

ALSO BY SAM HARRIS

The End of Faith

Letter to a Christian Nation

THE MORAL LANDSCAPE

How Science Can Determine Human Values

SAM HARRIS

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For Emma

scientists making their best effort to *value* principles of reasoning that link their beliefs to reality, through reliable chains of evidence and argument. This is how norms of rational thought are made effective.

To say that judgments of truth and goodness both invoke specific norms seems another way of saying that they are both matters of cognition, as opposed to mere sentiment. That is why one cannot defend one's factual or moral position by reference to one's preferences. One cannot say that *water is H₂O* or that *lying is wrong* simply because one wants to think this way. To defend such propositions, one must invoke a deeper principle. To believe that X is true or that Y is ethical is also to believe others should share these beliefs under similar circumstances.

The answer to the question "What should I believe, and why should I believe it?" is generally a scientific one. Believe a proposition because it is well supported by theory and evidence; believe it because it has been experimentally verified; believe it because a generation of smart people have tried their best to falsify it and failed; believe it because it is *true* (or seems so). This is a norm of cognition as well as the core of any scientific mission statement. As far as our understanding of the world is concerned—*there are no facts without values*.

Chapter 4

RELIGION

Since the nineteenth century, it has been widely assumed that the spread of industrialized society would spell the end of religion. Marx,¹ Freud,² and Weber³—along with innumerable anthropologists, sociologists, historians, and psychologists influenced by their work—expected religious belief to wither in the light of modernity. It has not come to pass. Religion remains one of the most important aspects of human life in the twenty-first century. While most developed societies have grown predominantly secular,⁴ with the curious exception of the United States, orthodox religion is in florid bloom throughout the developing world. In fact, humanity seems to be growing proportionally more religious, as prosperous, nonreligious people have the fewest babies.⁵ When one considers the rise of Islamism throughout the Muslim world, the explosive spread of Pentecostalism throughout Africa, and the anomalous piety of the United States, it becomes clear that religion will have geopolitical consequences for a long time to come.

Despite the explicit separation of church and state provided for by the U.S. Constitution, the level of religious belief in the United States (and the concomitant significance of religion in American life and political discourse) rivals that of many theocracies. The reason for this is unclear. While it has been widely argued that religious pluralism and competition have caused religion to flourish in the United States, with state-church monopolies leading to its decline in Western Europe,⁶ the

support for this “religious market theory” now appears weak. It seems, rather, that religiosity is strongly coupled to perceptions of societal insecurity. Within a rich nation like the United States, high levels of socioeconomic inequality may dictate levels of religiosity generally associated with less developed (and less secure) societies. In addition to being the most religious of developed nations, the United States also has the greatest economic inequality.⁷ The poor tend to be more religious than the rich, both within and between nations.⁸

Fifty-seven percent of Americans think that one must believe in God to have good values and to be moral,⁹ and 69 percent want a president who is guided by “strong religious beliefs.”¹⁰ Such views are unsurprising, given that even secular scientists regularly acknowledge religion to be the most common source of meaning and morality. It is true that most religions offer a prescribed response to specific moral questions—the Catholic Church forbids abortion, for instance. But research on people’s responses to unfamiliar moral dilemmas suggests that religion has no effect on moral judgments that involve weighing harms against benefits (e.g., lives lost vs. lives saved).¹¹

And on almost every measure of societal health, the least religious countries are better off than the most religious. Countries like Denmark, Sweden, Norway, and the Netherlands—which are the most atheistic societies on earth—consistently rate better than religious nations on measures like life expectancy, infant mortality, crime, literacy, GDP, child welfare, economic equality, economic competitiveness, gender equality, health care, investments in education, rates of university enrollment, internet access, environmental protection, lack of corruption, political stability, and charity to poorer nations, etc.¹² The independent researcher Gregory Paul has cast further light on this terrain by creating two scales—the Successful Societies Scale and Popular Religiosity Versus Secularism Scale—which offer greater support for a link between religious conviction and societal insecurity.¹³ And there is another finding which may be relevant to this variable of societal insecurity: religious commitment in the United States is highly correlated with racism.¹⁴

While the mere correlation between societal dysfunction and reli-

gious belief does not tell us what the connection is between them, these data should abolish the ever-present claim that religion is the most important guarantor of societal health. They also prove, conclusively, that a high level of unbelief need not lead to the fall of civilization.¹⁵

Whether religion contributes to societal dysfunction, it seems clear that as societies become more prosperous, stable, and democratic, they tend to become more secular. Even in the United States, the trend toward secularism is visible. As Paul points out, this suggests that, contrary to the opinions of many anthropologists and psychologists, religious commitment “is superficial enough to be readily abandoned when conditions improve to the required degree.”¹⁶

Religion and Evolution

The evolutionary origins of religion remain obscure. The earliest signs of human burial practices date to 95,000 years ago, and many take these as evidence of the emergence of religious belief.¹⁷ Some researchers consider the connection between religion and evolution to be straightforward insofar as religious doctrines tend to view sexual conduct as morally problematic and attempt to regulate it, both to encourage fertility and to protect against sexual infidelity. Clearly, it is in the genetic interests of every man that he not spend his life rearing another man’s children, and it is in the genetic interests of every woman that her mate not squander his resources on other women and their offspring. The fact that the world’s religions generally codify these interests, often prescribing harsh penalties for their transgression, forms the basis for one of their more persistent claims to social utility. It is, therefore, tempting to trace a line between religious doctrines regarding marriage and sexuality to evolutionary fitness.¹⁸ Even here, however, the link to evolution appears less than straightforward: as evolution should actually favor indiscriminate heterosexual activity on the part of men, as long as these scoundrels can avoid squandering their resources in ways that imperil the reproductive success of their offspring.¹⁹

Human beings may be genetically predisposed to superstition: for natural selection should favor rampant belief formation as long as the

benefits of the occasional, correct belief are great enough.²⁰ The manufacture of new religious doctrines and identities, resulting in group conformity and xenophobia, may have offered some protection against infectious illness: for to the degree that religion divides people, it would inhibit the spread of novel pathogens.²¹ However, the question of whether religion (or anything else) might have given groups of human beings an evolutionary advantage (so-called “group selection”) has been widely debated.²² And even if tribes have occasionally been the vehicles of natural selection, and religion proved adaptive, it would remain an open question whether religion increases human fitness today. As already mentioned, there are a wide variety of genetically entrenched human traits (e.g., out-group aggression, infidelity, superstition, etc.) that, while probably adaptive at some point in our past, may have been less than optimal even in the Pleistocene. In a world that is growing ever more crowded and complex, many of these biologically selected traits may yet imperil us.

Clearly, religion cannot be reduced to a mere concatenation of religious beliefs. Every religion consists of rites, rituals, prayers, social institutions, holidays, etc., and these serve a wide variety of purposes, conscious and otherwise.²³ However, religious *belief*—that is, the acceptance of specific historical and metaphysical propositions as being true—is generally what renders these enterprises relevant, or even comprehensible. I share with anthropologist Rodney Stark the view that belief precedes ritual and that a practice like prayer is usually thought to be a genuine act of communication with a God (or gods).²⁴ Religious adherents generally believe that they possess knowledge of sacred truths, and every faith provides a framework for interpreting experience so as to lend further credence to its doctrine.²⁵

There seems little question that most religious practices are the direct consequence of what people believe to be true about both external and internal reality. Indeed, most religious practices become intelligible only in light of these underlying beliefs. The fact that many people have begun to doubt specific religious doctrines in the meantime, while still

mouth the liturgy and aping the rituals, is beside the point. What faith is best exemplified by those who are in the process of losing it? While there may be many Catholics, for instance, who value the ritual of the Mass without believing that the bread and wine are actually transformed into the body and blood of Jesus Christ, the doctrine of Transubstantiation remains the most plausible origin of this ritual. And the primacy of the Mass within the Church hinges on the fact that many Catholics still consider the underlying doctrine to be true—which is a direct consequence of the fact that the Church still promulgates and defends it. The following passage, taken from *The Profession of Faith of the Roman Catholic Church*, represents the relevant case, and illustrates the kind of assertions about reality that lie at the heart of most religions:

I likewise profess that in the Mass a true, proper, and propitiatory sacrifice is offered to God on behalf of the living and the dead, and that the Body and the Blood, together with the soul and the divinity, of our Lord Jesus Christ is truly, really, and substantially present in the most holy sacrament of the Eucharist, and there is a change of the whole substance of the bread into the Body, and of the whole substance of the wine into Blood; and this change the Catholic Mass calls transubstantiation. I also profess that the whole and entire Christ and a true sacrament is received under each separate species.

There is, of course, a distinction to be made between mere profession of such beliefs and actual belief²⁶—a distinction that, while important, makes sense only in a world in which some people actually believe what they say they believe. There seems little reason to doubt that a significant percentage of human beings, likely a majority, falls into this latter category with respect to one or another religious creed.

What is surprising, from a scientific point of view, is that 42 percent of Americans believe that life has existed in its present form since the beginning of the world, and another 21 percent believe that while life may have evolved, its evolution has been guided by the hand of God (only 26 percent believe in evolution through natural selection).²⁷

Seventy-eight percent of Americans believe that the Bible is the word of God (either literal or “inspired”); and 79 percent of Christians believe that Jesus Christ will physically return to earth at some point in the future.²⁸

How is it possible that so many millions of people believe these things? Clearly, the taboo around criticizing religious beliefs must contribute to their survival. But, as the anthropologist Pascal Boyer points out, the failure of reality testing does not explain the specific character of religious beliefs:

People have stories about vanishing islands and talking cats, but they usually do not insert them in their religious beliefs. In contrast, people produce concepts of ghosts and person-like gods and make use of these concepts when they think about a whole variety of social questions (what is moral behavior, what to do with dead people, how misfortune occurs, why perform rituals, etc.). This is much more *precise* than just relaxing the usual principles of sound reasoning.²⁹

According to Boyer, religious concepts must arise from mental categories that predate religion—and these underlying structures determine the stereotypical form that religious beliefs and practices take. These categories of thought relate to things like living beings, social exchange, moral infractions, natural hazards, and ways of understanding human misfortune. On Boyer’s account, people do not accept incredible religious doctrines because they have relaxed their standards of rationality; they relax their standards of rationality because certain doctrines fit their “inference machinery” in such a way as to seem credible. And what most religious propositions may lack in plausibility they make up for by being memorable, emotionally salient, and socially consequential. All of these properties are a product of the underlying structure of human cognition, and most of this architecture is not consciously accessible. Boyer argues, therefore, that explicit theologies and consciously held dogmas are not a reliable indicator of the real contents or causes of a person’s religious beliefs.

Boyer may be correct in his assertion that we have cognitive templates for religious ideas that run deeper than culture (in the same way that we appear to have deep, abstract concepts like “animal” and “tool”). The psychologist Justin Barrett makes a similar claim, likening religion to language acquisition: we come into this world cognitively prepared for language; our culture and upbringing merely dictate which languages we will be exposed to.³⁰ We may also be what the psychologist Paul Bloom has called “common sense dualists”—that is, we may be naturally inclined to see the mind as distinct from the body and, therefore, we tend to intuit the existence of disembodied minds at work in the world.³¹ This propensity could lead us to presume ongoing relationships with dead friends and relatives, to anticipate our own survival of death, and generally to conceive of people as having immaterial souls. Similarly, several experiments suggest that children are predisposed to assume both design and intention behind natural events—leaving many psychologists and anthropologists to believe that children, left entirely to their own devices, would invent some conception of God.³² The psychologist Margaret Evans has found that children between the ages of eight and ten, whatever their upbringing, are consistently more inclined to give a Creationist account of the natural world than their parents are.³³

The psychologist Bruce Hood likens our susceptibility to religious ideas to the fact that people tend to develop phobias for evolutionarily relevant threats (like snakes and spiders) rather than for things that are far more likely to kill them (like automobiles and electrical sockets).³⁴ And because our minds have evolved to detect patterns in the world, we often detect patterns that aren’t actually there—ranging from faces in the clouds to a divine hand in the workings of Nature. Hood posits an additional cognitive schema that he calls “supersense”—a tendency to infer hidden forces in the world, working for good or for ill. On his account, supersense generates beliefs in the supernatural (religious and otherwise) all on its own, and such beliefs are thereafter modulated, rather than instilled, by culture.

While religious affiliation is strictly a matter of cultural inheritance, religious attitudes (e.g., social conservatism) and behaviors (e.g., church

attendance) seem to be moderately influenced by genetic factors.³⁵ The relevance of the brain's dopaminergic systems to religious experience, belief, and behavior is suggested by several lines of evidence, including the fact that several clinical conditions involving the neurotransmitter dopamine—mania, obsessive-compulsive disorder (OCD), and schizophrenia—are regularly associated with hyperreligiosity.³⁶ Serotonin has also been implicated, as drugs known to modulate it—like LSD, psilocybin, mescaline, N,N-dimethyltryptamine (“DMT”), and 3,4-methylenedioxymethamphetamine (“ecstasy”)—seem to be especially potent drivers of religious/spiritual experience.³⁷ Links have also been drawn between religious experience and temporal lobe epilepsy.³⁸

However predisposed the human mind may be to harboring religious beliefs, it remains a fact that each new generation receives a religious worldview, at least in part, in the form of linguistic propositions—far more so in some societies than in others. Whatever the evolutionary underpinnings of religion, it seems extraordinarily unlikely that there is a genetic explanation for the fact that the French, Swedes, and Japanese tend not to believe in God while Americans, Saudis, and Somalis do. Clearly, religion is largely a matter of what people teach their children to believe about the nature of reality.

Is Religious Belief Special?

While religious faith remains one of the most significant features of human life, little has been known about its relationship to ordinary belief at the level of the brain. Nor has it been clear whether religious believers and nonbelievers differ in how they evaluate statements of fact. Several neuroimaging and EEG studies have been done on religious practice and experience—primarily focusing on meditation³⁹ and prayer.⁴⁰ But the purpose of this research has been to evoke spiritual/contemplative experiences in religious subjects and to compare these to more conventional states of consciousness. None of these studies was designed to isolate belief itself.

Working in Mark Cohen's cognitive neuroscience lab at UCLA, I published the first neuroimaging study of belief as a general mode of

cognition⁴¹ (discussed in the previous chapter). While another group at the National Institutes of Health later looked specifically at religious belief,⁴² no research had compared these two forms of belief directly. In a subsequent study, Jonas T. Kaplan and I used fMRI to measure signal changes in the brains of both Christians and nonbelievers as they evaluated the truth and falsity of religious and nonreligious propositions.⁴³ For each trial, subjects were presented with either a religious statement (e.g., “Jesus Christ really performed the miracles attributed to him in the Bible”) or a nonreligious statement (e.g., “Alexander the Great was a very famous military leader”), and they pressed a button to indicate whether the statement was true or false.

For both groups, and in both categories of stimuli, our results were largely consistent with our earlier findings. Believing a statement to be true was associated with greater activity in the medial prefrontal cortex (MPFC), a region important for self-representation,⁴⁴ emotional associations,⁴⁵ reward,⁴⁶ and goal-driven behavior.⁴⁷ This area showed greater activity whether subjects believed statements about God and the Virgin Birth or statements about ordinary facts.⁴⁸

Our study was designed to elicit the same responses from the two groups on nonreligious stimuli (e.g., “Eagles really exist”) and opposite responses on religious stimuli (e.g., “Angels really exist”). The fact that we obtained essentially the same result for belief in both devout Christians and nonbelievers, on both categories of content, argues strongly that the difference between belief and disbelief is the same, regardless of what is being thought about.⁴⁹

While the comparison between belief and disbelief produced similar activity for both categories of questions, the comparison of all religious thinking to all nonreligious thinking yielded a wide range of differences throughout the brain. Religious thinking was associated with greater signal in the anterior insula and the ventral striatum. The anterior insula has been linked to pain perception,⁵⁰ to the perception of pain in others,⁵¹ and to negative feelings like disgust.⁵² The ventral striatum has been frequently linked to reward.⁵³ It would not be surprising if religious statements provoked more positive and negative emotion in both groups of subjects.

It also seems that both Christians and nonbelievers were probably less certain of their religious beliefs. In our previous study of belief, in which a third of our stimuli were designed to provoke uncertainty, we found greater signal in the anterior cingulate cortex (ACC) when subjects could not assess the truth-value of a proposition. Here we found that religious thinking (when compared with nonreligious thinking) elicited this same pattern in both groups. Both groups also took considerably longer to respond to religious stimuli, despite the fact that these statements were no more complex than those in the other category. Perhaps both atheists and religious believers are generally less sure about the truth and falsity of religious statements.⁵⁴

Despite vast differences in the underlying processing responsible for religious and nonreligious modes of thought, the distinction between believing and disbelieving a proposition appears to transcend content. Our research suggests that these opposing states of mind can be detected by current techniques of neuroimaging and are intimately tied to networks involved in self-representation and reward. These findings may have many areas of application—ranging from the neuropsychology of religion, to the use of “belief detection” as a surrogate for “lie detection,” to understanding how the practice of science itself, and truth claims generally, emerge from the biology of the human brain. And again, results of this kind further suggest that a sharp boundary between facts and values does not exist as a matter of human cognition.

Does Religion Matter?

While religious belief may be nothing more than ordinary belief applied to religious content, such beliefs are clearly special in so far as they are deemed special by their adherents. They also appear especially resistant to change. This is often attributed to the fact that such beliefs treat matters aloof from the five senses, and thus are not usually susceptible to disproof. But this cannot be the whole story. Many religious groups, ranging from Christian sects to flying saucer cults, have anchored their worldviews to specific, testable predictions. For instance, such groups occasionally claim that a great cataclysm will befall the earth on a spe-

cific date in the near future. Inevitably, enthusiasts of these prophecies also believe that once the earth starts to shake or the floodwaters begin to rise, they will be spirited away to safety by otherworldly powers. Such people often sell their homes and other possessions, abandon their jobs, and renounce the company of skeptical friends and family—all in apparent certainty that the end of the world is at hand. When the date arrives, and with it the absolute refutation of a cherished doctrine, many members of these groups rationalize the failure of prophecy with remarkable agility.⁵⁵ In fact, such crises of faith are often attended by increased proselytizing and the manufacture of fresh prophecy—which provides the next target for zealotry and, alas, subsequent collisions with empirical reality. Phenomena of this sort have led many people to conclude that religious faith must be distinct from ordinary belief.

On the other hand, one often encounters bewildering denials of the power of religious belief, especially from scientists who are not themselves religious. For instance, the anthropologist Scott Atran alleges that “core religious beliefs are literally senseless and lacking in truth conditions”⁵⁶ and, therefore, cannot actually influence a person’s behavior. According to Atran, Muslim suicide bombing has absolutely nothing to do with Islamic ideas about martyrdom and jihad; rather, it is the product of bonding among “fictive kin.” Atran has publicly stated that the greatest predictor of whether a Muslim will move from merely supporting jihad to actually perpetrating an act of suicidal violence “has nothing to do with religion, it has to do with whether you belong to a soccer club.”⁵⁷

Atran’s analysis of the causes of Muslim violence is relentlessly oblivious to what jihadists themselves say about their own motives.⁵⁸ He even ignores the role of religious belief in inspiring Muslim terrorism when it bursts into view in his own research. Here is a passage from one of his papers in which he summarizes his interviews with jihadists:

All were asked questions of the sort, ‘So what if your family were to be killed in retaliation for your action?’ or ‘What if your father were dying and your mother found out your plans for a martyrdom attack and asked you to delay until the family could get back

on its feet?' To a person they answered along lines that there is duty to family but duty to God cannot be postponed. 'And what if your action resulted in no one's death but your own?' The typical response is, 'God will love you just the same.' For example, when these questions were posed to the alleged Emir of Jemaah Islamiyah, Abu Bakr Ba'asyir, in Jakarta's Cipinang prison in August 2005, he responded that martyrdom for the sake of jihad is the ultimate fardh 'ain, an inescapable individual obligation that trumps all others, including four of the five pillars of Islam (only profession of faith equals jihad). What matters for him as for most would-be martyrs and their sponsors I have interviewed is the martyr's intention and commitment to God, so that blowing up only oneself has the same value and reward as killing however many of the enemy.⁵⁹

What may appear to the untutored eye as patent declarations of religious conviction are, on Atran's account, merely "sacred values" and "moral obligations" shared among kin and confederates; they have no propositional content. Atran's bizarre interpretation of his own data ignores the widespread Muslim belief that martyrs go straight to Paradise and secure a place for their nearest and dearest there. In light of such religious ideas, solidarity within a community takes on another dimension. And phrases like "God will love you just the same" have a meaning worth unpacking. First, it is pretty clear that Atran's subjects believe that God exists. What is God's love good for? It is good for escaping the fires of hell and reaping an eternity of happiness after death. To say that the behavior of Muslim jihadists has nothing to do with their religious beliefs is like saying that honor killings have nothing to do with what their perpetrators believe about women, sexuality, and male honor.

Beliefs have consequences. In Tanzania, there is a growing criminal trade in the body parts of albino human beings—as it is widely imagined that albino flesh has magical properties. Fishermen even weave the hair of albinos into their nets with the expectation of catching more fish.⁶⁰ I would not be in the least surprised if an anthropologist like Atran refused to accept this macabre irrationality at face value and

sought a "deeper" explanation that had nothing to do with the belief in the magical power of albino body parts. Many social scientists have a perverse inability to accept that people often believe exactly what they say they believe. In fact, the belief in the curative powers of human flesh is widespread in Africa, and it used to be common in the West. It is said that "mummy paint" (a salve made from ground mummy parts) was applied to Lincoln's wounds as he lay dying outside Ford's Theatre. As late as 1908 the Merck medical catalog sold "genuine Egyptian mummy" to treat epilepsy, abscesses, fractures and the like.⁶¹ How can we explain this behavior apart from the content of people's beliefs? We need not try. Especially when, given the clarity with which they articulate their core beliefs, there is no mystery whatsoever as to why certain people behave as they do.

The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), published by the American Psychiatric Association, is the most widely used reference work for clinicians in the field of mental health. It defines "delusion" as a "false belief based on incorrect inference about external reality that is firmly sustained despite what almost everyone else believes and despite what constitutes incontrovertible and obvious proof or evidence to the contrary." Lest we think that certain religious beliefs might fall under the shadow of this definition, the authors exonerate religious doctrines, in principle, in the next sentence: "The belief is not one ordinarily accepted by other members of the person's culture or subculture (e.g., it is not an article of religious faith)" (p. 765). As others have observed, there are several problems with this definition.⁶² As any clinician can attest, delusional patients often suffer from *religious* delusions. And the criterion that a belief be widely shared suggests that a belief can be delusional in one context and normative in another, even if the reasons for believing it are held constant. Does a lone psychotic become sane merely by attracting a crowd of devotees? If we are measuring sanity in terms of sheer numbers of subscribers, then atheists and agnostics in the United States must be delusional: a diagnosis which would impugn 93 percent of the members of the National Academy

of Sciences.⁶³ There are, in fact, more people in the United States who cannot read than who doubt the existence of Yahweh.⁶⁴ In twenty-first-century America, disbelief in the God of Abraham is about as fringe a phenomenon as can be named. But so is a commitment to the basic principles of scientific thinking—not to mention a detailed understanding of genetics, special relativity, or Bayesian statistics.

The boundary between mental illness and respectable religious belief can be difficult to discern. This was made especially vivid in a recent court case involving a small group of very committed Christians accused of murdering an eighteen-month-old infant.⁶⁵ The trouble began when the boy ceased to say “Amen” before meals. Believing that he had developed “a spirit of rebellion,” the group, which included the boy’s mother, deprived him of food and water until he died. Upon being indicted, the mother accepted an unusual plea agreement: she vowed to cooperate in the prosecution of her codefendants under the condition that all charges be dropped if her son were resurrected. The prosecutor accepted this plea provided that that resurrection was “Jesus-like” and did not include reincarnation as another person or animal. Despite the fact that this band of lunatics carried the boy’s corpse around in a green suitcase for over a year, awaiting his reanimation, there is no reason to believe that any of them suffer from a mental illness. It is obvious, however, that they suffer from religion.

The Clash Between Faith and Reason

Introspection offers no clue that our experience of the world around us, and of ourselves within it, depends upon voltage changes and chemical interactions taking place inside our heads. And yet a century and a half of brain science declares it to be so. What will it mean to finally understand the most prized, lamented, and intimate features of our subjectivity in terms of neural circuits and information processing?

With respect to our current scientific understanding of the mind, the major religions remain wedded to doctrines that are growing less plausible by the day. While the ultimate relationship between consciousness and matter has not been settled, any naïve conception of a soul can

now be jettisoned on account of the mind’s obvious dependency upon the brain. The idea that there might be an immortal soul capable of reasoning, feeling love, remembering life events, etc., all the while being metaphysically independent of the brain, seems untenable given that damage to the relevant neural circuits obliterates these capacities in a living person. Does the soul of a person suffering from total *aphasia* (loss of language ability) still speak and think fluently? This is rather like asking whether the soul of a diabetic produces abundant insulin. The specific character of the mind’s dependency on the brain also suggests that there cannot be a unified self at work in each of us. There are simply too many separable components to the human mind—each susceptible to independent disruption—for there to be a single entity to stand as rider to the horse.⁶⁶

The soul doctrine suffers further upheaval in light of the fatal resemblance of the human brain to the brains of other animals. The obvious continuity of our mental powers with those of ostensibly soulless primates raises special difficulties. If the joint ancestors of chimpanzees and human beings did not have souls, when did we acquire ours?⁶⁷ Many of the world’s major religions ignore these awkward facts and simply assert that human beings possess a unique form of subjectivity that has no connection to the inner lives of other animals. The soul is the preeminent keepsake here, but the claim of human uniqueness generally extends to the moral sense as well: animals are thought to possess nothing like it. Our moral intuitions must, therefore, be the work of God. Given the pervasiveness of this claim, intellectually honest scientists cannot help but fall into overt conflict with religion regarding the origins of morality.

Nevertheless, it is widely imagined that there is no conflict, in principle, between science and religion because many scientists are themselves “religious,” and some even believe in the God of Abraham and in the truth of ancient miracles. Even religious extremists value *some* of the products of science—antibiotics, computers, bombs, etc.—and these seeds of inquisitiveness, we are told, can be patiently nurtured in a way that offers no insult to religious faith.

This prayer of reconciliation goes by many names and now has many

advocates. But it is based on a fallacy. The fact that some scientists do not detect any problem with religious faith merely proves that a juxtaposition of good ideas and bad ones is possible. Is there a conflict between marriage and infidelity? The two regularly coincide. The fact that intellectual honesty can be confined to a ghetto—in a single brain, in an institution, or in a culture—does not mean that there isn't a perfect contradiction between reason and faith, or between the worldview of science taken as a whole and those advanced by the world's "great," and greatly discrepant, religions.

What *can* be shown by example is how poorly religious scientists manage to reconcile reason and faith when they actually attempt to do so. Few such efforts have received more public attention than the work of Francis Collins. Collins is currently the director of the National Institutes of Health, having been appointed to the post by President Obama. One must admit that his credentials were impeccable: he is a physical chemist, a medical geneticist, and the former head of the Human Genome Project. He is also, by his own account, living proof that there can be no conflict between science and religion. I will discuss Collins's views at some length, because he is widely considered the most impressive example of "sophisticated" faith in action.

In 2006, Collins published a bestselling book, *The Language of God*,⁶⁸ in which he claimed to demonstrate "a consistent and profoundly satisfying harmony" between twenty-first-century science and Evangelical Christianity. *The Language of God* is a genuinely astonishing book. To read it is to witness nothing less than an intellectual suicide. It is, however, a suicide that has gone almost entirely unacknowledged: The body yielded to the rope; the neck snapped; the breath subsided; and the corpse dangles in ghastly discomposure even now—and yet polite people everywhere continue to celebrate the great man's health.

Collins is regularly praised by his fellow scientists for what he is not: he is not a "young earth creationist," nor is he a proponent of "intelligent design." Given the state of the evidence for evolution, these are both very good things for a scientist not to be. But as director of the NIH, Collins now has more responsibility for biomedical and health-

related research than any person on earth, controlling an annual budget of more than \$30 billion. He is also one of the foremost representatives of science in the United States. We need not congratulate him for believing in evolution.

Here is how Collins, as a scientist and educator, summarizes his understanding of the universe for the general public (what follows are a series of slides, presented in order, from a lecture Collins gave at the University of California, Berkeley, in 2008):

Slide 1

Almighty God, who is not limited in space or time, created a universe 13.7 billion years ago with its parameters precisely tuned to allow the development of complexity over long periods of time.

Slide 2

God's plan included the mechanism of evolution to create the marvelous diversity of living things on our planet. Most especially, that creative plan included human beings.

Slide 3

After evolution had prepared a sufficiently advanced "house" (the human brain), God gifted humanity with the knowledge of good and evil (the Moral Law), with free will, and with an immortal soul.

Slide 4

We humans use our free will to break the moral law, leading to our estrangement from God. For Christians, Jesus is the solution to that estrangement.

Slide 5

If the Moral Law is just a side effect of evolution, then there is no such thing as good or evil. It's all an illusion. We've been hoodwinked. Are any of us, especially the strong atheists, really prepared to live our lives within that worldview?

Is it really so difficult to perceive a conflict between Collin's science and his religion? Just imagine how scientific it would seem to most Americans if Collins, as a devout Hindu, informed his audience that Lord Brahma had created the universe and now sleeps; Lord Vishnu sustains it and tinkers with our DNA (in a way that respects the law of karma and rebirth); and Lord Shiva will eventually destroy it in a great conflagration.⁶⁹ Is there any chance that Collins would be running the NIH if he were an outspoken polytheist?

Early in his career as a physician, Collins attempted to fill the God-shaped hole in his life by studying the world's major religions. He admits, however, that he did not get very far with this research before seeking the tender mercies of "a Methodist minister who lived down the street." In fact, Collins's ignorance of world religion appears prodigious. For instance, he regularly repeats the Christian canard about Jesus being the only person in human history who ever claimed to be God (as though this would render the opinions of an uneducated carpenter of the first century especially credible). Collins seems oblivious to the fact that saints, yogis, charlatans, and schizophrenics by the thousands claim to be God at this very instant. And it has always been thus. Forty years ago, a very unprepossessing Charles Manson convinced a band of misfits in the San Fernando Valley that he was both God *and* Jesus. Should we, therefore, consult Manson on questions of cosmology? He still walks among us—or at least sits—in Corcoran State Prison. The fact that Collins, as both a scientist and as an influential apologist for religion, repeatedly emphasizes the silly fiction of Jesus' singular self-appraisal is one of many embarrassing signs that he has lived too long in the echo chamber of Evangelical Christianity.

But the pilgrim continues his progress: next, we learn that Collins's uncertainty about the identity of God could not survive a collision with C. S. Lewis. The following passage from Lewis proved decisive:

I am trying here to prevent anyone saying the really foolish thing that people often say about Him: "I'm ready to accept Jesus as a

great moral teacher, but I don't accept His claim to be God." That is one thing we must not say. A man who was merely a man and said the sort of things Jesus said would not be a great moral teacher. He would either be a lunatic—on a level with the man who says He is a poached egg—or else He would be the Devil of Hell. You must make your choice. Either this man was, and is, the Son of God: or else a madman or something worse. You can shut Him up for a fool, you can spit at Him and kill Him as a demon; or you can fall at His feet and call him Lord and God. But let us not come with any patronizing nonsense about His being a great human teacher. He has not left that open to us. He did not intend to.

Collins provides this pabulum for our contemplation and then describes how it irrevocably altered his view of the universe:

Lewis was right. I had to make a choice. A full year had passed since I decided to believe in some sort of God, and now I was being called to account. On a beautiful fall day, as I was hiking in the Cascade Mountains during my first trip west of the Mississippi, the majesty and beauty of God's creation overwhelmed my resistance. As I rounded a corner and saw a beautiful and unexpected frozen waterfall, hundreds of feet high, I knew the search was over. The next morning, I knelt in the dewy grass as the sun rose and surrendered to Jesus Christ.⁷⁰

This is self-deception at full gallop. It is simply astounding that this passage was written by a scientist with the intent of demonstrating the compatibility of faith and reason. And if we thought Collins's reasoning could grow no more labile, he has since divulged that the waterfall was frozen into *three* streams, which put him in mind of the Holy Trinity.⁷¹

It should go without saying that if a frozen waterfall can confirm the specific tenets of Christianity, anything can confirm anything. But this truth was not obvious to Collins as he "knelt in the dewy grass," and it is not obvious to him now. Nor was it obvious to the editors of *Nature*, which is the most important scientific publication in any language. The journal praised Collins for engaging "with people of faith

to explore how science—both in its mode of thought and its results—is consistent with their religious beliefs.”⁷² According to *Nature*, Collins was engaged in the “moving” and “laudable” exercise of building “a bridge across the social and intellectual divide that exists between most of U.S. academia and the so-called heartlands.” And here is Collins, hard at work on that bridge:

As believers, you are right to hold fast to the concept of God as Creator; you are right to hold fast to the truths of the Bible; you are right to hold fast to the conclusion that science offers no answers to the most pressing questions of human existence; and you are right to hold fast to the certainty that the claims of atheistic materialism must be steadfastly resisted.⁷³

God, who is not limited to space and time, created the universe and established natural laws that govern it. Seeking to populate this otherwise sterile universe with living creatures, God chose the elegant mechanism of evolution to create microbes, plants, and animals of all sorts. Most remarkably, God intentionally chose the same mechanism to give rise to special creatures who would have intelligence, a knowledge of right and wrong, free will, and a desire to seek fellowship with Him. He also knew these creatures would ultimately choose to disobey the Moral Law.⁷⁴

Imagine: the year is 2006; half of the American population believes that the universe is 6,000 years old; our president has just used his first veto to block federal funding for the world’s most promising medical research on religious grounds; and one of the foremost scientists in the land has this to say, straight from the heart (if not the brain).

Of course, once the eyes of faith have opened, confirmation can be found everywhere. Here Collins considers whether to accept the directorship of the Human Genome Project:

I spent a long afternoon praying in a little chapel, seeking guidance about this decision. I did not “hear” God speak—in fact,

I’ve never had that experience. But during those hours, ending in an evensong service that I had not expected, a peace settled over me. A few days later, I accepted the offer.⁷⁵

One hopes to see, but does not find, the phrase “Dear Diary” framing these solemn excursions from honest reasoning. Again we find a peculiar emphasis on the most unremarkable violations of expectation: just as Collins had not expected to see a frozen waterfall, he had not expected an evensong service. How unlikely would it be to encounter an evensong service (generally celebrated just before sunset) while spending “a long afternoon praying in a little chapel”? And what of Collins’s feeling of “peace”? We are clearly meant to view it as some indication, however slight, of the veracity of his religious beliefs. Elsewhere in his book Collins states, correctly, that “monotheism and polytheism cannot both be right.” But doesn’t he think that at some point in the last thousand years a Hindu or two has prayed in a temple, perhaps to the elephant-headed god Ganesh, and experienced similar feelings of peace? What might he, as a scientist, make of this fact?

I should say at this point that I see nothing irrational about seeking the states of mind that lie at the core of many of the world’s religions. Compassion, awe, devotion, and feelings of oneness are surely among the most valuable experiences a person can have. What is irrational, and irresponsible in a scientist and educator, is to make unjustified and unjustifiable claims about the structure of the universe, about the divine origin of certain books, and about the future of humanity on the basis of such experiences. And by the standards of even ordinary contemplative experience, the phenomena that Collins puts forward in support of his religious beliefs scarcely merit discussion. A beautiful waterfall? An unexpected church service? A feeling of peace? The fact that these are the most salient landmarks on Collins’s journey out of bondage may be the most troubling detail in this positive sea of troubles.

Collins argues that science makes belief in God “intensely plausible”—the Big Bang, the fine-tuning of Nature’s constants, the emergence of

complex life, the effectiveness of mathematics,⁷⁶ all suggest to him that a “loving, logical, and consistent” God exists. But when challenged with alternate (and far more plausible) accounts of these phenomena—or with evidence that suggests that God might be unloving, illogical, inconsistent, or, indeed, absent—Collins declares that God stands outside of Nature, and thus science cannot address the question of His existence at all. Similarly, Collins insists that our moral intuitions attest to God’s existence, to His perfectly moral character, and to His desire to have fellowship with every member of our species; but when our moral intuitions recoil at the casual destruction of innocent children by tidal wave or earthquake, Collins assures us that our time-bound notions of good and evil cannot be trusted and that God’s will is a perfect mystery.⁷⁷ As is often the case with religious apology, it is a case of heads, faith wins; tails, reason loses.

Like most Christians, Collins believes in a suite of canonical miracles, including the virgin birth and literal resurrection of Jesus Christ. He cites N. T. Wright⁷⁸ and John Polkinghorne⁷⁹ as the best authorities on these matters, and when pressed on points of theology, he recommends that people consult their books for further illumination. To give readers a taste of this literature, here is Polkinghorne describing the physics of the coming resurrection of the dead:

If we regard human beings as psychosomatic unities, as I believe both the Bible and contemporary experience of the intimate connection between mind and brain encourage us to do, then the soul will have to be understood in an Aristotelian sense as the “form,” or information-bearing pattern, of the body. Though this pattern is dissolved at death it seems perfectly rational to believe that it will be remembered by God and reconstituted in a divine act of resurrection. The “matter” of the world to come, which will be the carrier of the reembodiment, will be the transformed matter of the present universe, itself redeemed by God beyond *its* cosmic death. The resurrected universe is not a second attempt by the Creator to produce a world *ex nihilo* but it is the transmutation of the present world in an act of new creation *ex vetere*. God

will then truly be “all in all” (1 Cor. 15:28) in a totally sacramental universe whose divine infused “matter” will be delivered from the transience and decay inherent in the present physical process. Such mysterious and exciting beliefs depend for their motivation not only on the faithfulness of God, but also on Christ’s resurrection, understood as the seminal event from which the new creation grows, and indeed also on the detail of the empty tomb, with its implication that the Lord’s risen and glorified body is the transmutation of his dead body, just as the world to come will be the transformation of this present mortal world.⁸⁰

These beliefs are, indeed, “mysterious and exciting.” As it happens, Polkinghorne is also a scientist. The problem, however, is that it is impossible to differentiate his writing on religion—which now fills an entire shelf of books—from an extraordinarily patient Sokal-style hoax.⁸¹ If one intended to embarrass the religious establishment with carefully constructed nonsense, this is exactly the sort of pseudoscience, pseudoscholarship, and pseudoreasoning one would employ. Unfortunately, I see no reason to doubt Polkinghorne’s sincerity. Neither, it would seem, does Francis Collins.

Even for a scientist of Collins’s stature, who has struggled to reconcile his belief in the divinity of Jesus with modern science, it all boils down to the “empty tomb.” Collins freely admits that if all his scientific arguments for the plausibility of God were proven to be in error, his faith would be undiminished, as it is founded upon the belief, shared by all serious Christians, that the Gospel account of the miracles of Jesus is true. The problem, however, is that miracle stories are as common as house dust, even in the twenty-first century. For instance, all of Jesus’ otherworldly powers have been attributed to the South Indian guru Sathya Sai Baba by vast numbers of living eyewitnesses. Sai Baba even claims to have been born of a virgin. This is actually not an uncommon claim in the history of religion, or in history generally. Even worldly men like Genghis Khan and Alexander were once thought to have been born of virgins (parthenogenesis apparently offers no guarantee that a man will turn the other cheek). Thus, Collins’s faith is predicated on the

claim that miracle stories of the sort that today surround a person like Sathya Sai Baba—and do not even merit an hour on cable television—somehow become especially credible when set in the prescientific religious context of the first-century Roman Empire, decades *after* their supposed occurrence, as evidenced by discrepant and fragmentary copies of copies of copies of ancient Greek manuscripts.⁸² It is on this basis that the current head of the NIH recommends that we believe the following propositions:

1. Jesus Christ, a carpenter by trade, was born of a virgin, ritually murdered as a scapegoat for the collective sins of his species, and then resurrected from death after an interval of three days.
2. He promptly ascended, bodily, to “heaven”—where, for two millennia, he has eavesdropped upon (and, on occasion, even answered) the simultaneous prayers of billions of beleaguered human beings.
3. Not content to maintain this numinous arrangement indefinitely, this invisible carpenter will one day return to earth to judge humanity for its sexual indiscretions and skeptical doubts, at which time he will grant immortality to anyone who has had the good fortune to be convinced, on Mother’s knee, that this baffling litany of miracles is the most important series of truths ever revealed about the cosmos.
4. Every other member of our species, past and present, from Cleopatra to Einstein, no matter what his or her terrestrial accomplishments, will be consigned to a far less desirable fate, best left unspecified.
5. In the meantime, God/Jesus may or may not intervene in our world, as He pleases, curing the occasional end-stage cancer (or not), answering an especially earnest prayer for guidance (or not), consoling the bereaved (or not), through His perfectly wise and loving agency.

Just how many scientific laws would be violated by this scheme? One is tempted to say “all of them.” And yet, judging from the way that journals like *Nature* have treated Collins, one can only conclude that

there is nothing in the scientific worldview, or in the intellectual rigor and self-criticism that gave rise to it, that casts these convictions in an unfavorable light.

Prior to his appointment as head of the NIH, Collins started an organization called the BioLogos Foundation, whose purpose (in the words of its mission statement) is to communicate “the compatibility of the Christian faith with scientific discoveries about the origins of the universe and life.” BioLogos is funded by the Templeton Foundation, an organization that claims to seek answers to “life’s biggest questions,” but appears primarily dedicated to erasing the boundary between religion and science. Because of its astonishing wealth, Templeton seems able to purchase the complicity of otherwise secular academics as it seeks to rebrand religious faith as a legitimate arm of science. True to form, *Nature* has adopted an embarrassingly supine posture with respect to Templeton as well.⁸³

Would Collins have received the same treatment in *Nature* if he had argued for the compatibility between science and witchcraft, astrology, or Tarot cards? On the contrary, he would have been met by an inferno of criticism. As a point of comparison, we should recall that the biochemist Rupert Sheldrake had his academic career neatly decapitated by a single *Nature* editorial.⁸⁴ In his book *A New Science of Life*, Sheldrake advanced a theory of “morphic resonance,” in an attempt to account for how living systems and other patterns in nature develop.⁸⁵ Needless to say, the theory stands a very good chance of being utterly wrong. But there is not a single sentence in Sheldrake’s book to rival the intellectual dishonesty that Collins achieves on nearly every page of *The Language of God*.⁸⁶ What accounts for the double standard? Clearly, it remains taboo to criticize mainstream religion (which, in the West, means Christianity, Judaism, and Islam).

According to Collins, the moral law applies exclusively to human beings:

Though other animals may at times appear to show glimmerings of a moral sense, they are certainly not widespread, and in many

instances other species' behavior seems to be in dramatic contrast to any sense of universal rightness.⁸⁷

One wonders if the author has ever read a newspaper. The behavior of humans offers no such "dramatic contrast"? How badly must human beings behave to put this "sense of universal rightness" in doubt? While no other species can match us for altruism, none can match us for sadistic cruelty either. And just how widespread must "glimmerings" of morality be among other animals before Collins—who, after all, knows a thing or two about genes—begins to wonder whether our moral sense has evolutionary precursors? What if mice show greater distress at the suffering of familiar mice than unfamiliar ones? (They do.⁸⁸) What if monkeys will starve themselves to prevent their cage mates from receiving painful shocks? (They will.⁸⁹) What if chimps have a demonstrable sense of fairness when receiving food rewards? (They have.⁹⁰) What if dogs do too? (Ditto.⁹¹) Wouldn't these be precisely the sorts of findings one would expect if our morality were the product of evolution?

Collins's case for the supernatural origin of morality rests on the further assertion that there can be no evolutionary explanation for genuine altruism. Because self-sacrifice cannot increase the likelihood that an individual creature will survive and reproduce, truly self-sacrificing behavior stands as a primordial rejoinder to any biological account of morality. In Collins's view, therefore, the mere existence of altruism offers compelling evidence of a personal God. A moment's thought reveals, however, that if we were to accept this neutered biology, almost everything about us would be bathed in the warm glow of religious mystery. Smoking cigarettes isn't a healthy habit and is unlikely to offer an adaptive advantage—and there were no cigarettes in the Paleolithic—but this habit is very widespread and compelling. Is God, by any chance, a tobacco farmer? Collins can't seem to see that human morality and selfless love may arise from more basic biological and psychological traits, which were themselves products of evolution. It is hard to interpret this oversight in light of his scientific training. If one didn't know better, one might be tempted to conclude that religious dogmatism presents an obstacle to scientific reasoning.

There are, of course, ethical implications to believing that human beings are the only species made in God's image and vouchsafed with "immortal souls." Concern about souls is a very poor guide to ethical behavior—that is, to actually mitigating the suffering of conscious creatures like ourselves. The belief that the soul enters the zygote at (or very near) the moment of conception leads to spurious worries about the fate of undifferentiated cells in Petri dishes and, therefore, to profound qualms over embryonic stem cell research. Rather often, a belief in souls leaves people indifferent to the suffering of creatures thought not to possess them. There are many species of animals that can suffer in ways that three-day-old human embryos cannot. The use of apes in medical research, the exposure of whales and dolphins to military sonar⁹²—these are real ethical dilemmas, with real suffering at issue. Concern over human embryos smaller than the period at the end of this sentence—when, for years they have constituted one of the most promising contexts for medical research—is one of the many delusional products of religion that has led to an ethical blind alley, and to terrible failures of compassion. While Collins appears to support embryonic stem-cell research, he does so after much (literal) soul searching and under considerable theological duress. Everything he has said and written about the subject needlessly complicates an ethical question that is—if one is actually concerned about human and animal well-being—utterly straightforward.

The ethics of embryonic stem-cell research, which currently entails the destruction of human embryos, can be judged only by considering what embryos at the 150-cell-stage actually are. We must contemplate their destruction in light of how we treat organisms at similar and greater stages of complexity, as well as how we treat human beings at later stages of development. For instance, there are a variety of conditions that can occur during gestation, the remedy for which entails the destruction of far more developed embryos—and yet these interventions offer far less potential benefit to society. Curiously, no one objects to such procedures. A child can be born with his underdeveloped yet living twin lodged inside him—a condition known as *fetus in fetu*. Occasionally this condition isn't discovered until years after birth,

when the first child complains about having something moving around inside his body. This second child is then removed like a tumor and destroyed.⁹³ As God seems to love diversity, there are countless permutations of this condition, and twins can fuse in almost any way imaginable. The second twin can also be a disorganized mass called a *teratoma*. Needless to say, any parasitic twin, however disorganized, will be a far more developed entity than an embryo at the 150-cell stage. Even the intentional sacrifice of one conjoined (“Siamese”) twin to save the other has occurred in the United States, with shared organs being given to the survivor. In fact, there have been cases where unshared organs have been transferred from the twin that is to be sacrificed.⁹⁴

Some have argued that the “viability” of an organism is the primary issue here: for without some extraordinary intervention such twins cannot survive. But many fully developed human beings answer to this condition of utter dependency at some point in their lives (e.g., a kidney patient on dialysis). And embryos themselves are not viable unless placed in the proper conditions. Indeed, embryos could be engineered to not be viable past a certain age even if implanted in a womb. Would this obviate the ethical concerns of those who oppose embryonic stem-cell research?

At the time of this writing, the Obama administration still has not removed the most important impediments to embryonic stem-cell research. Currently, federal funding is only allowed for work on stem cells that have been derived from surplus embryos at fertility clinics. This delicacy is a clear concession to the religious convictions of the American electorate. While Collins seems willing to go further and support research on embryos created through somatic-cell nuclear transfer (SCNT), he is very far from being a voice of ethical clarity in this debate. For instance, he considers embryos created through SCNT to be distinct from those formed through the union of sperm and egg because the former are “not part of God’s plan to create a human individual” while “the latter is very much part of God’s plan, carried out through the millennia by our own species and many others.”⁹⁵ What is to be gained in a serious discussion of bioethics by talking about “God’s plan”? If such embryos were brought to term and became sentient and

suffering human beings, would it be ethical to kill these people and harvest their organs because they had been conceived apart from “God’s plan”? While Collins’s stewardship of the NIH seems unlikely to impede our mincing progress on embryonic stem-cell research, his appointment is one of President Obama’s efforts to split the difference between real science and real ethics on the one hand and religious superstition and taboo on the other.

Collins has written that “science offers no answers to the most pressing questions of human existence” and that “the claims of atheistic materialism must be steadfastly resisted.” One can only hope that these convictions will not affect his judgment at the NIH. As I have argued throughout this book, understanding human well-being at the level of the brain might very well offer some answers to the most pressing questions of human existence—questions like, *Why do we suffer? How can we achieve the deepest forms of happiness?* Or, indeed, *Is it possible to love one’s neighbor as oneself?* And wouldn’t any effort to explain human nature without reference to a soul, and to explain morality without reference to God, constitute “atheistic materialism”? Is it really wise to entrust the future of biomedical research in the United States to a man who believes that understanding ourselves through science is impossible, while our resurrection from death is inevitable?

When I criticized President Obama’s appointment of Collins in *The New York Times*, many readers considered it an overt expression of “intolerance.”⁹⁶ For instance, the biologist Kenneth Miller claimed in a letter to the editor that my view was purely the product of my own “deeply held prejudices against religion” and that I opposed Collins merely because “he is a Christian.”⁹⁷ Writing in *The Guardian*, Andrew Brown called my criticism of Collins a “fantastically illiberal and embryonically totalitarian position that goes against every possible notion of human rights and even the American constitution.” Miller and Brown clearly feel that unjustified beliefs and disordered thinking should not be challenged as long as they are associated with a mainstream religion—and that to do so is synonymous with bigotry. They are not alone.

There is now a large and growing literature—spanning dozens of books and hundreds of articles—attacking Richard Dawkins, Daniel Dennett, Christopher Hitchens, and me (the so-called New Atheists) for our alleged incivility, bias, and ignorance of how “sophisticated” believers practice their faith. It is often said that we caricature religion, taking its most extreme forms to represent the whole. We do no such thing. We simply do what a paragon of sophisticated faith like Francis Collins does: we take the specific claims of religion seriously.

Many of our secular critics worry that if we oblige people to choose between reason and faith, they will choose faith and cease to support scientific research; if, on the other hand, we ceaselessly reiterate that there is no conflict between religion and science, we might cajole great multitudes into accepting the truth of evolution (as though this were an end in itself). Here is a version of this charge that, I fear, most people would accept, taken from journalist Chris Mooney and marine biologist Sheril Kirshenbaum’s book *Unscientific America*:

If the goal is to create an America more friendly toward science and reason, the combativeness of the New Atheists is strongly counterproductive. If anything, they work in ironic combination with their dire enemies, the anti-science conservative Christians who populate the creation science and intelligent design movements, to ensure we’ll continue to be polarized over subjects like the teaching of evolution when we don’t have to be. America is a very religious nation, and if forced to choose between faith and science, vast numbers of Americans will select the former. The New Atheists err in insisting that such a choice needs to be made. Atheism is not the logically inevitable outcome of scientific reasoning, any more than intelligent design is a necessary corollary of religious faith. A great many scientists believe in God with no sense of internal contradiction, just as many religious believers accept evolution as the correct theory to explain the development, diversity, and inter-relatedness of life on Earth. The New Atheists, like the fundamentalists they so despise, are setting up a false dichotomy that can only damage the cause of scientific

literacy for generations to come. It threatens to leave science itself caught in the middle between extremes, unable to find cover in a destructive, seemingly unending, culture war.⁹⁸

The first thing to observe is that Mooney and Kirshenbaum are confused about the nature of the problem. The goal is not to get more Americans to merely accept the truth of evolution (or any other scientific theory); the goal is to get them to value the principles of reasoning and educated discourse that now make a belief in evolution obligatory. Doubt about evolution is merely a symptom of an underlying condition; the condition is faith itself—conviction without sufficient reason, hope mistaken for knowledge, bad ideas protected from good ones, good ideas obscured by bad ones, wishful thinking elevated to a principle of salvation, etc. Mooney and Kirshenbaum seem to imagine that we can get people to value intellectual honesty by lying to them.

While it is invariably advertised as an expression of “respect” for people of faith, the accommodationism that Mooney and Kirshenbaum recommend is nothing more than naked condescension, motivated by fear. They assure us that people will choose religion over science, *no matter how good a case is made against religion*. In certain contexts, this fear is probably warranted. I wouldn’t be eager to spell out the irrationality of Islam while standing in the Great Mosque in Mecca. But let’s be honest about how Mooney and Kirshenbaum view public discourse in the United States: *Watch what you say, or the Christian mob will burn down the Library of Alexandria all over again*. By comparison, the “combative-ness” of the “New Atheists” seems quite collegial. We are merely guilty of assuming that our fellow *Homo sapiens* possess the requisite intelligence and emotional maturity to respond to rational argument, satire, and ridicule on the subject of religion—just as they respond to these discursive pressures on all other subjects. Of course, we could be wrong. But let’s admit which side in this debate currently views our neighbors as dangerous children and which views them as adults who might prefer not to be completely mistaken about the nature of reality.

Finally, we come to the kernel of confusion that has been the subject of this section—the irrelevant claim that “a great many scientists

believe in God with no sense of internal contradiction.”⁹⁹ The fact that certain people can reason poorly with a clear conscience—or can do so while *saying* that they have a clear conscience—proves absolutely nothing about the compatibility of religious and scientific ideas, goals, or ways of thinking. It is possible to be wrong and to not know it (we call this “ignorance”). It is possible to be wrong and to know it, but to be reluctant to incur the social cost of admitting this publicly (we call this “hypocrisy”). And it may also be possible to be wrong, to dimly glimpse this fact, but to allow the fear of being wrong to increase one’s commitment to one’s erroneous beliefs (we call this “self-deception”). It seems clear that these frames of mind do an unusual amount of work in the service of religion.

There is an epidemic of scientific ignorance in the United States. This isn’t surprising, as very few scientific truths are self-evident and many are deeply counterintuitive. It is by no means obvious that empty space has structure or that we share a common ancestor with both the housefly and the banana. It can be difficult to think like a scientist (even, we have begun to see, when one is a scientist). But it would seem that few things make thinking like a scientist more difficult than an attachment to religion.

Chapter 5

THE FUTURE OF HAPPINESS

No one has ever mistaken me for an optimist. And yet when I consider one of the more pristine sources of pessimism—the moral development of our species—I find reasons for hope. Despite our perennial bad behavior, our moral progress seems to me unmistakable. Our powers of empathy are clearly growing. Today, we are surely more likely to act for the benefit of humanity as a whole than at any point in the past.

Of course, the twentieth century delivered some unprecedented horrors. But those of us who live in the developed world are becoming increasingly disturbed by our capacity to do one another harm. We are less tolerant of “collateral damage” in times of war—undoubtedly because we now see images of it—and we are less comfortable with ideologies that demonize whole populations, justifying their abuse or outright destruction.

Consider the degree to which racism in the United States has diminished in the last hundred years. Racism is still a problem, of course. But the evidence of change is undeniable. Most readers will have seen photos of lynchings from the first half of the twentieth century, in which whole towns turned out, as though for a carnival, simply to enjoy the sight of some young man or woman being tortured to death and strung up on a tree or lamppost for all to see. These pictures often reveal bankers, lawyers, doctors, teachers, church elders, newspaper editors, policemen, even the occasional senator and