

REVIEWS

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Faith-Boosting Genes

A search for the genetic basis of spirituality

By

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The God Gene: How Faith Is Hardwired into Our Genes

by Dean H. Hamer

Doubleday, New York, 2004

By page 77 of *The God Gene*, Dean H. Hamer has already disowned the title of his own book. He recalls describing to a colleague his discovery of a link between spirituality and a specific gene he calls "the God gene." His colleague raised her eyebrows. "Do you mean there's just one?" she asked.

"I deserved her skepticism," Hamer writes. "What I meant to say, of course, was 'a' God gene, not 'the' God gene."

Of course. Why, the reader wonders, didn't Hamer call his book *A God Gene*? That might not have been as catchy, but at least it wouldn't have left him contradicting himself.

Whatever you want to call it, this is a frustrating book. The role that genes play in religion is a fascinating question that's ripe for the asking. Psychologists, neurologists and even evolutionary biologists have offered insights about how spiritual behaviors and beliefs emerge from the brain. It is reasonable to ask, as Hamer does, whether certain genes play a significant role in faith. But he is a long way from providing an answer.

Hamer, a geneticist at the National Cancer Institute, wound up on his quest for the God gene by a roundabout route. Initially he and his colleagues set out to find genes that may make people prone to cigarette addiction. They studied hundreds of pairs of siblings, comparing how strongly their shared heredity influenced different aspects of their personality. In addition to having their subjects fill out psychological questionnaires, the researchers also took samples of DNA from some of them. Hamer then realized that this database might let him investigate the

genetics of spirituality.

He embarked on this new search by looking at the results of certain survey questions that measured a personality trait known as self-transcendence, originally identified by Washington University psychiatrist Robert Cloninger. Cloninger found that spiritual people tend to share a set of characteristics, such as feeling connected to the world and a willingness to accept things that cannot be objectively demonstrated. Analyzing the cigarette study, Hamer confirmed what earlier studies had found: heredity is partly responsible for whether a person is self-transcendent or not. He then looked at the DNA samples of some of his subjects, hoping to find variants of genes that tended to turn up in self-transcendent people.

GENETIC FEEL for THE DIVINE?

His search led him to a gene known as VMAT2. Two different versions of this gene exist, differing only at a single position. People with one version of the gene tend to score a little higher on self-transcendence tests. Although the influence is small, it is, Hamer claims, consistent. About half the people in the study had at least one copy of the self-transcendence-boosting version of VMAT2, which Hamer dubs the God gene.

Is the God gene real? The only evidence we have to go on at the moment is what Hamer presents in his book. He and his colleagues are still preparing to submit their results to a scientific journal. It would be nice to know whether these results can withstand the rigors of peer review. It would be nicer still to know whether any other scientists can replicate them. The field of behavioral genetics is littered with failed links between particular genes and personality traits. These alleged associations at first seemed very strong. But as other researchers tried to replicate them, they faded away into statistical noise. In 1993, for example, a scientist reported a genetic link to male homosexuality in a region of the X chromosome. The report brought a huge media fanfare, but other scientists who tried to replicate the study failed. The scientist's name was Dean Hamer.

To be fair, it should be pointed out that Hamer offers a lot of details about his study in *The God Gene*, along with many caveats about how hard it is to establish an association between genes and behavior. But given the fate of Hamer's so-called gay gene, it is strange to see him so impatient to trumpet the discovery of his God gene. He is even eager to present an intricate hypothesis about how the God gene produces self-transcendence. The gene, it is well known, makes membrane-covered containers that neurons use to deliver neurotransmitters to one another. Hamer proposes that the God gene changes the level of these neurotransmitters so as to

alter a person's mood, consciousness and, ultimately, self-transcendence. He goes so far as to say that the God gene is, along with other faith-boosting genes, a product of natural selection. Self-transcendence makes people more optimistic, which makes them healthier and likely to have more kids.

These speculations take up the bulk of *The God Gene*, but in support Hamer only offers up bits and pieces of research done by other scientists, along with little sketches of spiritual people he has met. It appears that he has not bothered to think of a way to test these ideas himself. He did not, for example, try to rule out the possibility that natural selection has not favored self-transcendence, but some other function of VMAT2. (Among other things, the gene protects the brain from neurotoxins.) Nor does Hamer rule out the possibility that the God gene offers no evolutionary benefit at all. Sometimes genes that seem to be common thanks to natural selection turn out to have been spread merely by random genetic drift.

Rather than address these important questions, Hamer simply declares that any hypothesis about the evolution of human behavior must be purely speculative. But this is simply not true. If Hamer wanted, he could have measured the strength of natural selection that has acted on VMAT2 in the past. And if he did find signs of selection, he could have estimated how long ago it took place. Other scientists have been measuring natural selection this way for several years now and publishing their results in major journals.

The God Gene might have been a fascinating, enlightening book if Hamer had written it 10 years from now--after his link between VMAT2 and self-transcendence had been confirmed by others and after he had seriously tested its importance to our species. Instead the book we have today would be better titled: *A Gene That Accounts for Less Than One Percent of the Variance Found in Scores on Psychological Questionnaires Designed to Measure a Factor Called Self-Transcendence, Which Can Signify Everything from Belonging to the Green Party to Believing in ESP, According to One Unpublished, Unreplicated Study.*

Carl Zimmer's books include Soul Made Flesh and Evolution: The Triumph of an Idea.