

Is Spirituality Hardwired into Our Genes?

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You may recall that back in 1979 news reports started to appear about a pair of identical twins, thirty-nine-year-old men, who had been separated a few weeks after they were born and adopted by families living in two different towns in Ohio. Seeking to learn about his birth family, one of them had discovered to his astonishment that he had a twin brother out there somewhere, and he preceded eagerly to tracking him down.

Although these men had been raised apart, they had much in common. It turned out that both had dogs as youngsters, and each named his dog "Troy". Both men had divorced women named Linda, and then married women named Betty. Both had produced a son, named James Allen in one case, and James Alan in the other. A reporter for the *Smithsonian* magazine visited both men at home in their separate towns, and took pictures of each man smoking a Salem cigarette in his basement woodworking shop. The reporter noted that each man had constructed a white lawn seat around the trunk of a tree in his backyard. The wives of both twins discovered that each husband had the endearing habit of leaving little love notes around the house. Both men drove Chevrolets, were chain smokers, chewed their fingernails, drank Miller Light beer, had worked as deputy sheriffs in their respective communities, and enjoyed stock car racing, but disliked baseball. As they became better acquainted, the two families learned that, well before their meeting, both had taken spring holidays on the Gulf Coast of Florida, driving down in their Chevrolets to the same quarter-mile stretch of beach. People found all this so remarkable that the twins were invited to appear on national television programs such as the Tonight Show.

In the 1980s and the 1990s researchers conducted studies of other identical twins, who had been separated at birth, about 200 pairs all together. They found twins who were reared apart, but they both were devoted to dogs. They found a pair of identical twins raised by different parents, who both became professional firefighters. They found identical twins raised apart, who both became amateur gunsmiths. This research suggests that many things we think we choose to do because of free will, or because a teacher or a close friend, or parent influenced us, we may be doing because of our genetic makeup.

The relationship is not 100 percent, but instead a matter of increased probability. Based on the small sample of about 200 identical twins, if you have an identical twin somewhere in the world and you like to go hunting and fishing, you have a 72 percent chance that your identical twin also likes to go hunting and fishing. If you have an identical twin somewhere in the world and you are a performing artist such as an actor or a musician, you have a 74 percent chance that your identical twin also is a performing artist.

This evidence of heredity has encouraged gene researchers to look for the particular genes in our DNA that make it more likely that we will be a certain kind of person. Of course, most of this research is done about medicine. For example, Friday researchers at the National Cancer Institute here in Bethesda announced a new genetic test that can identify breast-cancer patients who are unlikely to suffer recurrences. The test appears to offer a solution to a difficult problem in breast-cancer treatment today, deciding which women can safely forgo expensive, often-debilitating follow-up treatment. It marks one of the first tangible benefits of the massive effort to harness genetics to fight cancer.

In his free time, one researcher at the National Cancer Institute, Dr. Dean Hamer, has been exploring whether a gene causes us to be more spiritual. In September he published a book about his results.

His book is called *The God Gene, How Faith Is Hardwired into Our Genes*. Unfortunately, the title is

misleading. It does not accurately describe the contents of the book. The book is not about God or faith. Instead Dr. Hamer writes about spirituality.

For many years most Unitarians avoided the word spirituality because it was close to the word Spiritualism, defined as the belief in extrasensory perception, reincarnation, people getting in touch with the spirit world, mediums, witches, potions and prophecies. However, in the last two decades people have used spirituality to mean something else.

The definition Dr. Hamer uses comes from a questionnaire developed by Robert Cloninger a psychiatrist at Washington University Medical School in St. Louis. The questionnaire had 225 true or false questions. Here are a few examples:

- True or false: I often feel so connected to the people around me, that it is like there is no separation between us.
- True or false: I often do things to help protect animals and plants from extinction.
- True or false: I am fascinated by the many things in life that cannot be scientifically explained.
- True or false: Often I have unexpected flashes of insight or understanding, while relaxing.
- True or false: Sometimes I have felt like I was part of something with no limits or boundaries in time and space.

Following Dr. Cloninger, Dr. Hamer judged that the people who answered true on many of these questions could be classified as more spiritual, a state of being that he also called “self transcendent.” He gave these questions to a thousand people, whom he recruited from places like George Mason University. He payed the students \$40 to take the questionnaire and to get a little DNA for study. The average age of the participants was thirty-two with a range from eighteen to eighty-three. There were 328 males and 673 females. Personal incomes varied from less than \$1,000 a year to more than \$100,000 a year. Seventy-four percent were white, 7 % were Asian, 5 % were Hispanic, 9 % were African-American, and the rest a mixture of different ethnic backgrounds.

There are 35,000 genes in the human genome. Dr. Hamer looked at a few genes that he suspected might play a role in feelings of spirituality in human beings. He first looked at D4DR. He could find no association between D4DR and any aspect of spirituality. The next gene he looked at was a serotonin transporter. Again, he found no association between it and spirituality. The next six genes, he studied were all the same. There was no association between the presence of that gene in a person’s DNA and their score on the questionnaire.

Finally, another scientist suggested a gene called VMAT2. This gene makes a protein our body uses to make biological packages that our brains use to store molecules such as serotonin. Two different versions of this gene exist, differing only at a single position. People with one version of the gene score higher on the questionnaire. The presence of VMAT2 in a person’s DNA raises a person’s score by . . . 1 percent. [Long pause. Minister looks at the congregation.]

Wait, perhaps I got that wrong. After all, he got his book *The God Gene* published by Doubleday, a major publisher. *Time* magazine did a cover story on it. Let me check. Here on page 77 he says:

“ . . .our analysis of the VMAT2 Polymorphism showed that it raises self-transcendence scores by only a single point, or 7 % of the mean—less than 1 % of total variance. That means that most of the inherited effects on self-transcendence can’t be explained by VMAT2.” The God gene has *less than* 1 percent influence.

Dr. Hamer believes that there might be another fifty genes of more or similar strength. He writes that “The specific gene I have identified is by no means the entire story behind spirituality. It plays only a small, if key, role; many other genes and environmental factors also are involved. Nevertheless, [he concludes] the gene is important because it points out the mechanism by which spirituality is manifested in the brain.”

Dr. Hamer speculates that these genes may have evolved in us to give us a feeling of optimism about life. The spirituality genes give human beings an innate sense of optimism, the will to keep on living and procreating, even if death is ultimately inevitable. The definitions get a little fuzzy here. Dr. Hamer is saying that the spirituality identified by the questionnaire in questions like: True or False, “I often feel a strong sense of unity with all things around me” are identifying optimism in a person. He is saying that this optimism, has developed through natural selection, because it helps keeps us going in the hard times of life and keeps us reproducing.

Dr. Hamer says that his research does not prove nor disprove the existence of God. It could be that God is an illusion created by our genetic makeup, or it could be that God used the process of natural selection to design our genetic makeup so we can perceive God’s existence.

Having found some indication of how the chemistry of our brain may influence our spiritual life, the book next gives an account of an attempt to mix drugs and spiritual experience back in the 1960s. Dr. Hamer describes the experience of Mike Young, who is now a Unitarian minister in Honolulu, Hawaii. When Mike was a student at Andover Newton theological school in Massachusetts in 1962, he was one of a group of theological students who took psilocybin and listened to a sermon by Howard Thurman. After the drug wore off the theological students said the drug deepened their sense of joy, their openness to emotions, and their willingness to try new things. For others, the experience led to an increased tolerance of others, appreciation of nature and the environment, and involvement in social and political causes.

All of this reminded me of when I attended theological school in the 1970s. Back then the president of my seminary suggested that I would benefit from taking LSD and from studying Biblical Hebrew . . . although not at the same time. He felt that I was too conservative in my approach to life and that experiencing both LSD and Hebrew would give me a broader and deeper perspective on life. I declined both for the same reason. I have a dyslexic brain, which makes it difficult for me to study languages. Knowing that my brain already did not function as well as I would like it, I did not want to do anything that might make it even less functional. My own drug of choice has always been caffeine, which enhances my consciousness ever morning.

Still I can understand why Dr. Hamer refers to this experiment from the 1960s as support for his claim of a connection between the chemicals of the brain and spirituality. Often the words people use to describe the experience of being on certain drugs and the words they use to describe peak spiritual experiences are the same.

The reaction to Dr. Hamer’s book has been mixed. The reviewer in *Scientific American* said:

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.

Scientists are not the only critics of the book. Reviews from some religious leaders are also negative. One theologian in England said “The idea of a god gene goes against all my personal theological convictions. You can’t cut faith down to the lowest common denominator of genetic survival. It shows the poverty of reductionist thinking.”

On the other hand, *Time* magazine put its story about the book on its cover, free publicity other writers envy. Even if the conclusions of the book are tentative, the editors of *Time* magazine believed the topic would sell magazines. The *Time* cover story was followed by a full page article in the religion section of the Washington Post. This news coverage stimulated me to buy the book and schedule a sermon on the topic.

As a minister, I find the topic interesting. Dr Hamer may have only found a gene that has a small influence on our spirituality, but still, I don't want to be too negative. His work is a beginning step in understanding the genes that may influence our interest in spirituality. I am grateful to Dr. Hamer, for his willingness to explore this controversial issue.

My own critique of his work deals with this definition of spirituality. It relates to the survey he used. One question is, "True or false. I am often called absent-minded, because I get so wrapped up in what I'm doing that I lose track of everything else." In my own ministry I do not encourage people to have experiences that cause them to lose track of what is going on around them.

On this fifth day of Hanukkah I think of my favorite theologian, Martin Buber. He told the story of how when he was young, he thought of spirituality as the times when he was taken out of the ordinary course of things. Spiritual experience was the experience of an otherness, which did not fit into regular life. The spiritual lifted him out of normal life and he felt illumination, ecstasy and rapture. But one afternoon after a morning of spiritual enthusiasm, a young man came to visit him, a student at the university where Dr. Buber taught. Buber was friendly. He talked attentively and openly with the young man, but his mind was still on the morning. He was not fully focused on the young man. His attention was not fully focused on the person before him.

Later he heard that the student had committed suicide. One of his friends told Buber, that the man had come to him, not for chat but for a decision.

Buber wrote:

Since then, I have given up the "religious" which is nothing but the exception, extraction, exultation, ecstasy; or it has given me up. I possess nothing but the everyday, out of which I am never taken. . . I know no fullness but each mortal hour's fullness of claim and responsibility. Though far from being equal to it, yet, I know that in the claim I am claimed . . . I do not know much more. If that is religion then it is just *everything* . . .

Now, all this may be encoded in my genetic makeup, but I do not hunger for some extraordinary spiritual or religious experience that I could achieve through hours of meditation or through ingesting a drug. Instead I hunger to be fully present for my family, my congregation, my friends. This may not be spirituality by someone else's definition, but for me it is sufficient. This holiday season, and all times of the year, I find beauty and joy in nature, in friendship, in music and in laughter. For me, that is enough.