



U.S. Lags Behind Europe, Japan in Acceptance of Evolution

By Ker Than, Friday, August 11, 2006

A comparison of peoples' views in 34 countries finds that the United States ranks near the bottom when it comes to public acceptance of evolution. Only Turkey ranked lower.

Among the factors contributing to America's low score are poor understanding of biology, especially genetics, the politicization of science and the literal interpretation of the Bible by a small but vocal group of American Christians, the researchers say. "American Protestantism is more fundamentalist than anybody except perhaps the Islamic fundamentalists, which is why Turkey and we are so close," said study co-author Jon Miller of Michigan State University.

The researchers combined data from public surveys on evolution collected from 32 European countries, the United States and Japan between 1985 and 2005. Adults in each country were asked whether they thought the statement, "Human beings, as we know them, developed from earlier species of animals," was true or false, or if they were unsure.

The study found that over the past 20 years:

- The percentage of U.S. adults who accept evolution declined from 45 to 40 percent.
- The percentage overtly rejecting evolution also declined, from 48 to 39 percent.
- And the percentage of adults who were unsure increased, from 7 to 21 percent.

Of the other countries surveyed, only Turkey ranked lower, with about 25 percent of the population accepting evolution and 75 percent rejecting it. In Iceland, Denmark, Sweden and France, 80 percent or more of adults accepted evolution; in Japan, 78 percent of adults did. The findings are detailed in the Aug. 11 issue of the journal *Science*.

Religious belief and evolution

The researchers also compared 10 independent variables — including religious belief, political ideology and understanding of concepts from genetics, or "genetic literacy" — among adults in America and nine European countries to determine whether these factors could predict attitudes toward evolution.

The analysis found that Americans with fundamentalist religious beliefs — defined as belief in substantial divine control of the universe and the efficacy of frequent prayer — were more likely to reject evolution than Europeans with similar beliefs. The researchers attribute the discrepancy to differences in how American Christian fundamentalists and other forms of Christianity interpret the Bible.

While American fundamentalists tend to interpret the Bible literally and to view Genesis as a true and accurate account of creation, mainstream Protestants in both the United States and Europe instead treat Genesis as metaphorical, the researchers say.

"Whether it's the Bible or the Koran, there are some people who think it's everything you need to know," Miller said. "Other people say these are very interesting metaphorical stories in that they give us guidance, but they're not science books." The latter view is generally shared by the Roman Catholic Church.

Politics and the flat Earth

Politics is also contributing to America's widespread confusion about evolution, the researchers say. Major political parties in the United States are more willing to make opposition to evolution a prominent part of their campaigns to garner conservative votes — something that does not happen in Europe or Japan.

Miller says that it makes about as much sense for politicians to oppose evolution in their campaigns as it is for them to advocate that the Earth is flat and promise to pass legislation saying so if elected to office. "You can pass any law you want, but it won't change the shape of the Earth," Miller told LiveScience.

Paul Meyers, a biologist at the University of Minnesota who was not involved in the study, says that what politicians should be doing is saying, "We ought to defer these questions to qualified authorities and we should have committees of scientists and engineers whom we will approach for the right answers."

The researchers also single out the poor grasp of biological concepts, especially genetics, by American adults as an important contributor to the country's low confidence in evolution. "The more you understand about genetics, the more you understand about the unity of life and the relationship humans have to other forms of life," Miller said.

The current study also analyzed the results from a 10-country survey in which adults were tested with 10 true or false statements about basic concepts from genetics. Americans had a median score of 4 out of 10 correct answers. One of the statements was "All plants and animals have DNA." (The correct answer is "yes.")

Science alone is not enough

But the problem is more than one of education — it goes deeper and is a function of our country's culture and history, said study co-author Eugenie Scott, director of the National Center for Science Education in Oakland, Calif. "The rejection of evolution is not something that will be solved by throwing science at it," Scott said in a telephone interview.

Myers expressed a similar sentiment. About the recent controversy in Dover, Pa., over the teaching of "intelligent design," Myers said, "It was a great victory for our side and it's done a lot to help ensure that we keep religion out of the classroom for a while longer, but it doesn't address the root causes. The creationists are still creationists — they're not going to change because of a court decision."

Scott says one thing that will help is to have Catholics and mainstream Protestants speak up about their theologies' acceptance of evolution. "There needs to be more addressing of creationism from these more moderate theological perspectives," Scott said. "The professional clergy and theologians whom I know tend to be very reluctant to engage in that type of 'my theology versus your theology' discussion, but it matters because it's having a negative effect on American scientific literacy."

The latest packaging of creationism is intelligent design, or "ID," a conjecture which claims that certain features of the natural world are so complex that they could only be the work of a Supreme Being. ID proponents say they do not deny that evolution is true, only that scientists should not rule out the possibility of supernatural intervention.

But scientists do not share doubts over evolution. They argue it is one of the most well tested theories around, supported by countless tests done in many different scientific fields.

Scott says promoting uncertainty about evolution is just as bad as denying it outright and that ID and traditional creationism both spread the same message. "Both are saying that evolution is bad science, that evolution is weak and inadequate science, and that it can't do the job, so therefore God did it," she said.

Another view

Bruce Chapman, the president of the Discovery Institute in Seattle, the primary backer of intelligent design, has a different view of the study. "A better explanation for the high percentage of doubters of Darwinism in America may be that this country's citizens are famously independent and are not given to being rolled by an ideological elite in any field," Chapman said. "In particular, the growing doubts about Darwinism undoubtedly reflect growing doubts among scientists about Darwinian theory. Over 640 have now signed a public dissent and the number keeps growing."

Nick Matzke of the National Center for Science Education points out that most of the scientists Chapman refers to do not do research in the field of evolution. "If you look at the list, you can't find anybody who's really a significant contributor to the field or anyone who's done recognizable work on evolution," Matzke said.

Scott says the news is not all bad. The number of American adults unsure about the validity of evolution has increased in recent years, from 7 to 21 percent, but growth in this demographic comes at the expense of the other two groups. The percentage of Americans accepting evolution has declined, but so has the percentage of those who overtly reject it. "I was very surprised to see that. To me that means the glass is half full," Scott said. "That 21 percent we can educate."