

PLAYBOY INTERVIEW: RICHARD DAWKINS

A candid conversation with the controversial atheist about the simple beauty of evolution, the improbability of God and why the pope should be arrested

Richard Dawkins, the patron saint of non-believers, caused a stir earlier this year during a debate with the Archbishop of Canterbury, who noted that his opponent is often described as the world's most famous atheist. "Not by me," Dawkins replied before providing his standard explanation—a supreme being is possible but highly improbable—which led a London newspaper to proclaim that the world's most notorious skeptic was hedging his bets. Far from it. Dawkins, at 71, remains an unbending and sharp-tongued critic of religious dogmatism. Like any scientist who challenges the Bible and its lyrical version of creation, he spends a great deal of time defending Charles Darwin's theory that all life, including humans, evolved over eons through natural selection, rather than being molded 10,000 years ago by an intelligent but unseen hand.

Dawkins, who retired from Oxford University in 2008 after 13 years as a professor of public understanding of science (meaning he lectured and wrote books), stepped into the limelight in 1976, at the age of 35, with the publication of *The Selfish Gene*. The book, which has sold more than a million copies, argues persuasively that evolution takes place at the genetic level; individuals die, but the fittest genes survive. Dawkins has since written 10 more best-sellers, including most recently *The Magic of Reality*:

How We Know What's Really True. Since 9/11 he has become more outspoken about his skepticism, culminating in *The God Delusion*, which provides the foundation for his continuing debates with believers. Published in 2006, the book has become Dawkins's most popular, available in 31 languages with 2 million copies sold. That same year he founded the Richard Dawkins Foundation for Reason and Science "to support scientific education, critical thinking and evidence-based understanding of the natural world in the quest to overcome religious fundamentalism, superstition, intolerance and suffering." His books have made Dawkins a popular speaker and champion of critical thinking. In March he spoke to 20,000 people at the Reason Rally on the National Mall in Washington, D.C.; a week later he was at Fort Bragg in North Carolina, offering encouragement to the first gathering of atheistic and agnostic soldiers ever allowed on a U.S. military base.

Dawkins lives in Oxford with his third wife, Lalla Ward, best known for her role as Romana on *Doctor Who*. But he is rarely home for long, and Contributing Editor **Chip Rowe** had to travel to three cities to complete their conversation. He reports: "Dawkins is a careful speaker with little patience for foolishness (which is everywhere, especially among the faithful and the occasional journalist), but

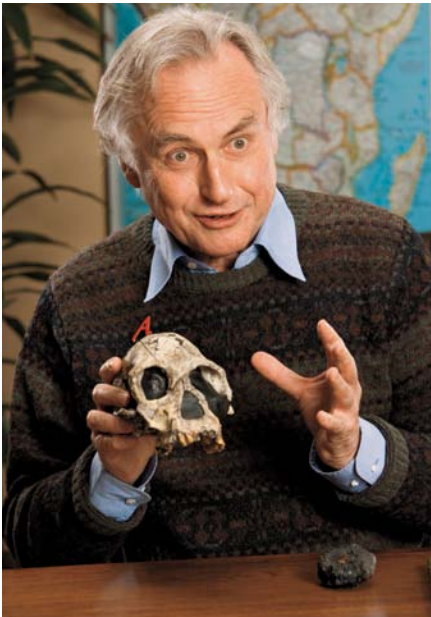
he straightens and his eyes dance when he is asked to explain an evolutionary principle. We met for the first time in Las Vegas at a convention for skeptics. We talked again when he visited New York to lecture at Cooper Union and in Washington, where he spoke at Howard University, checked in with the director of his foundation, thanked its volunteers and visited the impressive human origins exhibit at the Smithsonian's National Museum of Natural History. During a tour with the exhibit's curator, Dawkins looked pained anytime he was compelled to chat, glancing furtively at the fossilized eye candy in every direction, including a wall of progressively modern skulls. At one point two young women approached. 'This is Richard Dawkins!' one told the other, wide-eyed. I suppose it's like bumping into Bono at the Rock and Roll Hall of Fame."

PLAYBOY: What is the A pin you're wearing?

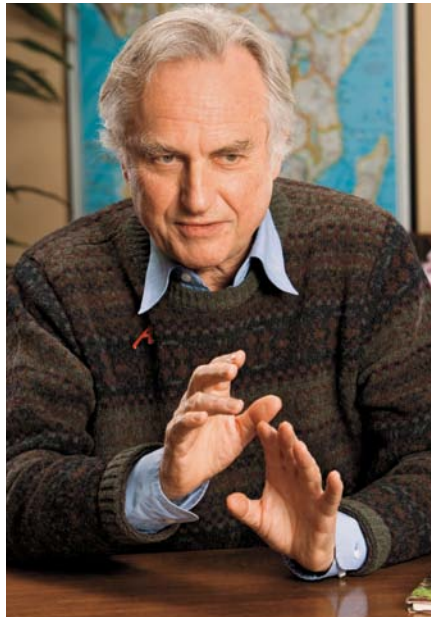
DAWKINS: It stands for "atheist."

PLAYBOY: Like a scarlet letter?

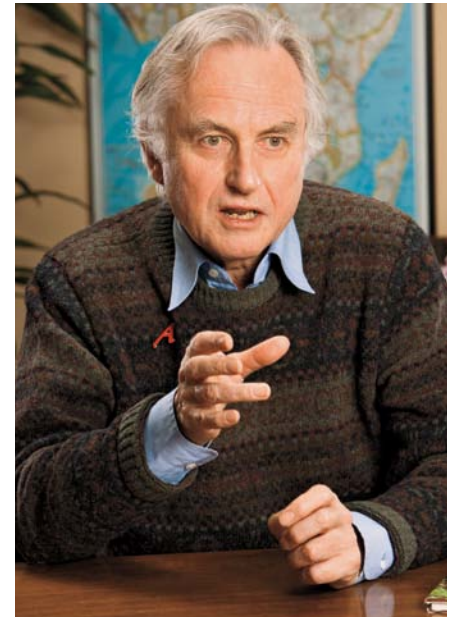
DAWKINS: It's not meant to reflect that. It's part of my foundation's Out Campaign. It means stand out and reach out, as well as come out for the beliefs you hold, and give the reasons. It's a bit analogous to gay people coming out.



"We are apes. We descend from extinct animals that would have been classified as apes. We are a unique ape. We have language. Other animals have systems of communication that fall far short of that."



"Hitler wasn't an atheist; he was a Roman Catholic. But I don't care what he was. There is no logical connection between atheism and doing bad things, nor good things for that matter. I'd rather be good for moral reasons."



"If you count up the number of Jews, certainly observant Jews, it's much smaller than the number of nonbelievers. Yet Jews have tremendous influence. I'm not criticizing that—bully for them. But we could do the same."

PHOTOGRAPHY BY MIZUNO

PLAYBOY: Although atheists can marry one another.

DAWKINS: True.

PLAYBOY: Is there a better word for a non-believer than *atheist*? Darwin preferred *agnostic*. Some have suggested *humanist*, *naturalist*, *nonthest*.

DAWKINS: Darwin chose *agnostic* for tactical reasons. He said the common man was not ready for atheism. There's a lovely story the comedian Julia Sweeney tells about her own journey from devout Catholicism to atheism. After she'd finally decided she was an atheist, something appeared about it in the newspaper. Her mother phoned her in hysterics and said something like "I don't mind you not believing in God, but an *atheist*?" [laughs] The word *bright* was suggested by a California couple. I think it's rather a good word, though most of my atheist friends think it suggests religious people are dims. I say, "What's wrong with that?" [laughs]

PLAYBOY: You've described yourself as a "tooth fairy" agnostic. What is that?

DAWKINS: Rather than say he's an atheist, a friend of mine says, "I'm a tooth fairy agnostic," meaning he can't disprove God but thinks God is about as likely as the tooth fairy.

PLAYBOY: So you don't completely rule out the idea of a supreme being. Critics see that as leaving an opening.

DAWKINS: You can think so, if you think there's an opening for the tooth fairy.

PLAYBOY: It sounds like the argument made by Bertrand Russell, who said that while he could claim a teapot orbited the sun between Earth and Mars, he couldn't expect anyone to believe him just because they couldn't prove him wrong.

DAWKINS: It's the same idea. It's a little unfair to say it's like the tooth fairy. I think a particular god like Zeus or Jehovah is as unlikely as the tooth fairy, but the idea of some kind of creative intelligence is not quite so ridiculous.

PLAYBOY: So you aren't taking Pascal up on his wager. He was the 17th century philosopher who argued it's a smarter bet to believe in God, because if you're wrong—

DAWKINS: The cost of failure is very high. But what if you choose the wrong god to believe in? What if you get up there and it's not Jehovah but Baal? [laughs] And even if you pick the right god, why should God be so obsessive about you believing in him? Plus, any god worth its salt is going to realize you're feigning. The odds are extremely low, but nevertheless it's worth it because the reward is extremely high. But you may also be wasting your life. You go to church every Sunday, you do penance, you wear sackcloth and ashes. You have a horrible life, and then you die and that's it.

PLAYBOY: Assume there is a god and you were given the chance to ask him one question. What would it be?

DAWKINS: I'd ask, "Sir, why did you go to such lengths to hide yourself?"

PLAYBOY: Do you have any deeply religious friends?

DAWKINS: No. It's not that I shun them; it's that the circles I move in tend to be educated, intelligent circles, and there aren't any religious people among them that I know of. I'm friendly with some bishops and vicars who kind of believe in something and enjoy the music and the stained glass.

PLAYBOY: Albert Einstein and Stephen Hawking reference God in their writings. Are they using the word in the sense of an intelligent designer?

DAWKINS: Certainly not. They use *god* in a poetic, metaphorical sense. Einstein in particular loved using the word to convey an idea of mystery, which I think all decent scientists do. But nowadays we've learned better than to use the word *god* because it will be willfully misunderstood, as Einstein was. And poor Einstein got quite cross about it. "I do not believe in a personal god," he said over and over again. In a way he was asking for it. Hawking uses it in a similar way in *A Brief History of Time*. In his famous last line he says that

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if we understood the universe, "then we would know the mind of God." Once again he is using *god* in the Einsteinian, not the religious sense. And so Hawking's *The Grand Design*, in which he says the universe could have come from nothing, is not him turning away from God; his beliefs are exactly the same.

PLAYBOY: You've had a lot of fun deconstructing the idea of the intelligent designer. You point out that God made a cheetah fast enough to catch a gazelle and a gazelle fast enough to outrun a cheetah—

DAWKINS: Yes. Is God a sadist?

PLAYBOY: And bad design such as the fact we breathe and eat through the same tube, making it easy to choke to death.

DAWKINS: Or the laryngeal nerve, which loops around an artery in the chest and then goes back up to the larynx.

PLAYBOY: Not very efficient.

DAWKINS: Not in a giraffe, anyway.

PLAYBOY: You argue Christians worship a "created God." Some Christians respond that their God isn't created; he's eternal.

DAWKINS: You could say the same of the universe. You could say elephants support

the world on their backs. There have always been elephants. I declare it by fiat.

PLAYBOY: The attacks of 9/11 seemed to make you more militant about your atheism, as if you had finally lost patience.

DAWKINS: There was a certain amount of that. A lot of people in the world felt a desire to stand up and be counted. Any suggestion of anti-Americanism in my mind vanished. *Ich bin ein Amerikaner*. Then George W. Bush destroyed that. But it was also an anti-Islamic and an antireligious moment for me because I was nauseated by the way the response to "Allahu Akbar" was "God is with us," or whatever the Christians said—the sound of Christian leaders in America uniting in support of the force that led to the crisis in the first place.

PLAYBOY: You blame 9/11 on belief in the afterlife.

DAWKINS: Yes. Normally when an aircraft is hijacked, there's an assumption that the hijackers want to go on living. It changes the game if the hijackers look forward to death because it will get them into the best part of paradise.

PLAYBOY: You mean the part with the 72 virgins the Koran says await martyrs.

DAWKINS: Right. Young men who are too unattractive to get a woman in the real world go for the ones in paradise. But my point is these people *really* believe what they say they believe, whereas most Christians don't. If you talk to dying Christians, they aren't looking forward to it.

PLAYBOY: What will happen when you die?

DAWKINS: Well, I shall either be buried or be cremated.

PLAYBOY: Funny. But without faith in an afterlife, in what do you take comfort in times of despair?

DAWKINS: Human love and companionship. But in more thoughtful, cerebral moments, I take—*comfort* is not quite the right word, but I draw strength from reflecting on what a privilege it is to be alive and what a privilege it is to have a brain that's capable in its limited way of understanding why I exist and of reveling in the beauty of the world and the beauty of the products of evolution. The magnificence of the universe and the sense of smallness that gives us in space and in geologically deep time is humbling but in a strangely comforting way. It's nice to feel you're part of a hugely bigger picture.

PLAYBOY: Are you concerned that your opponents might fake a deathbed conversion, as creationists have tried to do with Darwin?

DAWKINS: What's slightly more worrying is the Antony Flew effect. Flew was an atheistic British philosopher who had an old-age conversion. It seems he went gaga. You can't guard against that.

PLAYBOY: So if it happens we should assume you've lost it.

DAWKINS: Yes. After my friend Christopher Hitchens was diagnosed with cancer, he was asked if he might have a conversion. He said that if he did, it wouldn't

be the real him. What's rather wicked is when religious apologists exploit that, as they did in the case of Flew, who in his old age was persuaded to put his name to a book saying that he'd been converted to a form of deism. Not only did he not write the book, he didn't even read it. [laughs]

PLAYBOY: Your call for militant atheism is one reason you were featured as a character on an episode of *South Park*. The show's creators, Trey Parker and Matt Stone, had been accused of being atheists, so they thought of the most militant atheist they could skewer.

DAWKINS: It's the only *South Park* episode I've seen. There was an attempt at something approaching satire in the idea of an imagined future in which different sects of atheists are fighting each other. But most of that episode was ridiculous in the sense that what they had the cartoon figure of me doing, like bugging the bald transvestite—

PLAYBOY: Transsexual, actually.

DAWKINS: Transsexual, okay. That isn't satire because it has nothing to do with what I stand for. And the scatological part, where they had somebody throwing shit, which stuck to my forehead—that's not even funny. I don't understand why they couldn't go straight to the atheists fighting each other, which has a certain amount of truth in it. It reminded me of the bit from *Monty Python's Life of Brian* with the Judean People's Front and the People's Front of Judea.

PLAYBOY: President Obama acknowledged "nonbelievers" in his inaugural address, which caused a fuss. But when you consider religious belief, one of the largest groups in the U.S. is atheists and agnostics. Why do they get overlooked in political discussions?

DAWKINS: It's a good point. Of course, it depends how you slice it. Christians are by far the largest group. If you divide Christians into denominations, agnostics and atheists come in third, behind Catholics and Baptists. That's interesting when you contrast it with the lack of influence of nonbelievers. And if you count up the number of Jews, certainly observant Jews, it's much smaller than the number of nonbelievers. Yet Jews have tremendous influence. I'm not criticizing that—bully for them. But we could do the same.

PLAYBOY: You're not hopeful about peace between Israel and the Palestinians.

DAWKINS: There's not much hope to the extent that the most influential protagonists both base their hostility on 2,000-year-old books that they believe give them title to the land.

PLAYBOY: What is your view of Jesus?

DAWKINS: The evidence he existed is surprisingly shaky. The earliest books in the New Testament to be written were the Epistles, not the Gospels. It's almost as though Saint Paul and others who wrote the Epistles weren't that interested in whether Jesus was real. Even if he's fictional, whoever wrote his lines was ahead

of his time in terms of moral philosophy.

PLAYBOY: You've read the Bible.

DAWKINS: I haven't read it all, but my knowledge of the Bible is a lot better than most fundamentalist Christians'.

PLAYBOY: Do you have a favorite verse?

DAWKINS: My favorite book is Ecclesiastes. It's wonderful poetry in 17th century English, and I'm told it's very good in the Hebrew. "Vanity of vanities, saith the Preacher, vanity of vanities; all is vanity." The Song of Songs is terrific, and it's more bawdy in the Hebrew, almost a drinking song.

PLAYBOY: You've made the point that if Jesus existed and went to his death as described in the Bible, it was, as you put it, "barking mad."

DAWKINS: There's no evidence Jesus himself was barking mad, but the doctrine invented later by Paul that Jesus died for our sins surely is. It's a truly disgusting idea that the creator of the universe—capable of inventing the laws of physics and designing the evolutionary process—that this protégé of supernatural intellect couldn't think of a better way to forgive our sins than to have himself tortured to

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death. And what a terrible lesson to say we're born in sin because of the original sin of Adam, a man even the Catholic Church now says never existed.

PLAYBOY: We hear constantly that America is a Christian nation and that the founding fathers were all Christians.

DAWKINS: They were deists. They didn't believe in a personal god, or one who interferes in human affairs. And they were adamant that they did not want to found the United States as a Christian nation.

PLAYBOY: But you hear quite often that if you let atheists run things you end up with Hitler and Stalin.

DAWKINS: Hitler wasn't an atheist; he was a Roman Catholic. But I don't care what he was. There is no logical connection between atheism and doing bad things, nor good things for that matter. It's a philosophical belief about the absence of a creative intelligence in the world. Anybody who thinks you need religion in order to be good is being good for the wrong reason. I'd rather be good for moral reasons. Morals were here before religion, and morals change rather rapidly in spite of

religion. Even people who rely on the Bible use nonbiblical criteria. If your criteria are scriptural, you have no basis for choosing the verse that says turn the other cheek rather than the verse that says stone people to death. So you pick and choose without guidance from the Bible.

PLAYBOY: You've said that science is losing the war with religion.

DAWKINS: Did I say we were losing? I was just having an off day.

PLAYBOY: You are surprised science is still being challenged.

DAWKINS: I am surprised, but I'm not sure it's a losing battle. If you take the long view of centuries, there's an upward trend. Religious people like to point out that Isaac Newton was religious. Well, of course he was—he lived before Darwin. It would have been difficult to be an atheist before Darwin.

PLAYBOY: You might have been the guy who didn't believe in Zeus.

DAWKINS: I would have been skeptical of the details of Zeus hurling thunderbolts, but I probably would have believed in some supernatural being. When you look around at the living world and see the complexity of a cell and the elegance of a tree—"I think that I shall never see/A poem lovely as a tree./Poems are made by fools like me,/But only God can make a tree"—I would have been moved by that. Darwin changed all that. He provided a simple, explicable, workable story about how you can get the complexity not just of a tree but of a human by physics working through the rather special process of evolution by natural selection. If only Newton had been alive to be told about that.

PLAYBOY: The evolutionary biologist Stephen Jay Gould viewed science and religion as—

DAWKINS: Non-overlapping magisteria, or NOMA.

PLAYBOY: Completely separate.

DAWKINS: That's pure politics. Gould was trying to win battles in the creation-evolution debate by saying to religious people, "You don't have to worry. Evolution is religion-friendly." And the only way he could think to do that was to say they occupy separate domains. But he overgenerously handed the domains of morals and fundamental questions to religion, which is the last thing you should do. Science cannot at present—maybe never—answer the deep questions about existence and the origins of the fundamental laws of nature. But what on earth makes you think religion can? If science can't provide an answer, nothing can.

PLAYBOY: Some scientists say that you should stop talking about atheism because it muddies the waters in the debate over evolution.

DAWKINS: If what you're trying to do is win the tactical battle in U.S. schools, you're better off lying and saying evolution is religion-friendly. I don't wish to

condemn people who lie for tactical reasons, but I don't want to do that. For me, this is only a skirmish in the larger war against irrationality.

PLAYBOY: You've said that if science and religion are truly NOMA, Christians must give up their belief in miracles.

DAWKINS: Absolutely. Miracles are a naked encroachment on science's turf. If you ask people in the pew or on the prayer mat why they believe in God, it will always involve miracles, including the miracle of creation. If you don't allow religion to have that, you've removed the reason just about everybody who is religious is religious.

PLAYBOY: Do you get discouraged by the continuing attacks on reason?

DAWKINS: No. I go on the internet quite a lot and read what young people are saying. I see a great upsurge of good sense, rationality, irreverence. America is split into halves. There's the Sarah Palin know-nothing idiots on the one hand, and then there's a huge number of intellectual, intelligent, educated people on the other. I find it hard to believe that the Stone Age types are going to win in the end. An awful lot of people who call themselves religious simply don't know there's any alternative. If you probe what they believe, it turns out to be pretty much the same—we all have a sense of wonder and reverence at the majesty of the universe.

PLAYBOY: You're of the mind that religious belief probably evolved as an "accidental by-product."

DAWKINS: Whenever something is widespread in a species, you have to reckon it has some sort of survival value. There's probably no survival value in religion itself—though there might be—but value in lots of rather separate psychological predispositions such as obedience to authority. That has strong survival value for children. Because they're helpless and don't know their way around the world, they rely on parental wisdom. But they don't have the means of distinguishing wisdom that is wise for survival from wisdom that is nonsense.

PLAYBOY: Your parents raised you in the Anglican church.

DAWKINS: I wouldn't wish to malign my parents by suggesting they fed me religion. I was sent to some of the best schools, and as most such schools in England were at the time, they were Anglican schools. So I got daily prayers and Bible readings. I was confirmed at 13.

PLAYBOY: When did you first read Darwin's *On the Origin of Species*?

DAWKINS: Two years later.

PLAYBOY: And it blew your mind.

DAWKINS: Yes. That such a simple idea could explain the complexities of a peacock's tail, a bounding antelope, a sprinting cheetah, a flying swift, a thinking human. These are immensely complicated machines, and yet we

understand why they're here.

PLAYBOY: Your parents were naturalists who you've said could identify every plant in Britain.

DAWKINS: My father read botany at Oxford. I read zoology there. I wasn't a naturalist in the way he was, but I loved going around the jungle with somebody who knew about it.

PLAYBOY: Is there any particular way he influenced you?

DAWKINS: Curiosity, scientific curiosity.

PLAYBOY: How about your mother?

DAWKINS: She didn't do a degree in science, but she had a very good knowledge of plants as well. I guess that's one of the things they did together. She educated me as a child, and I learned a great deal from her.

PLAYBOY: You were born in Nairobi. Why were your parents there?

DAWKINS: Because of his botanical background, my father joined the agricultural department of the Colonial Civil Service and was sent to East Africa, to what was then Nyasaland and is now Malawi. Then he was called up to join the King's African Rifles, which

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was the British regiment headquartered in Nairobi. So he went up north to Kenya and my mother followed. She had a certain amount of trouble. Since she wasn't in Kenya legally, it was quite difficult getting out. [laughs]

PLAYBOY: What do you remember about that time?

DAWKINS: I remember a lot about Nyasaland. I remember the smells and sights and colors. It was a privileged existence, with servants. It was like setting the clock back 100 years; it was a strange paternalistic society we lived in.

PLAYBOY: When you were eight you moved with your parents to England.

DAWKINS: My father was left the Dawkins estate, which had been in the family since 1723, by a very distant cousin—so distant we'd never heard of him. This cousin wanted the farm to stay with a Dawkins, but everyone had daughters. It was a brilliant choice because my father was qualified in agriculture, albeit tropical, and had the right kind of enterprising mind to turn what had been a country gentleman's estate into a working farm.

PLAYBOY: What did he grow?

DAWKINS: We had Jersey cows, which as you know make a lot of cream. He supplied all the local hotels and the Oxford colleges with cream. And pigs. The acreage isn't that great. An eccentric Dawkins of the 19th century sold off most of the land to pay for lawsuits, so most of the family wealth disappeared.

PLAYBOY: Decades after moving to England, you wrote your first book during a blackout.

DAWKINS: In 1972 there was major industrial unrest in Britain, and for whole days there would be no power. I couldn't do my research, so I started writing *The Selfish Gene*.

PLAYBOY: You're a great fan of science fiction. What do you like about it?

DAWKINS: I prefer science fiction that takes some aspect of science and modifies it. There's a lovely novel by Daniel Galouye called *Dark Universe*, about a group of people who live in total darkness and know nothing about light. And so light has become a mythology. They use phrases like "Great Light Almighty" and have ceremonies when they feel a sacred lightbulb. Galouye changed one thing—he removed light—and looked at all the consequences.

PLAYBOY: As opposed to creating a fairyland.

DAWKINS: Princesses riding unicorns isn't science fiction.

PLAYBOY: The Playboy Advisor received this question from a reader: "I feel uncomfortable when a person I just met asks me whether I go to church, because I don't. Is there an etiquette to answering?"

DAWKINS: I would reply, "No, I do not go to church. Do you, and if so, why?"

PLAYBOY: That's what you advised your daughter in a letter you wrote her when she was 10.

DAWKINS: What I did, and what I would tell other parents to do, is encourage her to think for herself. As an illustration, for Santa I said, "Well, let's work out how many chimneys there are." I mean, it would be a fun game where we calculate that he would have to be traveling faster than the speed of light.

PLAYBOY: What if the child bursts into tears?

DAWKINS: Oh, that would be a shame.

PLAYBOY: Did having a child change your outlook in any way?

DAWKINS: I don't think so, though I'm interested in the evolutionary origins of subjective feelings. I became palpably more nervous about things like heights.

PLAYBOY: You saw danger everywhere.

DAWKINS: That's right.

PLAYBOY: You advised her that anytime someone presented her with a claim, she should ask, "What is the evidence?" Was she popular with her teachers?

DAWKINS: I don't know about her, but I have heard horror stories about children who asked too many questions of teachers of religion. *(continued on page 135)*

RICHARD DAWKINS

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PLAYBOY: All the atheists we met at the skeptics convention in Las Vegas seemed to have a story about being kicked out of Sunday school.

DAWKINS: Yes, that's terribly funny. What a Sunday school teacher should say is "Let's look at the evidence." Instead they get cross. And the reason they get cross is that there isn't any evidence.

PLAYBOY: They get cross with you as well. You are asking a religious person to change his or her worldview.

DAWKINS: I want people to change their worldview such that they demand evidence for something they're going to believe. It's not a good reason to believe because "our people have always believed that." If you'd been born in Afghanistan or India, you'd believe something else. Another lousy reason is because you have an inner feeling it must be true, or you've been told by a priest it's true.

PLAYBOY: Ken Miller, author of *Finding Darwin's God*, once scolded you by saying atheists and agnostics are more evangelical than religious people. Is that your experience with atheists?

DAWKINS: You can be passionate about the need to look at the evidence and passionately angry at people who won't do that. That's not evangelical; that's just angry.

PLAYBOY: You like Miller's book, though.

DAWKINS: It may well be the best refutation of creationism, though it goes off the rails when it tries to justify Christianity. One of the reasons I recommend it is not just because it's good but because it is written by a Christian. Unfortunately it's written by a Catholic, and many of the people we're talking about think Catholics are worse than atheists. [laughs]

PLAYBOY: In 2010 you spoke at a rally in London to protest a state visit by Pope Benedict XVI.

DAWKINS: Only about 2,000 people were expected, and 15,000 turned up.

PLAYBOY: You dismissed the pope as an enemy of children, gay people, women, truth, poor people, science and humanity.

DAWKINS: It was a speech at a rally, so I used rhetoric.

PLAYBOY: Do you believe, as Christopher Hitchens did, that the pope should be arrested?

DAWKINS: Hitchens wrote me suggesting we should arrest him, but we soon gave up on the idea of literally making a citizen's arrest by creeping up with handcuffs or something. Instead we asked Geoffrey Robertson, a distinguished human rights lawyer, to speak about the legal case against the pope for covering up pedophilia. He also looked at the alleged immunity of the pope from prosecution as the head of a state, calling into question the notion of the Vatican as a legitimate sovereign state. I responded to the pope's uncalled-for truculence when he landed in Edinburgh. The first thing he said was to blame atheists for Hitler. Although I don't blame the pope for being a member of the

Hitler Youth, as he was very young, I felt this was pretty cheeky, really. If I were him I'd keep my head down over Hitler.

PLAYBOY: You were impressed by a few of the signs at the rally.

DAWKINS: Two of my favorites were KEEP YOUR ROSARIES OFF MY OVARIES and HANDS OFF MY EGGS, BENEDICT. [laughs]

PLAYBOY: The pope apologized for the sexual abuse of children in the Catholic church. Isn't that enough?

DAWKINS: Oh, big deal. He hasn't handed over any records to the police. He apologized with great reluctance after enormous pressure was brought to bear.

PLAYBOY: You gave a speech in Dublin in which you argued that sexual abuse is less damaging to a child than the psychological damage of bringing him up Catholic. What was the response?

DAWKINS: I got an ovation. I want to make clear I was not talking about the sort of violent sexual abuse we've now learned had been repeatedly going on. I was talking about mild caressing, which is bad enough, but bringing up a child to believe in hell-fire is worse.

PLAYBOY: Let's turn to evolution, which many people misunderstand, such as believing we descend from apes.

DAWKINS: We *are* apes. We descend from extinct animals that would have been classified as apes. We are not descended from modern chimps or bonobos or gorillas. They've been evolving for exactly the same length of time as we have.

PLAYBOY: So what makes us human?

DAWKINS: We are a unique ape. We have language. Other animals have systems of communication that fall far short of that. They don't have the same ability to communicate complicated conditionals and what-ifs and talk about things that are not present. These are all unique manifestations of our evolved ape brain, which some evidence suggests came about through a rather limited number of mutations.

PLAYBOY: Peter Singer, who co-founded the Great Ape Project, suggests apes deserve basic rights. Do you agree?

DAWKINS: Why stop at apes? Why not pigs?

PLAYBOY: But apes are our cousins.

DAWKINS: So what? We're all cousins. What if octopuses, which are much more distant cousins, had evolved an intelligence equivalent to ours?

PLAYBOY: But they didn't.

DAWKINS: You can base your morals on kinship if you want, but why should you? I'd prefer to go with Jeremy Bentham and base my morals on the question, Can they suffer? Singer's rather keen on the word *speciesism*. We have a common ancestor with chimps who lived 6 million years ago. If you imagine holding the hand of your mother, who holds the hand of her mother, and you go on and on to the common ancestor, the line would stretch a few hundred miles. And in its other hand the grand ancestor holds her daughter's hand who holds her daughter's hand, and you go forward to modern chimps. As you go back, every one of those mother-daughter

relationships would include members of the same species.

PLAYBOY: So there was no first human.

DAWKINS: No, never. But suppose an intermediate species hadn't gone extinct. Suppose relict populations are discovered in the African jungle. In order to deny chimpanzees rights, you would have to set up apartheid-like courts to decide whether this individual counts as human. Because it's a continuum. As a practical matter, the intermediates haven't survived, so it's possible to give humans basic rights and give chimpanzees none. But I think it's a worthwhile argument.

PLAYBOY: Are you pro-life?

DAWKINS: People who say they're pro-life mean they are pro-*human* life. A four-cell embryo or a 64-cell embryo, or indeed one much larger than that, has no nervous system. You should have rather less compunction in killing such a creature than you would in killing an earthworm, because an earthworm has a nervous

system and very likely can suffer. So objecting to the abortion of very young human embryos is utter nonsense. Objecting to older human embryos being killed is not utter nonsense. There's no reason to suppose that their capacity to suffer is any greater than the capacity of an adult pig or cow to suffer.

PLAYBOY: Do we know which came first—bigger brains or bipedalism?

DAWKINS: Bipedalism came first.

PLAYBOY: How do we know that?

DAWKINS: Fossils. That's one place the fossils are extremely clear. Three million years ago *Australopithecus afarensis* were bipedal, but their brains were no bigger than a chimpanzee's. The best example we have is Lucy [a partial skeleton found in 1974 in Ethiopia]. In a way, she was an upright-walking chimpanzee.

PLAYBOY: You like Lucy.

DAWKINS: Yes. [smiles]

PLAYBOY: You've said you expect mankind

will have a genetic book of the dead by 2050. How would that be helpful?

DAWKINS: Because we contain within us the genes that have survived through generations, you could theoretically read off a creature's evolutionary history. "Ah, yes, this animal lived in the sea. This is the time when it lived in deserts. This bit shows it must have lived up mountains. And this shows it used to burrow."

PLAYBOY: Could that help us bring back a dinosaur? You have suggested crossing a bird and a crocodile and maybe putting it in an ostrich egg.

DAWKINS: It would have to be more sophisticated than a cross. It'd have to be a merging.

PLAYBOY: Could we re-create Lucy?

DAWKINS: We already know the human genome and the chimpanzee genome, so you could make a sophisticated guess as to what the genome of the common ancestor might have been like. From that you might be able to grow an animal that was close to the common ancestor. And from that you might split the difference between that ancestral animal you re-created and a modern human and get Lucy.

PLAYBOY: You've accused creationists of fighting dirty.

DAWKINS: Sure they do.

PLAYBOY: Is that why you and other evolutionary biologists won't debate them?

DAWKINS: Partly. It also gives them a respectability they don't deserve. A colleague of mine likes to respond, "That would look great on your CV, not so good on mine."

PLAYBOY: What arguments do creationists typically hit you with?

DAWKINS: Ignorant nonsense. They say things like "Well, if we're descended from chimpanzees, how come chimpanzees are still around?" It isn't difficult.

PLAYBOY: You often hear evolution described as "just a theory." Is it?

DAWKINS: The word *theory* can mean a hypothesis. But the word is also used in a more serious sense as a body of knowledge. It's better to use the word *fact*. Evolution is a fact in the same sense that the earth orbits the sun.

PLAYBOY: There is disagreement about what drives evolution.

DAWKINS: Natural selection is the driving force, but there is disagreement about what the selection pressure was. For example, we know the human brain grew bigger. Was it because the more ingenious individuals were the best at finding food or evading predators? Or was it because they were the most sexually attractive? It's possible an enlarged brain is rather like a peacock's tail. Darwin proposed a second version of natural selection, which he called sexual selection. If peahens choose peacocks for the brightness of their finery, then never mind about surviving. The ones with the biggest tails survive less well, because the tail is a burden. Nevertheless if they're more attractive to females, then the genes for making big tails are more likely to end up in the next generation. It is quite possible the human brain also got bigger due to sexual selection. Intelligence is sexy.

Maybe the most intelligent males had the gift of the gab. They may have been good talkers, good at remembering the sagas and myths of the tribe, or dance steps.

PLAYBOY: Or that she likes antelope.

DAWKINS: Something like that. If a peahen chooses a male with a long tail, it's because she knows he couldn't have survived with a tail like that unless he had something going for him. It's all about showing females you are resistant to disease. There's a dual selection—females become better diagnostic doctors, and males become better at being diagnosed, even if they're actually ill.

PLAYBOY: What role does chance play in evolution?

DAWKINS: Mutation, the raw material for natural selection, is random in the sense that it is not systematically directed toward improvement. But natural selection is highly nonrandom, because it's choosing improvements from that pool of variation that mutation throws up. There's also an awful lot of chance in which species go extinct. When a comet hit the earth, all the dinosaurs went extinct except birds. A few mammals survived, and we're descended from those few mammals, perhaps those that were hibernating underground.

PLAYBOY: You've described life as a "replication bomb."

DAWKINS: If you look around the universe, there's dead world after dead world. Physics goes on and chemistry goes on, but nothing else happens. And suddenly in one place there's an explosion, which comes about

because of replication. For some reason, the laws of chemistry give rise to a molecule that self-replicates. Maybe this planet is the only time it's ever happened. But the arising through some accident of chemistry of a molecule that makes copies of itself has momentous consequences.

PLAYBOY: Creationists often try to ambush you, such as the Australian film crew that hit you with "Can you give me an example of a genetic mutation or an evolutionary process that can be seen to increase the information in the genome?" and then, because you paused, portrayed you as not having an answer.

DAWKINS: The way it happens is through gene duplication. You have lengths of the genome that do some useful thing, and then a chunk gets copied and pasted somewhere else, where it's free to evolve in a different direction.

PLAYBOY: So why didn't you respond?

DAWKINS: I was thinking, Am I going to throw these people out? This is a question only a creationist would ask, and they hadn't told me they were creationists. What they did was splice the question and the long pause with my answer to a different question, so it looked as though I was being evasive. It was an absolutely scandalous piece of mendacity.

PLAYBOY: Most objections to evolution seem to come down to complexity. People can't understand how something like an eye could have evolved.

DAWKINS: No matter how complex the eye may be, it's not as complicated as a god.

PLAYBOY: Creationists love to cite gaps in the fossil record, such as the large one that precedes the Cambrian explosion, the period about 530 million years ago during which there was exponential growth in complex life-forms. How can you explain it?

DAWKINS: Of course there are gaps; fossilization is a rare event. But if we didn't have a single fossil, the evidence for evolution would be absolutely secure because of comparative anatomy, comparative biochemistry, geographical distribution. The gap before the Cambrian explosion is interesting because it's a big one. But if you think about it, there are major groups of animals that have no fossils. For example, today we saw in the natural history museum an almost microscopic creature called a tardigrade. They don't fossilize because they're soft. Presumably before the Cambrian, most of the ancestors of the Cambrian creatures were soft and small.

PLAYBOY: How do we know they existed if there are no fossils?

DAWKINS: That's not quite the right question, is it? Their descendants existed in the Cambrian, so unless you seriously think they were created in the Cambrian, they must have existed. You may say that's not evidence, and I'm saying you could say the same of any soft creature for which we have no fossils. How do we know it wasn't created in 1800? It doesn't make sense.

PLAYBOY: What about this one, another favorite of creationists: If modern animals such as monkeys evolved from frogs, why haven't we found any fossils from a transitional creature such as a fronkey?

DAWKINS: The fallacy is thinking of modern animals as descended from other modern animals. If you take that seriously, there should be not just fronkey fossils but crocodile or octocow fossils. Why on earth would you expect you could take any pair of animals and look for a combination of them? We're looking at the tips of the twigs of the tree. The ancestors are buried deep in the middle, in the crown of the tree. There are no fronkeys because the common ancestor of a frog and a monkey would be some kind of fishy, salamandery thing that looks like neither a frog nor a monkey.

PLAYBOY: Creationists are fond of arguing that if you remove one part and it doesn't work, then there's no way it could have evolved.

DAWKINS: Quite a good analogy here is an arch, where you have stone, stone, stone, and then it meets in the middle and stands up. But take away any one part and it collapses. You might think it's difficult to build an arch until you have the whole thing in place, but you're not considering that they used scaffolding, which has since been taken down. That's one answer. Another is to point out that you don't need all the bits of an eye in order to see. You can have a very imperfect eye that can see only the difference between light and dark. That's still useful if you can see the shadow of a predator. So it's not true that half an eye is not useful. Half an eye is half as good as a whole eye, and it's better than nothing.

