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For nano, religion in U.S. dictates a wary view

MADISON — When it comes to the world of the very, very small — nanotechnology — Americans have a big problem: Nano and its capacity to alter the fundamentals of nature, it seems, are failing the moral litmus test of religion.

In a report published today (Dec. 7) in the journal *Nature Nanotechnology*, survey results from the United States and Europe reveal a sharp contrast in the perception that nanotechnology is morally acceptable. Those views, according to the report, correlate directly with aggregate levels of religious views in each country surveyed.

In the United States and a few European countries where religion plays a larger role in everyday life, notably Italy, Austria and Ireland, nanotechnology and its potential to alter living organisms or even inspire synthetic life is perceived as less morally acceptable. In more secular European societies, such as those in France and Germany, individuals are much less likely to view nanotechnology through the prism of religion and find it ethically suspect.

“The level of ‘religiosity’ in a particular country is one of the strongest predictors of whether or not people see nanotechnology as morally acceptable,” says Dietram Scheufele,

a University of Wisconsin-Madison professor of life sciences communication and the lead author of the new study. "Religion was the strongest influence over everything."

The study compared answers to identical questions posed by the 2006 Eurobarometer public opinion survey and a 2007 poll by the University of Wisconsin Survey Center conducted under the auspices of the National Science Foundation-funded Center for Nanotechnology and Society at Arizona State University. The survey was led by Scheufele and Elizabeth Corley, an associate professor in the School of Public Affairs at Arizona State University.

The survey findings, says Scheufele, are important not only because they reveal the paradox of citizens of one of the world's elite technological societies taking a dim view of the implications of a particular technology, but also because they begin to expose broader negative public attitudes toward science when people filter their views through religion.

"What we captured is nanospecific, but it is also representative of a larger attitude toward science and technology," Scheufele says. "It raises a big question: What's really going on in our public discourse where science and religion often clash?"

For the United States, the findings are particularly surprising, Scheufele notes, as the country is without question a highly technological society and many of the discoveries that underpin nanotechnology emanated from American universities and companies. The technology is also becoming more pervasive, with more than 1,000 products ranging from more efficient solar panels and scratch-resistant automobile paint to souped-up golf clubs already on the market.

“It’s estimated that nanotechnology will be a \$3.1 trillion global industry by 2015,” Scheufele says. “Nanotechnology is one of those areas that is starting to touch nearly every part of our lives.”

To be sure that religion was such a dominant influence on perceptions of nanotechnology, the group controlled for such things as science literacy, educational performance, and levels of research productivity and funding directed to science and technology by different countries.

“We really tried to control for country-specific factors,” Scheufele explains. “But we found that religion is still one of the strongest predictors of whether or not nanotechnology is morally acceptable and whether or not it is perceived to be useful for society.”

The findings from the 2007 U.S. survey, adds Scheufele, also suggest that in the United States the public’s knowledge of nanotechnology has been static since a similar 2004 survey. Scheufele points to a paucity of news media interest and the notion that people who already hold strong views on the technology are not necessarily seeking factual information about it.

“There is absolutely no change in what people know about nanotechnology between 2004 and 2007. This is partly due to the fact that mainstream media are only now beginning to pay closer attention to the issue. There has been a lot of elite discussion in Washington, D.C., but not a lot of public discussion. And nanotechnology has not had that catalytic moment, that key event that draws public attention to the issue.”

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