

The New York Review of Books

VOLUME 53, NUMBER 11 • JUNE 22, 2006

Review

Religion from the Outside

By **Freeman Dyson**

Breaking the Spell: Religion as a Natural Phenomenon

by Daniel C. Dennett

Viking Penguin, 448 pp., \$25.95

1.

Breaking the spell of religion is a game that many people can play. The best player of this game that I ever knew was Professor G.H. Hardy, a world-famous mathematician who happened to be a passionate atheist. There are two kinds of atheists, ordinary atheists who do not believe in God and passionate atheists who consider God to be their personal enemy. When I was a junior fellow at Trinity College, Cambridge, Hardy was my mentor. As a junior fellow I enjoyed the privilege of dining at the high table with the old and famous. During my tenure, Professor Simpson, one of the old and famous fellows, died. Simpson had a strong sentimental attachment to the college and was a religious believer. He left instructions that he should be cremated and his ashes should be scattered on the bowling green in the fellows' garden where he loved to walk and meditate. A few days after he died, a solemn funeral service was held for him in the college chapel. His many years of faithful service to the college and his exemplary role as a Christian scholar and teacher were duly celebrated.

In the evening of the same day I took my place at the high table. One of the neighboring places at the table was empty. Professor Hardy, contrary to his usual habit, was late for dinner. After we had all sat down and the Latin grace had been said, Hardy strolled into the dining hall, ostentatiously scraping his shoes on the wooden floor and complaining in a loud voice for everyone to hear, "What is this awful stuff they have put on the grass in the fellows' garden? I can't get it off my shoes." Hardy, of course, knew very well what the stuff was. He had always disliked religion in general and Simpson's piety in particular, and he was taking his opportunity for a little revenge.

Paul Erdős was another world-famous mathematician who was a passionate atheist. Erdős always referred to God as SF, short for Supreme Fascist. Erdős had for many years successfully outwitted the dictators of Italy, Germany, and Hungary, moving from country to country to escape from their clutches. He called his God SF because he imagined God to be a fascist dictator like Mussolini, powerful and brutal but rather slow-witted. Erdős was able to outwit SF by moving frequently from one

place to another and never allowing his activities to fall into a predictable pattern. SF, like the other dictators, was too stupid to understand Erdős's mathematics. Hardy and Erdős were both lovable characters, contributing more than their fair share to the human comedy. Both of them were gifted clowns as well as great mathematicians.

And now comes Daniel Dennett to take his turn at breaking the spell. Dennett is a philosopher. In this book he is confronting the philosophical questions arising from religion in the modern world. Why does religion exist? Why does it have such a powerful grip on people in many different cultures? Are the practical effects of religion preponderantly good or preponderantly evil? Is religion useful as a basis for public morality? What can we do to counter the spread of religious movements that we consider dangerous? Can the tools and methods of science help us to understand religion as a natural phenomenon? Dennett remarks at the beginning that he will proceed

not by answering the big questions that motivate the whole enterprise but by asking them, as carefully as I can, and pointing out what we already know about how to answer them, and showing why we need to answer them.

I am a philosopher, not a biologist or an anthropologist or a sociologist or historian or theologian. We philosophers are better at asking questions than at answering them....

Dennett practices what he preaches. He does not answer the questions, but takes four hundred pages to ask them. The book proceeds at a leisurely pace, with an easy conversational style and many digressions. It is divided into three sections, the first concerned with the nature of scientific inquiry, the second concerned with the history and evolution of religion, the third concerned with religion as it exists today. In the first section, Dennett defines scientific inquiry in a narrow way, restricting it to the collection of evidence that is reproducible and testable. He makes a sharp distinction between science on the one hand and the humanistic disciplines of history and theology on the other. He does not accept as scientific the great mass of evidence contained in historical narratives and personal experiences. Since it cannot be reproduced under controlled conditions, it does not belong to science. He quotes with approval and high praise several passages from *The Varieties of Religious Experience*, the classic description of religion from the point of view of a psychologist, published by William James in 1902. He describes James's book as "a treasure trove of insights and arguments, too often overlooked in recent times." But he does not accept James's insights and arguments as scientific.

James is examining religion from the inside, like a doctor trying to see the world through the eyes of his patients. James was trained as a medical doctor before he became a professor of psychology. He studied the personal experiences of saints and mystics as evidence of something real existing in a spiritual world beyond the

boundaries of space and time. Dennett honors James as an explorer of the human condition, but not as an explorer of a spiritual world. For Dennett, the visions of saints and mystics are worthless as evidence, since they are neither repeatable nor testable. Dennett is examining religion from the outside, following the rules of science. For him, the visions of saints and mystics are only a phenomenon to be explained, like falling in love or hating people of a different skin color, mental conditions that may or may not be considered pathological.

The second section of the book is the longest and contains the core of Dennett's argument. He describes the various stages of the long historical evolution of religion, beginning with primitive tribal myths and rituals, and ending with the market-driven evangelical megachurches of modern America. Looking at these evolutionary processes from the outside, he speculates about ways in which they might be understood scientifically. He explains them tentatively as products of a Darwinian competition between belief systems, in which only the fittest belief systems survive. The fitness of a belief system is defined by its ability to make new converts and retain their loyalty. It has little to do with the biological fitness of its human carriers, and it has nothing to do with the truth or falsehood of the beliefs. Dennett emphasizes the fact that his explanation of the evolution of religion is testable with the methods of science. It could be tested by quantitative measurements of the transmissibility and durability of various belief systems. These measurements would provide an objective scientific test, to find out whether the surviving religions are really fitter than those that became extinct.

Dennett puts forward other hypotheses concerning the evolution of religion. He observes that belief, which means accepting certain doctrines as true, is different from belief in belief, which means believing belief in the same doctrines to be desirable. He finds evidence that large numbers of people who identify themselves as religious believers do not in fact believe the doctrines of their religions but only believe in belief as a desirable goal. The phenomenon of "belief in belief" makes religion attractive to many people who would otherwise be hard to convert. To belong to a religion, you do not have to believe. You only have to want to believe, or perhaps you only have to pretend to believe. Belief is difficult, but belief in belief is easy. Belief in belief is one of the important phenomena that give a religion increased transmissibility and consequently increased fitness. Dennett puts forward this connection between belief in belief and fitness as a hypothesis to be tested, not as a scientifically established fact. He regrets that little of the relevant research has yet been done. The title *Breaking the Spell* expresses his hope that when the scientific analysis of religion has been completed, the power of religion to overawe human reason will be broken.

Dennett has an easy time poking fun at the modern evangelical mega-churches which pay more attention to the size of their congregations than to the quality of their religious life. The leaders of these churches are selling their versions of religion

in a competitive market, and those that have the best marketing skills prevail. The market favors practical convenience rather than serious commitment to a pure and holy life. Looking at religion from the outside, Dennett sees clearly how the leaders of religious organizations are corrupted by power and money. He quotes Alan Wolfe, one of the sociologists who study American religious organizations and practices:

Evangelicalism's popularity is due as much to its populist and democratic urges—its determination to find out exactly what believers want and to offer it to them—as it is to certainties of the faith.... The term "sanctuary" is shunned by one church because of its "strong religious connotations," and more attention is paid to providing plenty of free parking and babysitting than to the proper interpretation of passages of Scripture.

Like Hardy and Erdős, Dennett plays the game of breaking the spell by making religion look silly. Many of my scientist friends and colleagues have similar prejudices. One famous scientist for whom I have a deep respect said to me, "Religion is a childhood disease from which we have recovered." There is nothing wrong with such prejudices, provided that they are openly admitted. Dennett's account of the evolution of religion is on the whole fair and well balanced.

The third and last section of Dennett's book describes his view of religion in the modern world. In a long chapter entitled "Morality and Religion," he blames religion for many of the worst evils of our century. He blames not only the minority of murderous fanatics whose religion impels them to acts of terrorism, but also the majority of peaceful and moderate believers who do not publicly condemn the actions of the fanatics. This is a serious problem, whether one is dealing with Irish Catholic fanatics in Belfast or with Muslim fanatics in Britain and Spain. He quotes with approval the famous remark of the physicist Stephen Weinberg: "Good people will do good things, and bad people will do bad things. But for good people to do bad things—that takes religion." Weinberg's statement is true as far as it goes, but it is not the whole truth. To make it the whole truth, we must add an additional clause: "And for bad people to do good things—that takes religion." The main point of Christianity is that it is a religion for sinners. Jesus made that very clear. When the Pharisees asked his disciples, "Why eateth your Master with publicans and sinners?" he said, "I come to call not the righteous but sinners to repentance." Only a small fraction of sinners repent and do good things, but only a small fraction of good people are led by their religion to do bad things.

I see no way to draw up a balance sheet, to weigh the good done by religion against the evil and decide which is greater by some impartial process. My own prejudice, looking at religion from the inside, leads me to conclude that the good vastly outweighs the evil. In many places in the United States, with widening gaps between

rich and poor, churches and synagogues are almost the only institutions that bind people together into communities. In church or in synagogue, people from different walks of life work together in youth groups or adult education groups, making music or teaching children, collecting money for charitable causes, and taking care of each other when sickness or disaster strikes. Without religion, the life of the country would be greatly impoverished. I know nothing at first hand about Islam, but by all accounts the mosques in Islamic countries, and to some extent in America too, play a similar role in holding communities together and taking care of widows and orphans.

Dennett, looking at religion from the outside, comes to the opposite conclusion. He sees the extreme religious sects that are breeding grounds for gangs of young terrorists and murderers, with the mass of ordinary believers giving them moral support by failing to turn them in to the police. He sees religion as an attractive nuisance in the legal sense, meaning a structure that attracts children and young people and exposes them to dangerous ideas and criminal temptations, like an unfenced swimming pool or an unlocked gun room. My view of religion and Dennett's are equally true and equally prejudiced. I see religion as a precious and ancient part of our human heritage. Dennett sees it as a load of superfluous mental baggage which we should be glad to discard.

After Dennett's harsh depiction of the moral evils associated with religion, his last chapter, "Now What Do We Do?," is bland and conciliatory. "So, in the end," he says, "my central policy recommendation is that we gently, firmly educate the people of the world, so that they can make truly informed choices about their lives." This recommendation sounds harmless enough. Why can we not all agree with it? Unfortunately, it conceals fundamental disagreements. To give the recommendation a concrete meaning, the meaning of the little word "we" must be specified. Who are the "we" who are to educate the people of the world? At stake is the political control of religious education, the most contentious of all the issues that religion poses to modern societies. "We" might be the parents of the children to be educated, or a local school board, or a national ministry of education, or a legally established ecclesiastical authority, or an international group of philosophers sharing Dennett's views. Of all these possibilities, the last is the least likely to be implemented. Dennett's recommendation leaves the practical problems of regulating religious education unsolved. Until we can agree about the meaning of "we," the recommendation to "gently, firmly educate the people of the world" will only cause further dissension between religious believers and well-meaning philosophers.

2.

The control of education is the arena in which political fights between religious believers and civil authorities become most bitter. In the United States these fights are made peculiarly intractable by the legal doctrine of separation of church and

state, which forbids public schools to provide religious instruction. Parents with fundamentalist beliefs have a legitimate grievance, being compelled to pay for public schools which they see as destroying the religious faith of their children. This feeling of grievance was avoided in England through the wisdom of Thomas Huxley, a close friend of Charles Darwin and a leading proponent of Darwin's theory of evolution. When public education was instituted in England in 1870, eleven years after Darwin's theory was published, Thomas Huxley was appointed to the royal commission which decided what to teach in the public schools.

Huxley was himself an agnostic, but as a member of the commission he firmly insisted that religion should be taught in schools together with science. Every child should be taught the Christian Bible as an integral part of English culture. In recent times the scope of religious instruction in England has been extended to include Judaism and Islam. As a result of this policy, no strong antagonism between religious parents and public schools has arisen, from 1870 until the present day. The teaching of religion in public schools coincided with a decline of religious belief and a growth of religious tolerance. Children exposed to religion in public schools do not as a rule take it seriously. We do not know whether Thomas Huxley foresaw the decline of religion in England, but there is no doubt that he would have welcomed this unintended consequence of his educational policy.

It is unfortunate that Huxley's solution of the problem of religious education is not available to the United States. Every country is different, especially in matters concerning religion, and no single solution to the problem of religious education fits all. In each country, a workable solution has to be found by political compromise between conflicting views, within the rules imposed by the local culture. To be workable, a solution does not need to be scientifically or philosophically consistent. When I was a boy in England long ago, people who traveled on trains with dogs had to pay for a dog ticket. The question arose whether I needed to buy a dog ticket when I was traveling with a tortoise. The conductor on the train gave me the answer: "Cats is dogs and rabbits is dogs but tortoises is insects and travel free according." The rules governing religious education should be administered with a similar freedom of interpretation.

Dennett also advocates more intensive research on religion considered from a scientific point of view. Here again, we can all agree with the recommendation, but we may disagree about the meaning of "research." Dennett limits research to scientific investigations studying religious activities and organizations as social phenomena. In my opinion, such research, looking at religion from the outside, can be helpful but will never throw much light on the central mystery. The central mystery is the perennial sprouting of religious practices and beliefs in all human societies from ancient times until today. My mother, who was a skeptical Christian like me, used to say, "You can throw religion out of the door, but it will always come back through the window." I recently experienced a vivid demonstration of the truth of my mother's words. I went with my wife to visit the monastery of Sergiev Posad north of Moscow, the ancient headquarters of the Russian Orthodox Church.

The young guide who showed us around said almost nothing about the ancient buildings and works of art that we were supposed to be admiring. Instead she talked for an hour about her own faith and the mystical influences that she felt emanating from the old saints of the church in their tombs. After three generations of atheistic government and official suppression of religion, here it was sprouting again from its roots.

Let me state frankly my own philosophical prejudices in opposition to Dennett.

As human beings, we are groping for knowledge and understanding of the strange universe into which we are born. We have many ways of understanding, of which science is only one. Our thought processes are only partially based on logic, and are inextricably mixed with emotions and desires and social interactions. We cannot live as isolated intelligences, but only as members of a working community. Our ways of understanding have been collective, beginning with the stories that we told each other around the fire when we lived in caves. Our ways today are still collective, including literature, history, art, music, religion, and science. Science is a particular bunch of tools that have been conspicuously successful for understanding and manipulating the material universe. Religion is another bunch of tools, giving us hints of a mental or spiritual universe that transcends the material universe. To understand religion, it is necessary to explore it from the inside, as William James explored it in *The Varieties of Religious Experience*. The testimony of saints and mystics, including the young lady at Sergiev Posad, is the raw material out of which a deeper understanding of religion may grow.

The sacred writings, the Bhagavad Gita and the Koran and the Bible, tell us more about the essence of religion than any scientific study of religious organizations. The research that Dennett advocates, using only the scientific tool kit that was designed for a different purpose, will always miss the goal. We can all agree that religion is a natural phenomenon, but nature may include many more things than we can grasp with the methods of science.

The best source of information about modern Islamic terrorists that I know of is a book, *Understanding Terror Networks*, by Marc Sageman.^[1] Sageman is a former United States foreign service officer who worked with the Mujahideen in Afghanistan and Pakistan. In chapter 5 of his book, he describes in detail the network that planned and carried out the September 2001 attacks on the United States. He finds that the bonds holding the group together, during its formative years in Hamburg, were more personal than political. He concludes: "Despite the popular accounts of the 9/11 perpetrators in the press, in-group love rather than out-group hate seems a better explanation for their behavior."

To end this review, I would like to introduce another recently published book, *Kamikaze Diaries: Reflections of Japanese Student Soldiers*, by Emiko Ohnuki-

Tierney.^[2] This contains extensive extracts from diaries written by seven of the young men who died in suicidal missions or as kamikaze pilots in the closing months of World War II. The diaries give us firsthand testimony of the thoughts and feelings of these young soldiers who knew that they were fated to die. Their thoughts and feelings are astonishingly lucid and free from illusions. Some of them expressed their feelings in poetry. All of them were highly educated and familiar with Western literature in several languages, having spent most of their brief lives in reading and writing. Only one of them, Hayashi Ichizo, was religious, having grown up in a Japanese Christian family. His Christian faith did not make self-sacrifice easier for him than for the others. He had read Kierkegaard's *Sickness unto Death* and carried it with him on his final mission together with his Bible.

All of the young men, including Hayashi, had a profoundly tragic view of life, mitigated only by happy memories of childhood with family and friends. They were as far as it was possible to be from the brainwashed zombies that contemporary Americans imagined to be piloting the kamikaze planes. They were thoughtful and sensitive young men, neither religious nor nationalistic fanatics.

Here I have space to mention only one of them, Nakao Takanori, who must speak for the rest. Nakao left a poem beginning, "How lonely is the sound of the clock in the darkness of the night." In his last letter to his parents, a week before his death, he wrote,

At the farewell party, people gave me encouragement. I did my best to encourage myself. My co-pilot is Uno Shigeru, a handsome boy, aged nineteen, a naval petty officer second class. His home is in Hyogo Prefecture. He thinks of me as his elder brother, and I think of him as my younger brother. Working as one heart, we will plunge into an enemy vessel. Although I did not do much in my life, I am content that I fulfilled my wish to live a pure life, leaving nothing ugly behind me.

We have no firsthand testimony from the young men who carried out the September 11 attacks. They were not as highly educated and as thoughtful as the kamikaze pilots, and they were more influenced by religion. But there is strong evidence that they were not brainwashed zombies. They were soldiers enlisted in a secret brotherhood that gave meaning and purpose to their lives, working together in a brilliantly executed operation against the strongest power in the world. According to Sageman, they were motivated like the kamikaze pilots, more by loyalty to their comrades than by hatred of the enemy. Once the operation had been conceived and ordered, it would have been unthinkable and shameful not to carry it out.

Even after recognizing the great differences between the circumstances of 1945 and 2001, I believe that the kamikaze diaries give us our best insight into the state of mind of the young men who caused us such grievous harm in 2001. If we wish to understand the phenomenon of terrorism in the modern world, and if we wish to take effective measures to lessen its attraction to idealistic young people, the first and

most necessary step is to understand our enemies. We must give respect to our enemies, as courageous and capable soldiers enlisted in an evil cause, before we can understand them. The kamikaze diaries give us a basis on which to build both respect and understanding.

Notes

^[1] University of Pennsylvania Press, 2004; reviewed in these pages by William Dalrymple, December 1, 2005.

^[2] University of Chicago Press, 2006.

Letters

November 2, 2006: Stephen P. Schwartz, [RESPECT FOR OUR ENEMIES](#)

August 10, 2006: Daniel C. Dennett, ['BREAKING THE SPELL'](#)

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The New York Review of Books

VOLUME 53, NUMBER 17 · NOVEMBER 2, 2006

Letter

RESPECT FOR OUR ENEMIES

By [Stephen P. Schwartz](#), Reply by [Freeman Dyson](#)

In response to [Religion from the Outside](#)  (JUNE 22, 2006)

To the Editors:

I strongly disagree with the comparison of the Japanese kamikazes with the terrorists that attacked the World Trade Center that Professor Dyson made in his review of Daniel Dennett's *Breaking the Spell: Religion as a Natural Phenomenon* [NYR, June 22]. The kamikazes were in a declared war and were attacking strictly military targets that were a direct threat to their nation. The 9/11 terrorists that attacked New York were bent on and succeeded in killing innocent civilians who made no threat against them, their families, or their nation. The difference between attacking military targets in a war and attacking and killing thousands of innocent civilians who mean you no harm is a huge and unbridgeable gulf. The kamikazes may have been brave and intelligent soldiers fighting in an evil and lost cause. The terrorists that attacked the Twin Towers were nothing more than vicious murderers, no better than serial killers. That Professor Dyson should state that we should respect the terrorists as enemy soldiers is frightening and disheartening. Any attempt to dignify the terrorists is despicable. Professor Dyson's suggestion that there is an analogy between the terrorists and the kamikazes is misleading, insulting, foolish, and dangerous. He owes us a retraction and apology.

Stephen P. Schwartz
Professor of Philosophy and Religion (ret.)
Ithaca College
Ithaca, New York

Freeman Dyson replies:

Yes, I wrote that we should respect our enemies as human beings in order to understand them. I do not retract or apologize for this statement. I would like only to add a more general statement, that our lack of respect for our enemies has made it harder for us to deal with them effectively.

The New York Review of Books

VOLUME 53, NUMBER 13 · AUGUST 10, 2006

Letter

'BREAKING THE SPELL'

By [Daniel C. Dennett](#), [Nicholas Humphrey](#), Reply by [Freeman Dyson](#)

In response to [Religion from the Outside](#)  (JUNE 22, 2006)

To the Editors:

Freeman Dyson imposes a curious meaning on the word "prejudice" in his review of my book *Breaking the Spell* [NYR, June 22]. He has his own prejudice "from the inside" in favor of religion, he says, while I have my prejudice "from the outside" leading to "the opposite conclusion."

My view of religion and Dennett's are equally true and equally prejudiced. I see religion as a precious and ancient part of our human heritage. Dennett sees it as a load of superfluous mental baggage which we should be glad to discard.

Readers of my book will find no passages that say, or imply, that verdict, and some that clearly deny it. For instance:

Religion can certainly bring out the best in a person...for day-in, day-out lifelong brace there is probably nothing so effective as religion: it makes powerful and talented people more humble and patient, it makes average people rise above themselves, it provides sturdy support for many people who desperately need help staying away from drink or drugs or crime. People who would otherwise be self-absorbed or shallow or crude or simply quitters are often ennobled by their religion, given a perspective on life that helps them make the hard decisions that we all would be proud to make. [p. 55]

There is much for religion lovers to be proud of in their traditions, and much for all of us to be grateful for. [p. 253]

I am critical of many aspects of religion, and who in his right mind isn't? But my plea for an objective approach to religions—in which we reverse engineer their many design features to see how and why they work—is directed as much to those who would strengthen, reform, and preserve their religions as to those who would hasten their extinction. I declare myself still agnostic about these alternatives, since I don't yet know enough—and nobody else does either. That's why I wrote the book.

Religions are among the most powerful natural phenomena on the planet, and we need to understand them better if we are to make informed and just political decisions. Although there are risks and discomforts involved, we should brace ourselves and set aside our traditional reluctance to investigate religious phenomena scientifically, so that we can come to understand how and why religions inspire such devotion, and figure out how we should deal with them all in the twenty-first century. [p. 28]

But Dyson won't take me at my word. Is there no possibility of a nonprejudiced approach to religion? In Dyson's world view, religion can have only friends and enemies, no interested but uncommitted bystanders. This mindset seems to have prevented him from seeing that my book strenuously attempts to avoid both biases—and I think it succeeds—in the only way we have ever found to explore any complicated and controversial phenomenon objectively: by adhering to the methods and working assumptions of science, expanded to encompass the work of historians and other investigators in the humanities—not excluding theologians, but not granting them the deference and immunity from rational criticism to which they are accustomed. That is the spell that I definitely want to break, not the spell of religion itself. Contrary to what Dyson says, I not only don't dismiss the work of nonscientific explorers of religion as nonscientific; I go to elaborate—some would say tedious—lengths to show how to incorporate it into a unified and ideology-free (and mutually respectful) investigation. How could such a brilliant thinker as Dyson misunderstand this? I suspect it is because he, like some other religious readers, are so accustomed to the hyper-respect their "faith" is normally vouchsafed that when somebody treats it with deliberate matter-of-fact curiosity, they take offense, and cease to think and read carefully.

Why, then, didn't I write more diplomatically, the way other authors have done? Because that traditional reverence is a large part of the problem: the risk of hurting somebody's feelings encourages critics to let apologists get away with inexcusable lapses in both rationality and evenhandedness. Why shouldn't we treat religions with the same respect—no more, no less—that we accord to, say, the pharmaceutical industry, or the world of music, or banking? If religions deserve more respect than that, let those who think so demonstrate it on a level playing field. That is all that I ask, but it is too much for Dyson, who confesses that he sees no way to "draw up a balance sheet" and hence must stick to his "prejudice" and declare in favor of religion. I think we can do better.

Dyson also misunderstands my proposal for a nationwide curriculum on the established facts about the world's religions. He praises the British system of religious education—which was in fact the inspiration for my proposal—but laments that it would not be possible in the United States. Why not? He seems to think that the Constitution would forbid teaching about religions in the schools, but that is simply false. Aside from that, he offers only rhetorical questions, variations on the refrain: "But who would fix the curriculum?" That is a soluble political problem. We

already have achieved a modicum of agreement on the requirements of the three R's (and American history), so there is plenty of precedent to lean on in determining the topics to be covered in a fourth R. Why do I think investing in such a compulsory educational program would be worth the cost (especially since it would necessarily squeeze something else out of the packed curriculum)? Because all the religious organizations that are widely acknowledged to be toxic—dangerous either to their participants or to innocent outsiders—depend on the enforced ignorance of the young people being raised therein.

My proposed political bargain is strikingly uncomplicated and maximally tolerant: teach your children (at school or at home) this national curriculum and then you can teach them anything else you want. (You can even teach them that the obligatory curriculum is a load of rubbish—but they will be tested on it!) I submit that any religion that can thrive under this requirement deserves to thrive, and any that can't deserves extinction. Creating a generation of young people that have a matter-of-fact knowledge of the different histories, creeds, practices, obligations, and prohibitions of the world's religions won't solve all the problems, but it is a first step toward inoculating them against the diverse attractions of fanaticism.

Daniel Dennett
Tufts University
Medford, Massachusetts

To the Editors:

Freeman Dyson recommends that we should try to understand other people from the inside. But it does seem to be carrying this process of identification a bit far for Dyson to attribute to his own childhood experience the encounter with a train conductor concerning the status of a tortoise:

When I was a boy in England long ago, people who traveled on trains with dogs had to pay for a dog ticket. The question arose whether I needed to buy a dog ticket when I was traveling with a tortoise. The conductor on the train gave me the answer: "Cats is dogs and rabbits is dogs but tortoises is insects and travel free according."

The very same encounter appeared as a cartoon in *Punch* in 1869 [see illustration at left]. The caption of the cartoon reads:

Railway Porter (to Old Lady travelling with a Menagerie of Pets).
"STATION MASTER SAY, MUM, AS CATS IS 'DOGS,' AND RABBITS IS 'DOGS,' AND SO'S PARROTS; BUT THIS 'ERE 'TORTIS' IS A INSECT, SO THERE AIN'T NO CHARGE FOR IT!" [*Punch*, 1869, Vol. 57, p. 96]

Nicholas Humphrey

Cambridge, UK

Freeman Dyson replies:

Thanks to Daniel Dennett for his letter, which makes a statement that is clearer and more friendly to religion than the message that I extracted from his book. I apologize to him if I misunderstood his message. The book is full of digressions and contains opinions on both sides of many questions. My job as reviewer was to summarize the overall impressions that I derived from reading it. My impressions were based on the book and not on particular paragraphs.

Thanks to Nicholas Humphrey and Michael Jackson for letters informing me of the 1869 *Punch* cartoon about tortoises and dogs on trains. My memory of traveling with a tortoise has two possible explanations. The first and more probable is that I heard of the conversation recorded in the *Punch* cartoon and transformed it over the years into a memory. This would not be the first time that I remembered something that never happened. Memories of childhood recollected in old age are notoriously unreliable. The second possible explanation is that the memory is accurate. In that case the conductor on the train knew the cartoon and said what he was supposed to say according to the script.

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