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## Discover Dialogue: Anthropologist Scott Atran

### It's not a new phenomenon, and natural selection may play a role in producing it

by Josie Glausiusz

***This is an extended version, exclusive to the Discover Web site, of the article that appears in Discover Magazine***

Scott Atran fell in love with anthropology in 1970 when he went to work with Margaret Mead at the American Museum of Natural History in New York and found himself surrounded by a collection of thousands of skulls. He has spent the intervening years studying human cultures all over the world, dwelling among the secretive Druze sect in Israel, documenting conservation customs among the Maya of Guatemala, and analyzing the evolution of religion everywhere, a topic he explores in his book *In Gods We Trust* (Oxford University Press, 2002). He is based both at the National Center for Scientific Research in Paris and at the University of Michigan. His recent work has focused on suicide terrorism. He has marshaled evidence that indicates suicide bombers are not poor and crazed as depicted in the press but well-educated and often economically stable individuals with no significant psychological pathology.



Photograph by Charles Fréger

#### **You recently chose to write about the genesis of suicide terrorism in the journal *Science*. Why should suicide terrorism be the object of a scientific investigation?**

A: Within a few days of the terrorist attacks of September 11, 2001, I started listening to the stuff that was in the media and from the administration--for example, President Bush's speech on September 11th and the next he gave on September 20th before Congress. I thought, "What utter nonsense"--this idea that these people were crazed or they're doing it out of despair or hopelessness. The whole history of these kinds of acts goes against this. I decided to write an article and get it into the scientific press, because governments, I believe, would take up what their scientists tell them, since there is a huge respect for science.

#### **Why do you regard the popular stereotype of the suicide terrorist as nonsense?**

A: The CIA released a report in 2001 on the psychology and sociology of terrorism, and they basically said these people are perfectly sane. If you look at the history of these kinds of extreme acts, they're pretty much directed by middle-class or higher-middle-class intellectuals. They always have been. Never have they been directed by wacky, crazed, homicidal nuts. The Japanese kamikaze of World War II were, by the way, extremely intelligent guys. If you read their diaries, they were German romantics, reading Goethe and Schiller, and quite conscious of the efforts of the state to manipulate them.

#### **What sort of scientific research indicates that suicide bombers are sane?**

A: Some of the earlier research was by Ariel Merari, who is a psychologist at Tel Aviv University and also a terrorism expert. He interviewed suicide bombers--survivors who were wounded and didn't die or whose bombs didn't go off--as well as their families or recruiters. Like most psychologists in the 1980s, he thought that this was individual pathology, like the idea that racists come from fatherless families or have a history of family trouble. He made a 180-degree turn and found out that no, the bombers span the normal distribution and were slightly above it in terms of education and in income.

Nasra Hassan, who is a Pakistani relief worker working in Gaza for a number of years, interviewed about 250 family members, recruiters, and survivors, completely independently. She was not aware of Merari's work, and she found exactly the same thing. Alan Krueger, an economist at Princeton University, has done long-term studies with Hezbollah and Hamas. His research shows that not only are suicide terrorists significantly more educated than their peers, they are also significantly better off. According to Krueger, although one-third of Palestinians live in poverty, only 13 percent of Palestinian suicide bombers do; 57 percent of bombers have education beyond high school versus 15 percent of the population of comparable age.

The Defense Intelligence Agency also gave me profiles of all these people they were interrogating at Guantánamo Bay in Cuba. They divide them into Yemenis and Saudis. The Yemenis are sort of the foot soldiers. And they found that the Saudis, their leaders especially, are from high-status families. A surprising number have graduate degrees. And they are willing to give up everything. They give up well-paying jobs, they give up their families, whom they really adore, to sacrifice themselves because they really believe that it's the only way they're going to change the world.

### **So what's the root cause of suicide terrorism?**

A: As a tactical weapon, it emerges when an ideologically devoted people find that they cannot possibly obtain their ends in a sort of fair fight, and when they know they're in a very weak position, and they have to use these kinds of extreme methods.

### **What's the typical profile of a suicide terrorist?**

A: Generally, it's not someone who is off the wall. They can't be effective killers. Usually it is someone who is smart, who shows a willingness to give up something, who is patient, who is quiet. Competent people who don't draw attention to themselves, and who are perfectly willing and able to meld into society.

### **How on earth does anyone sane work up the gumption to blow himself up, together with what is often hundreds of bystanders?**

A: Exactly the same way that you get soldiers on the front line of an army to sacrifice themselves for their buddies. What these cells do is very similar to what our military, or any modern military, does. They form small groups of intimately involved "brothers" who literally sacrifice themselves for one another, the way a mother would do for her child. They do it by manipulating universal heartfelt human sentiments that I think are probably innate and part of biological evolution. In fact, I think most culture is a manipulation of innate desires. It's the same way that our fast-food industry manipulates our desires for sugars and fats, or the way the pornography industry manipulates people to get all hot about pixels on a screen or on wood pulp.

### **Wood pulp?**

A: Yeah, paper in a pornography journal. I mean, it has no adaptive value. In the case of something like Al Qaeda, you've got these people in groups of three to eight people, for 18 months, isolated from their family, getting this intense and deep ego-stroking propaganda. You do that to anyone, and you'll get him to do what you want. There are all these studies that psychologists have done of torturers on all sides of the political divide. A very famous one is on ordinary Greeks who became torturers during the military junta of 1967 to 1974. They found they were perfectly ordinary--in fact, above-average intelligence. They'd get them to be torturers by indoctrinating them, by showing them how necessary they were for their societies, and getting these people to believe it.

### **You seem to be suggesting that natural selection may be playing a role in generating the feelings that enable people to become suicide terrorists, but blowing yourself up is hardly a good strategy for propelling your genes into the next generation.**

A: Natural selection gives us all sorts of dispositions and desires that were adaptive in ancestral environments. Now, our cultural milieu picks certain of these adaptations or their by-products and is able to trigger them to produce behaviors that have nothing to do with what they originally evolved for. Kin altruism (the theory that individuals are willing to sacrifice their lives to save closely related kin) evolved through natural selection. If you listen to most political and religious discourse in societies, it's always done for a brotherhood--brothers and sisters. So you create a fictive family. How else are you going to get people to die for one another when they're non-kin-related? You've got to trick them into believing they are kin-related somehow.

**Why does it matter whether we understand the making of a suicide terrorist?**

A: Huge amounts of money were being offered, at least on the horizon, for science-related defense research, most of it going to things like bioterrorism prevention. There were all these harebrained schemes--they're still around--to have a Radio Free Arabia. They're going to bombard these people with information about how good our society is, our goals, and that's supposed to win the war on terrorism. If you look at the February 2003 National Strategy for Combating Terrorism, you'll see they plan to introduce programs against poverty and illiteracy. These ideas seem to me just completely wrong. First, the people who carry out terrorist acts are already educated. Second, they're not poor, so reducing poverty isn't going to do a thing.

**So what's your strategy for combating suicide terrorism?**

A: I think it has to be a multilayered strategy. You've got to be able to--and this I'm all for--go after the guys who operate the cells. Take them out. Get rid of them. Jail them or kill them, because they are not willing to compromise. What do you do with somebody who says, "All Americans and Jews have got to die"? The point of talking to such people has passed. Whatever the grievances were that caused such people to have such ideas, if they show that they're willing to implement them, then you've just got to make a decision whether you want to see this guy survive or you and your people survive.

**What else?**

A: Another thing is, yes, protect some of the vulnerable targets, but I think that actually is less important than trying to stop this phenomenon from becoming adopted, like a sort of virus, by these populations. How do you prevent the ideology of suicide terrorism from attaching itself to the populations that support it? How do you get the people themselves to stop harboring the suicide terrorists? You've got to talk with them. You've got to address their grievances. Not the grievances of Al Qaeda, but the grievances of these people. Then there's got to be support for moderate groups. Alan Krueger in his last study looked at poverty and civil liberties as two factors in suicide terrorism. He found that poverty is not an appreciable selection factor but that the lack of civil liberties is a predictor of where you'll find suicide terrorism. When you don't give these people any political space to express themselves, they become radicalized.

**Have you ever met a potential or surviving suicide terrorist?**

A: Yes. It's someone whose father was humiliated in front of him when he was sixteen. He was kicked and spit on by Israeli soldiers at a checkpoint. In an Arab family, the father is a figure of respect and even awe. That was a big factor in this guy's decision. And a cousin was killed. He also had a number of brothers and sisters, so he knew that by going he wouldn't cause the family any great sacrifice. So he decided to be a suicide bomber.

**And did he?**

A: No. In the end he didn't, because he was sent on a mission to Syria, a political mission, and decided to devote himself to political activity. But I'm sure he would have if he had been asked to. Smart guy. Not many friends, but a few friends. Got along well with his family as far as I could see. I knew him for a number of years.

**In your book *In Gods We Trust*, you call religion an evolutionary riddle. Why?**

A: Think about it. All religions require costly sacrifices that have no material rewards. Look at the Egyptian pyramids. Millions of man-hours. For what? To house dead bones? Or the Cambodian pyramids. Or the Mayan pyramids. Or cathedrals. Or just going to church every Sunday and gesticulating. Or saying a Latin or Hebrew prayer, mumbling what are to many people incoherent words. Stopping whatever you're doing to bow and scrape. Then think about the cognitive aspects of it. For example, to take alive for dead and weak for strong. I mean, what creature could possibly survive if it did these kinds of things systematically?

Look at the things that religion is said to do. It is said to relieve people's anxieties, but it's also said to increase their anxieties so that elites can use them for political purposes. It's supposed to be liberating. It's supposed to encourage creativity. It's supposed to stop creativity. It's supposed to explain events that can't be explained. It's supposed to prevent people from explaining them. You can find functional explanations, and their contraries, and they're all true.

### **Why then has religion survived in so many cultures?**

A: Because humans are faced with problems they can't solve. Think about death. Because we have these cognitive abilities to travel in time and to track memory, we are automatically aware of death everywhere. That is a cognitive problem. Death is something that our organism tells us to avoid. So now we seek some kind of a long-term solution. And there is none. Lucretius and Epicurus thought they could solve this through reason. They said, "Look, what does it matter? We weren't alive for infinite generations before we were born. It doesn't bother us. Why should we be worried about the infinite generations that will be after us when we're gone?" Well, nobody bought that. The reason that line of reasoning didn't work is because once you're alive, you've got something that you're going to lose.

Another problem is deception. Look at society. If you've got rocks and stones and pieces of glass and metal before you, and you say, "Oh, that doesn't exist," or "That's not really a piece of metal," or "That's not really a tree," someone will come along and say, "Look, you're crazy; I can touch it; there's a piece of metal there; I can show you it's a piece of metal." For commonsense physical events, we have ways of verifying what's real or not. For moral judgments, we have nothing. If someone says, "Oh, he should be a beggar and he should be a king," what is there in the world that's going to convince me this is true? There is nothing. If there is nothing, how are people ever going to get on with one another? Especially non-kin. How are they ever going to build societies, and how are they ever going to trust one another so they won't defect? One way that humans seem to have come up with is to invent this minimally counterintuitive world developed by these deities, who are like big brothers who watch over and make sure that there will be no defectors.

### **Do you think science will ever replace religion?**

A: Never. Because it doesn't solve any of the problems that religion solves, like death or deception. There is no society that survives more than a generation or two that isn't religiously based--even the Soviet Union, where half the people were religious. Thomas Jefferson's unitarian God fell by the wayside. The French Revolution's neutral deity also fell by the wayside. People want a personal God, for obvious reasons, to solve personal problems.

### **What have you learned about conservation from studying the Maya people of the Petén?**

A: We took three groups that live in the same place--native lowland Maya, the Itza'; highland Maya, the Q'eqchi' that are forced down into the lowlands; and ladino immigrants that come up from all over Guatemala. We found that the group that actually preserves the forest, the Itza', is the one that has no institutions to speak of. The people don't monitor anything. They fight with one another constantly. They're extremely individualistic. And yet they protect the forest. The people with the strongest communal institutions, the Q'eqchi', who monitor one another in the forest and punish violators, they're destroying it at five times the rate of the others. They see the forest as a commodity, and they think it's open-ended. They don't think it needs protection. They don't see it as a threatened system. For them, it's relatively open jungle.

### **What do the Itza' do differently?**

A: They don't treat the forest as a commodity. They treat it as a relational item, like a friend or an enemy. There is no objective utility metric, like money value, that can be attached to it. We also found that the men who go out into the forest have this notion of what the spirits are doing, and they are scared to death of violating the spirit preference. They're real believers. Then we found that what the spirits prefer--not what the people think is important but what they think the *spirits* think is important--actually predicts species distributions.

### **What do you mean?**

A: Those trees most valued by the spirits--the *Brosimum alicastrum*, or "breadnut," and the *chicazapote*, the tree that yields the resin that is the natural base for chewing gum--are actually those trees with the widest distribution, which produce fruit all year round and which have the largest number of ecological relations with other animals. We're able to predict, just on the basis of the Itza' spirit preferences, all sorts of ecological things happening on the ground. What I think is going on is that these spirits represent human preferences built up over generations.

### **What lessons can we take away from this?**

A: Don't treat everything in the world like an item in a shopping mall—which is what we do.

**Web Resources:**

Atran, Scott. "Genesis of Suicide Terrorism." *Science* 299 (March 7, 2003): 1534-1539. Supporting online material is at [www.sciencemag.org/cgi/content/full/299/5612/1534/DC1](http://www.sciencemag.org/cgi/content/full/299/5612/1534/DC1).

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