880s. Containing up to 65 secret ingredients—including opium, myrrh, saffron, ginger, cinnamon and castor bean—the longest-lasting component of the recipe for theriac was the flesh of poisonous snakes. So expensive that often only royalty could afford it, theriac was considered a panacea. It's not overstating to say that the history of medicine is the history of placebos. As some wag observed, the *Materia Medica* was a book that got shorter and shorter as medical knowledge increased.

The problem for us in the 21st century is that it's too easy to look back at this long history and snicker with derision and a feeling of superiority. In the era of evidence-based medicine, the millennium of placebo-based healing that preceded it seems like a dark ages from which humanity has finally awakened. Those centuries of poor sick people, believing they got better because their doctor gave them pills made of ground-up vipers or popular nostrums like *Revalenta Arabica* (another old-school cure-all, this one made of lentils). Those generations of hapless would-be physicians, compiling multi-volume encyclopedias of useless junk, and trying earnestly to treat their long-suffering patients with remedies that were ineffective or even toxic. How far we have come!

Yet bold researchers like Irving Kirsch, who have risked their careers by challenging the comforting assumptions that make billions of dollars a year for Big Pharma—such as the assumption that drugs which can cause dangerous side effects are more helpful for mildly depressed people than psychotherapy or exercise—suggest that perhaps we haven't come as far as we believe. And as we look more closely in the margins of the official narratives of medical history, we find signs that the old healers were not as naïve about the tools of their trade as we might think. The third US president, Thomas Jefferson—who kept bookshelves full of pharmacopeias in his library in Monticello—famously wrote to a doctor-friend in 1805: "One of the most successful physicians I have ever known, has assured me, that he used more bread pills, drops of coloured water, and powders of hickory ashes, than of all other medicines put together. It was certainly a pious fraud." A "pious fraud"—it sounds like a paradox, a Jeffersonian Zen koan. The study of the placebo effect is full of paradoxes like this. And the more we learn about the use of placebos in history, the more we realize that many of the old healers were well aware that their patients' belief in them was what triggered the healing, not the hickory ashes, coloured water, or oil of roses.

Robert Burton knew this in 1621, when he wrote in *The Anatomy of Melancholy*: "A third thing to be required in a patient, is confidence, to be of good cheer, and have sure hope that his physician can help him. Damascen the Arabian requires likewise in the physician himself, that he be confident he can cure him, otherwise his physic will not be effectual, and promise withal that he will certainly help him, make him believe so at least. Galeottus gives this reason, because the form of health is contained in the physician's mind, and as Galen, holds 'confidence and hope to be more good than physic,' *he cures most in whom most are confident*. Axiocus sick almost to death, at the very sight of Socrates recovered his former health. Paracelsus assigns it for an only cause, why Hippocrates was so fortunate in his cures, not for any extraordinary skill he had; but 'because the common people had a most strong conceit of his worth.'" In recent years, using brain imaging and the other tools of the

modern laboratory, researchers like Tor Wager at Columbia and Fabrizio Benedetti of the University of Turin have explored how our brains and bodies are wired to respond to this "strong conceit" of a physician's worth as a healer.

I think most doctors are aware of this too, though officially, the medical establishment has gone in the direction of attempting to create medicines that could be dispensed by machine without a measurable loss of efficacy. That's a necessary thing, too, if not a good one, because these days, we barely get to interact with our doctors, outside of brief, harried office visits and perhaps the occasional email, filtered through a Web interface that doesn't allow for direct personal communication. On examination day, we wait in the waiting room for half an hour after the appointment time, to be led to the examination room by a busy nurse, where we strip out of our clothes and wait more. Somewhere, phones are ringing, doors open and shut as other patients get their precious time in the presence of the doctor. The subliminal message is: You're lucky that the doctor is making time in a solid wall of appointments to deal with your personal issues. I'm not blaming doctors; most of them are heroes. But this is how it is these days, at least in America: The doctor comes in, with forms and printouts in hand, and quickly assesses the situation. If she's a really good doctor, she strives to make eye contact to reassure you that she's actually in the room, however briefly. The evaluation is made, the expensive tests are ordered, and the doctor is out the door to the next patient as you stoop to put your clothes on again. At home, you get the phone call from the nurse or the email from the password-protected website with the test results. You get the prescription by mail. The brain's eager placebo machinery latches onto the brand name of the drug—"oh, I hear that one's good"—indicating that you once paged past a spread in a glossy magazine that consisted of a photo of clouds, a dog, and a smiling actor playing the role of a formerly depressed person, with a lengthy list of side effects printed in a font too small to read.

No wonder people spend millions of dollars a year on acupuncture, homeopathy, ear candling, herbs, and other dubious or outright fraudulent forms of alternative medicine. The practitioners of these forms of treatment may be quacks convinced of their own virtue, but at least they're usually not quite so harried and overbooked as real doctors. They ask how you've felt since the last time they saw you. They express concern for your aches, pains, emotional challenges, and feelings that life is out of balance. They distill from these a story that makes sense and meaning of your cloudy chaos of symptoms. By the standards of so-called evidence-based medicine, these niceties and narratives are virtually irrelevant compared to the all-important question of whether or not a pill or other treatment has proven efficacious under controlled laboratory conditions. But by the standards of doctoring as it was practiced for hundreds of years, they were regarded as essential to the healing process.

There are many reasons to celebrate what you might call the New Rationalism, such as the popularity of professional skeptics like Christopher Hitchens and James Randi, and the new anti-woo lines drawn in the sand like the recent petition signed by hundreds of doctors in Britain demanding that the National Health Service stop wasting money on ineffective homeopathic treatments. In the US, this rationalist uprising seems particularly justified in the wake of the tidal wave of nonsense being cynically whipped up by Fox News and the Republican party regarding such issues as the teaching of evolution in the schools, the alleged role of vaccines in causing autism, the alleged threat to marriage posed by millions of gay people who want to marry their lifelong partners, and so on. Faced with that darkness, it seems better to light candles of skepticism.

The problem is, however, that the domain of those seeking to reduce human suffering has now become divided into two mutually exclusive and mutually distrusting camps: Those who forget that the action of their precious pharmaceuticals depends in part on the social dynamics of doctor and patient; and those who forget that the real healing power of their herbs and crystals and tinctures of colloidal silver reside somewhere in the patient themselves.

The poet John Keats said that one mark of maturity was what he called "negative capability"—a capacity to be "in uncertainties, Mysteries, doubts without any irritable reaching after fact & reason." It strikes me that fully understanding the placebo effect, and getting beyond these seemingly irreconcilable differences in our approach to healing, will require a healthy dose of negative capability on both sides of the alternative-versus-mainstream medicine divide. I saw that negative capability at work in Ted Kaptchuk, when he told me that he and his wife are both still practicing acupuncturists. I asked him if he is now convinced, by Harvard med-school standards, that the effects of acupuncture are superior to the effects of placebo. The jury's still out, he said. I asked him how he reconciled that uncertainty with being a member of the medical establishment. "When I practice acupuncture," he said, "I am a perfect T'ang dynasty physician." Another placebo paradox.

When my article was published to the Web, it bore yet a third headline, composed by some anonymous editor at Wired.com, that I would never have approved: "Placebos Are Getting More Effective. Drugmakers Are Desperate to Know Why."

Understandably, at least one proud evidence-based blogger with a medical degree took offense at that headline, trashing me and *Wired* for publishing yet another clueless mainstream-media article about the placebo effect. Immediately, several readers of the blog chimed in with extra insults, the thrust of the thread being a kind of self-congratulation about being savvy enough to not be taken in by such obvious tripe as a claim that sugar pills are somehow getting "more effective." Several people cited studies they were confident I should have been aware of, naming researchers I was obviously unfamiliar with, and so forth, thus proving my lack of even a superficial knowledge of the subject. Very quickly, that blog post was linked to other places on the Web where someone had linked to my article, delivering the message that there was nothing new to see here, so move along.

The only problem was that in fact I *had* read those papers, and cited that research in the text of the piece itself. In other words, it was clear that the author of the blog had not read much past the headline before launching an angry armada in my direction. That didn't seem very evidence-based to me, but rather than taking up arms in a general snit and yelling back, to no one's edification, I simply joined the discussion and pointed out places in the article that might deserve more attention, without trying to humiliate anyone. In short order, several readers actually read the thing, realized I wasn't as clueless as had been advertised on the blog, the tone of the discussion shifted to one of mutual respect, and we all ended up learning things.

I recount this incident not to get in the last word, but to say that one of the things I learned from this exchange was that sometimes a little too much credence these days is given to anyone who poses as a pissed-off debunker of what Sarah Palin calls "the lamestream media." Yes, coverage of science and medicine in mainstream media is often sorely wanting, amidst a 24-hour deluge of headlines promising new cures for cancer, unprecedented genetic breakthroughs, and so on. But the answer is not always more indignant rage, but more care and attention to nuance. As much as the Net can stoke the fires of indignant rage, it can also provide a forum for the collective exploration of nuance.

The traditional role of medical and life-science journalists as guardians of public safety is becoming even more crucial as lay readers' ability to make informed health-care decisions depends on their being able to grasp increasingly arcane fields of research. At the same time, the democratization of access to health-related information online, and revelations of conflicts of interest in medical journals, have eroded trust in the role of journalists as gatekeepers to potentially life-saving information. Practical opportunities for in-depth reporting are rapidly becoming more scarce. To help readers make wise choices, journalists must invent new ways of engaging them in science and reestablishing the bond of public trust.

A number of advances in the life sciences are likely to become mature in the coming years—including personalized medicine, molecular diagnostics, and gene therapy—that draw on sophisticated bodies of technical knowledge not easily translatable into lay terms. Earth-science journalists face similar hurdles in explaining the intricate workings of climate change, with added obstacles introduced by a highly charged political environment and a rancorous international debate on the subject.

Though a poll of voters during the last US national election found that health issues rank as #3 behind the economy and the war in Iraq on a list of public concerns, the media resources devoted to responsible health coverage are shrinking fast. Medical stories are often reduced to a "Lifestyle Minute" on broadcast news or a list of bullet points promising "all you need to know" about a complex issue like the safety and effectiveness of antidepressants.

Doing justice to a multilayered subject like the placebo effect—which touches on psychology, pharmacology, social science, clinical trial design, and the economics of globalization—requires a lengthy period of research, multiple interviews, and a high enough word count for the final product to address the various issues at hand. In a collapsing economy, the editorial pressure to produce a stream of headlines promising medical "miracles," buying into facile, prepackaged faux-controversies, and oversimplifying complex ideas into tweetable newsblips is more intense than ever.

In my 14 years of covering science fulltime, I've seen an inexorable drift away from the kind of nuanced, deeply reported, long-form storytelling that can at least try to explore the strata of meaning embedded in a phenomenon like the placebo effect. A 6000-word feature in *Wired* used to be relatively standard to cover a knotty issue in depth; articles of that length have become rare. Now, instead, many magazines and websites favor the kind of high-impact, eye-catching charts, illustrations, and multimedia elements that *Wired* editors enthusiastically call "infoporn." I enjoy provocative graphics as much as anyone, but they can so easily mislead readers into feeling like enough information has been delivered to make informed decisions about entire scientific disciplines. I've come to feel like I'm defending antiquated ideas of journalistic value against an onslaught of shallow, instant-gratification media. Being correct is no longer as important as dominating a news cycle, even with notions that turn out to be misguided. All that matters is that "people are talking" or tweeting about your story, even if what they're saying is nonsense. Being willing to champion outrageous ideas and buzzy memes is seen as more bold, and more ultimately valuable to a magazine's brand, than trying to insist on subtlety and deep reporting.

In the case of this article, the unknown Wired.com editor's provocative choice of headline about "placebos getting more effective" was outrageous enough to get people reading the piece, and once they started, the inherently fascinating quality of the phenomena associated with the placebo effect held their interest long enough to either finish the piece or at least link to it so that it gained a kind of life of its own. For a couple of heady weeks, as links proliferated across Twitter, hip websites like BoingBoing, and other media outlets like the *Washington Post*, I felt like the article was a tuning fork resonating in the key of the zeitgeist. The word "placebo" seemed to be on everyone's lips.

I may be fooling myself, but I like to think that the real reason the story struck a nerve was not because of the foolish notion of sugar pills getting stronger, but because of a deep and pervasive hunger for a sense that we have more control over our health than we've been told, as well as a yearning for a model of health care that emphasizes interpersonal interaction and caring over quantification and data.

These feelings tap into very ancient needs in us. Another part of the story that did not survive into the final edit was a section where I sketched out theories of the role that

the placebo response may have played in the course of evolution. I talked about this with Fabrizio Benedetti, one of the leading placebo researchers, in his office in Turin. Citing the work of pain researcher Patrick Wall, Benedetti spoke about the function of the "pain face," as he put it, which, if I understood him correctly, evolved as a social signal among primates to summon aid when a monkey is hurting and vulnerable. Once the reinforcements have arrived, however, both the pain and the pain face can safely abate. Benedetti speculated that the ebbing of discomfort and inflammation once help is on the way was the primordial beginning of what we call the placebo effect.

Benedetti's book *Placebo Effects*, which focuses on placebo phenomena in medicine, was a crucial reference point for me as I wrote the article, but as I interviewed him, he also told me about a more recent book, which made me wish I could read Italian. The title, translated into English, is *The Enchanted Reality: The Placebo Effect in Everyday Life*. In it, Benedetti said, he examines placebo-like effects not only in medicine, but in religion, music, sexual relationships, painting, and cooking.

Placebo *cooking*?

"Let's say you eat a risotto in San Francisco, and it tastes good," Benedetti explained. "Then you eat the same risotto in Italy. I bet it tastes even better, because there are all these emotional associations and expectations with Italian cooking." In fact, that night I ate a risotto made with black *riso venere* and *fonduta* in a charming little trattoria on a side street in Turin. The best risotto I've ever tasted, I'm sure of it!

While some may quibble with Benedetti's use of the phrase *placebo effects* outside the context of clinical trials, his notion of searching for placebo-like phenomena in everyday life gets to the way that understanding these phenomena in medicine is changing our notions of how the brain constructs experience from the incoming data of the senses. Our minds are constantly alert and responsive to many subtle sources of information around us, particularly the reactions of others. Have you ever been having a relatively good day when someone came up to you and asked you if you felt OK, because you looked sick or tired? There are few more insidiously efficient ways of ruining someone's day than telling them that they look pale or exhausted. Our minds are in the unconscious business of fulfilling other people's prophecies about us. Since writing the article, I've become a bit more careful about the kinds of casual feedback I give to people I care about. Another way to put it is that placebo responses in the body can transform words into medicine or poison. Our health is partially dependent on the opinions of those around us and the sea of language we swim through every day. Down to the hormones circulating in our bloodstreams and the neurons activated in our brains, we are all in this together.

One of the things that happened after my article came out was that I received reprint requests from several other publications. The most unexpected request came from a magazine for Christian Scientists. I had to call up the woman who emailed me from their organization and ask her why she was interested in reprinting an article about drug development and clinical trials. After talking for a while, she admitted that it was because she felt that what placebo researchers are really exploring is the biological pathways by which God heals the sick.

Being a Jewish atheist science writer who has been meditating several times a week for years, I told her that while I was happy to grant the reprint permission, I asked her to at least try to keep the word "God" out of the headline. But I will admit to feeling in the presence of something truly profound when considering the various ways that the mind can help heal (or wound) the body. "We become what we think, having become what we thought," the Buddha is reputed to have said. That doesn't seem to be much of a stretch from the literal, demonstrable, quantifiable truth of the placebo effect—within certain realistic, evidence-based limits.

In fact, the main thing I learned by writing this article is that the phrases "just the placebo effect" or "merely the placebo effect" are utterly inadequate to describe the reality of what happens when we believe we're in a therapeutic situation. There's nothing mere about it. I no longer use that phrase as most people do, as a way of indicating that whatever phenomenon being described is of no practical import—the latest instance of deceitful intent acting upon a gullible mind. Now I use the phrase with something like awe, having glimpsed through the prism of the placebo effect a reflection of the web that unites us all.