

Outline

For every complex problem there is an answer that is clear, simple, and wrong.

[H. L. Mencken](#)

We must respect the other fellow's religion, but only in the sense and to the extent that we respect his theory that his wife is beautiful and his children smart.

[H. L. Mencken](#)

News Item - Atheist Scientists Attending Church

- ❖ Original article: <http://www.deseretnews.com/article/print/700204962/Every-knee-shall-bow-Many-atheist-scientists-take-their-kids-to-church.html>
- ❖ 17% of 275 atheist scientists in US attend church more than once a year
 - Science ethos of exposing children to ideas and to give them choices
 - Spouse or partner religious
 - Sense of community (intertwining of church with US society)
- ❖ Pew forum survey in 2008 had 21% of self-described atheists as believing in God! Interesting to explore their conceptions of God and atheism.

The Reality of Miracles

- ❖ Craig Keener, NT Scholar, has published a book promoting the acceptance of modern miracles, *Miracles: The Credibility of the New Testament Accounts* (Baker Academic). So we are clear, Keener, an evangelical Christian, means miracles in a traditional Christian sense and a similar sense to those rejected by David Hume (*'a transgression of a law of nature by a particular volition of the Deity, or by the interposition of some invisible agent'*¹.)
 - In an interview with Christianity Today, an evangelical Christian website and magazine, Keener² states that

I was going to write a footnote in my commentary on Acts, and was dealing with questions of historical reliability. Many scholars dismiss miracle stories as not historically plausible, arguing that they arose as legendary accretions. I was familiar with [contemporary] reports of miracles taking place. There must be thousands of such reports. It was inconceivable to me that people would say eyewitnesses can't claim to have seen such things.

And then later (and perhaps more directly):

I want to make sure everybody knows that miracles occur and that I believe in them. I'm not claiming that they need to happen every time we pray. My wife and I have been through eight miscarriages. People die. The apostles are all dead. There is not an expectation of people always being healed.

- He argues that Hume's rejection of miracle stories are more to do with his ethnocentrism and any intellectual rigor.

¹ Hume, *An Enquiry concerning Human Understanding* X, i, 90n

² http://www.christianitytoday.com/ct/article_print.html?id=94466

- ❖ So, although my presentation may be critical of some portrayals of science, I still see science as our best bulwark against this sort of wishful thinking that may affect public policy and administration.

Presentation

❖ Introduction

- My presentation explores science and its critics since the latter half of the 20th century, especially challenges to the claimed special ability of science to generate objective knowledge.
- **So why attack science?** Science is seen by both supporters and critics as a *symbol* of today's Western Industrialised and Information society. For many, attitudes towards science seem to reflect their attitudes towards our Western society in general. Supporters may argue that science is the *epitome* of rational knowledge-seeking and morally neutral, many critics see these claims as self-serving or delusional, and often see science as an instrument of Western materialism. So, while supporters of science see it as a savior for the world's problems, critics see it as the cause.

Fortunately these views are extreme and many criticisms are more measured and reasonable. Ultimately, however, scientists are worried, with some reason, that all these attacks will reduce their legitimacy in society.

In a sense, they are already at risk in the brave new world of social networking and the Internet, where it appears to be 'cool' to be an unreasoned science skeptic or denier. Just look at the blog and YouTube rants on global warming. Finally, many writers suggest that an even greater problem for science looms - ever reducing university enrolments in science courses.

[Either way many sociologists argue that science has effectively replaced the pre-Reformation church as the new object of faith by the general public. And, like people of some 500 years ago, they have little or no knowledge of its workings to support that faith. Sociologist Steve Fuller goes further to suggest "*that our continuing faith in science in the face of its actual history is best understood as the secular residue of a religiously inspired belief in Divine Providence.*"³]

- My talk will be in three parts:
 - i) A somewhat idiosyncratic look back over the last 50 years of **science history**
 - ii) An exploration of **one concept** that has taken considerable hold with the social sciences and stands in direct opposition to the objectivity claims of science and religion, for that matter.
 - iii) Comparison of **two competing views** of science and their respective problems

❖ Four interesting events

- **1962 Thomas Kuhn**, trained as a scientist turned historian and philosopher of science, published the seminal *The Structure of Scientific Revolutions*.

³ Steve Fuller, *Science*, Acumen Publishing Limited, Durham, 2010, p. 1.

- Compared actual histories of science with the prevailing perceptions
 - Rejected the popular narratives of simple linear progression to greater truths by science heroes, where mistakes and errors are systematically removed by applications of a scientific method.
 - He felt that inconvenient histories were ‘whited-out’. For example, Isaac Newton spent more time researching alchemy than principles of motion. This is rarely mentioned in science history textbooks.
 - Kuhn described scientific history as **long periods of normal or routine science** with scientists operating within accepted and relatively unquestioned mindsets about our world.
 - These mindset or paradigms as coined by Kuhn included common generalisations (e.g. laws of motion); metaphysical assumptions (e.g. light as waves); values (e.g. simplicity); and exemplars (e.g. approved practices and examples)
 - Scientists become puzzle-solvers during these periods.
 - Research directions, experimental designs, theory proposals, corporate and government funding, peer-review processes are all controlled by the prevailing *paradigms*.
 - Experimental anomalies are explained away: research methods questioned; other causes sought; difficult results sidelined for further research.
 - As experimental anomalies mount, some scientists (perhaps the younger ones) promote an alternate view or paradigm to explain the results. This is often before there is clear-cut evidence supporting the newer one over the older (Galileo vs Earth-centric view). This is the famous **paradigm-shift**.
 - Another serious challenge by Kuhn is that one paradigm cannot be understood or assessed from the view or language of another paradigm. This is termed **incommensurability**. If this is true, there seems no rational way of justifying one paradigm with another. It is a matter of faith. Kuhn said that: *‘The choice [between paradigms] is not and cannot be determined merely by evaluative procedures characteristic of normal science, for these depend in part upon a particular paradigm, and that paradigm is at issue.’* P88
 - Even though Kuhn’s direct applicability has waned, his ideas are still enormously influential in discussing the history of science.
- Let’s fast forward to the late 20th century and in the middle of the ‘science (and history) wars’ between defenders who sought to protect its special epistemological place and critics who attacked its implicit legitimacy. In **1996** editors of *Social Text* journal couldn’t believe their luck with a submission from a practicing scientist who supported their views. The article was about Gravity Waves and though technical clearly supported the editorial views. *Social Text* was a leading intellectual journal for the post-modernist movement that characterises science (and history) as just telling alternative stories, no more valid than other story telling. What started as a dream come true ended as a worst nightmare.

- Alan Sokal, physics professor at New York University and the author of the submission, announced on day of publication via *Lingua Franca*, an intellectual magazine read by most academics in the US, his deliberate fraud.
 - This became an argument by the defenders of science as proof that post-modernists aren't qualified to criticize science.
 - Google 'sokal' and 'hoax' to have years of reading about the event as a fight back by science against the attacks of post modernism.
- **1998 Monica Casper and Adele Clark** published a paper on the social history of the pap smear. Over the 20th century the pap smear moved from general rejection by scientists as unreliable and expensive to an essential part of women's health with no change in the science. The changes were social with the replacement of expensive male pathologists with inexpensive female technicians; increased priorities of women's health; and greater localization and targeting of extensive data.

This paper showed that the history of the pap smear use could only be understood within its social and historical context and had little to do with the associated science. Society and the science community accepted the testing as a social necessity.

- As a postscript, there have been recent improvements to the pap smear although that doesn't change the overall argument.
- **In June 2011, John Ioannidis**, professor of medicine at Stanford University, wrote an opinion piece in *Scientific American* on the endemic problems of today's biomedical research. Essentially he sees research as 'corrupted' by public's ever-increasing expectations; fragmentation of exponentially increasing research programs; and researcher conflicts of interest with meeting demands of lucrative corporate funding and achieving personal successes through highly-visible publishing.

This is all under the control of "*the oligopoly of high-impact journals [that] also ...[have]... a distorting effect on funding, academic careers and market shares*".

John Ioannidis's observations belie simple claims of scientific objectivity. Contrary to the traditional view of science, he identifies the following problems: (1) claims based on single studies, with replication being done only "*sparingly and haphazardly*"; (2) withholding research data for competitive financial reasons and so preventing replication studies; (3) selectively reporting research results for maximum impact; and (4) deliberately designing and reporting studies to produce most favourable outcomes for research and, by implication, for the financial backers.

These four events show the complex nature of scientific activities and the reactions of others. Simple assertions by supporters and critics do not seem to do this justice. Let us look back over the latter part of the 20th century. There were three separate and independent attacks on science, especially in the US.

❖ **Late 20th century – Three Separate Attacks**

- (1) **Conservative Christians** who sought to challenge evolution as the explanation for the diversity of life on our planet. Intelligent Design, a repackaged version of Creationism, was promoted as an alternate scientific explanation that should be taught in the public school biology classes. The Tammy Kitzmiller vs Dover Area School District trial (2005) was a famous rejection of that attempt by Judge John E. Jones.
- (2) **The socialist left** who claimed that science and scientists have become pawns of large industrial and military organisations, the so-called industrial-military complexes. Jerome Ravetz in his *No-Nonsense Guide of Science*, characterised science as having gone through three periods – *little science*, pre-WWII, small-scale, independent enterprises with idealism and isolation (perhaps the basis for the idealised public view of science as rational and idealistic); *big science*, post-WWII large scale scientific establishments funded by corporates and government agencies (and less through informal university sources); and *mega science*, science as the Research and Development departments of large commercial and military organisations.
- (3) **Broad, disparate group of academics and intellectuals** – sociologists, literary theorists, and some philosophers – who challenged even the possibility of universal knowledge. They suggested that the sciences or historical research or capitalism (through globalisation) or religions for that matter are telling their stories or narratives, which Jean-François Lyotard famously called ‘Grand Narratives’ in a report on knowledge to the government of Quebec in 1979. And, most importantly, there are alternative narratives, often equally valid. Though having differing agendas, these critics saw these stories as essentially political or ideological. Science was portrayed as a Western ideological tool to colonise other cultures. This is the famous or perhaps infamous Post Modernism. It reached its academic Zenith in the late 20th century. Although waned now, our society has absorbed many of its ideas with the Internet science deniers and sceptics, as I mentioned previously.

I now want to pursue one concept that has greatly influenced the social sciences and has influenced the social view of scientific activities.

❖ **Social Constructionism**

- In **1967** Sociologists **Peter Berger and Thomas Luckman** published their now iconic book, *The Social Construction of Reality*. They drew from previous work by sociologists, literary theorists, and philosophers to articulate a powerful and confronting socially-based theory of knowledge that has greatly influenced the social sciences and stands in direct opposition to many claims of the natural sciences, psychology, religions, and much of philosophy. *Social Constructionism*, as it is called, ignores any claims about an external reality, which seen as unknowable and therefore irrelevant to understanding our worlds. So, let us at how social constructionism portrays truth and knowledge.
 - For most people **truth** claims are claims that correspond to an external reality. ‘Paris is the capital of France’ is a truthful claim as that is the case in practice. We

can verify it by visiting Paris. We can remember having done so previously. We can accept the testimony of others, especially in a situation like this, which is so verifiable. Similarly 'Lyon is the capital of France' would be an untruthful or false claim. Philosophers call this the *correspondence theory of truth*. ('*Truth is out there*' X-Files) In a similar light, traditionally, **knowledge** is seen as justified true beliefs. The 'justified' counters having true beliefs from lucky guesses.

- Constructionists, by contrast, see truths and knowledge coming from our social interactions and social histories, and not from any claims about an external reality. Simply put, *truth* and *knowledge* are moved from referring to a world out there, independent of human experience, to those beliefs from social agreements. So knowledge for constructionists then becomes a social knowledge. By the way, this social knowledge is often not a conscious agreement but something that is taken-for-granted or asserted as self-evident.
- So, truths are now propositions that cohere with widely-accepted socially created knowledge and no longer depend on any claims about external realities, physical or otherwise. At a minimum, constructionists assert that "*human decision and human culture exert profound and often unnoticed influence*"⁴ on our 'realities'. Taken-for-granted ideas like gender, sexuality, beauty, goodness, evil, the self, purity, consciousness, and religious beliefs are all social constructions. Even past and present scientific 'objects' like phlogiston⁵, oxygen, vitalism⁶, N-Rays, black-holes, and subatomic particles are all seen as socially constructed. Of course, it does raise the interesting question whether social constructionism is itself a social construct, and, if so, what does that mean for this approach? Even physical objects are not always what they seem. Uluru (Ayres Rock) can be a large rock, Australian iconic symbol, sacred place, and subatomic particle collection, and each construction or meaning affects people and their behaviours in very different and real ways. And who is to say one meaning is more real to us than another?
- So, not surprisingly, social constructionism threatens the claims of necessary universal truths – both from empiricist traditions like science and from most

⁴ Ron Mallon, *A Field Guide to Social Construction* <http://xcelab.net/rm/wp-content/uploads/2008/09/mallon-field-guide-to-social-construction-2007.pdf>

⁵ "*phlogiston theory (flōjis'ton), hypothesis regarding combustion. The theory, advanced by J. J. Becher late in the 17th cent. and extended and popularized by G. E. Stahl, postulates that in all flammable materials there is present phlogiston, a substance without color, odor, taste, or weight that is given off in burning.*

"Phlogisticated" substances are those that contain phlogiston and, on being burned, are "dephlogisticated." The ash of the burned material is held to be the true material. The theory received strong and wide support throughout a large part of the 18th cent. until it was refuted by the work of A. L. Lavoisier, who revealed the true nature of combustion. Joseph Priestley, however, defended the theory throughout his lifetime. Henry Cavendish remained doubtful, but most other chemists of the period, including C. L. Berthollet, rejected it."
<http://www.infoplease.com/ce6/sci/A0838824.html>

⁶ "*Vitalists hold that living organisms are fundamentally different from non-living entities because they contain some non-physical element or are governed by different principles than are inanimate things. In its simplest form, vitalism holds that living entities contain some fluid, or a distinctive 'spirit'. In more sophisticated forms, the vital spirit becomes a substance infusing bodies and giving life to them; or vitalism becomes the view that there is a distinctive organization among living things.*"

<http://mechanism.ucsd.edu/teaching/philbio/vitalism.htm>

religious traditions. Constructionism stands in stark contrast to beliefs like 'natural law' (*'is any system of law which is purportedly determined by nature, and thus universal'* (Wikipedia)).

- Let's look at two **common criticisms of social constructionism** before delving more into its implications.
 - **If I hit the table** and you see me do that and also I feel it. That's real and cannot be simply a social construction! We have embodied experiences (from within our bodies) – how can that be denied. Constructionists would argue that there may be physical sensations but as soon as we attempt to make any sense of them we are socially constructing – ideas of hands, bodies, tables, fists are all social constructions. As soon as we intellectualise we construct.
 - Another criticism is that the absence of universal standards or rules, beyond any one social grouping, leads to *relativism* and ultimately *nihilism*. As our whole basis of law and order and social control is based on commonly-accepted moral principles or rules, radical relativism might threaten the concept of a civil society. To many, relativism leaves us impotent for criticising heinous crimes committed in different times and places. Even though the responses of constructionists seem unconvincing to these problems, I believe problem lies with the whole intellectual analysis of the necessary normative aspects of morality. Universalists are equally unconvincing to justify the basis for belief in universal principles, especially when those principles so often seem to reflect their own. Religious people bypass this problem with an interventionist deity, although they inherit the 'problem of evil'.
- I want to survey interesting aspects of social constructionism that stand in opposition to commonly-held beliefs.
 - **Personality versus Identity.** That each of us a unique personality, something formed from birth and/or moulded through life seems the most obvious thing. This is sometimes referred to as *essentialism* - we have an essential nature. Even in our secular society we retain this as a sort of naturalistic version of Cartesian dualism. Constructionists see a very different picture with us as strictly a product of social processes. They reject any concept of this essentialism where we and anything else have some sort of determined nature. Constructionists see the idea of an inner 'self', embodied in some sort of semi-psychic realm, as hocus-pocus.
 - For that reason, constructionists prefer the term **identity** over *personality*. Identity avoids any essentialism and is a social concept. It recognises that you are doing the identifying and the identity conferred is for your purposes. *Wild* versus *tame* animal; *weed* versus *plant*; *sane* versus *insane*, *black* versus *white* and so on.
 - Also constructionists reject the whole nature/nurture debate as still essentialist in nature. Both sides argue that we have some inner self (*like a plastic mould*), either shaped by genetics or by upbringing.
 - So, not surprisingly, constructionism stands in opposition to the essentialism implicit in today's psychology. (No friends there!)

- **Role of Language.** Language, by most, is seen as a means of expressing inner ideas, as simply a conduit. Our ideas and personalities predate language and exist independently. Language is simply labels to describe our inner mental states and to express those ideas.

Constructionists see a very different relationship. Language provides us a way of structuring our experience of the world and ourselves that would not otherwise be possible. Our concepts do not predate language. The popular constructionist expression, 'Language is not transparent', reflects this attitude. So loves, hates, and motivations become available to us through language and would not be available otherwise. And, most importantly, there are conceivably alternative constructions of self and one's world through different languages and different histories.

- **Macro versus Micro and Reformist Agendas.** Even though constructionists can apply constructionism at a general macro level, as our total reality, the vast majority see constructions in specific areas, often associated with causes that are important to them. A popular one, particularly for feminist writers, is that of **gender** as a social construction. According to philosopher, Ian Hacking, a reformist social constructionist agenda will move through four stages of thinking:
 1. '*Gender*' is 'taken-for-granted', assumed to be inevitable and natural. So 'gender' as assumed by most to be a natural consequence of biological differences.
 2. However '*Gender*' need not exist under different circumstances. It is not determined by the nature of things. The behaviours associated with 'gender' are not inevitable.
 3. '*Gender*' is bad as it is. 'Gender' has many pernicious aspects.
 4. We would be better off without '*Gender*' or, at least with '*Gender*' radically transformed.

The first two stages, taken-for-granted and could have been different, are descriptive with the latter two (bad and better off different) are evaluative and reformist. Furthermore Hacking sees the first point - **an idea is 'taken-for-granted' as existing** - as an essential requirement for challenging an idea as an undesirable social construct.

Interestingly, a problem a social constructionist faces is to provide a non-socially constructed basis for the normative analysis of the particular construct, such as 'gender'. On what basis can the writer argue that it is wrong?

- **Anti-Realism & Critical Realism.** Constructionists vary on their attitudes towards a knowable external reality ('realism'). Some see that any sense of a external, knowable reality is meaningless and of no consequence when discussing human affairs. Social relationships and histories are all that count. Others are 'critical realists', believing that there is a reality that may shape our overall social

environments (e.g. rural versus urban; inland versus coastal), but this is still unknowable in any reliable sense. All constructionists look at the social environments for explanations about human beliefs and behaviours.

❖ Two Models of Science – Traditional and Social

- So, let us return to science to compare two contrasting views of science. The **traditional or orthodox** view sees **Empiricism** (using our senses to observe and measure) as our best guide to discovering what exists out there (even though often this is through specially constructed instruments), and **naturalistic empiricism**⁷ (assuming a world fully accessible to empiricism) is our best guide to discovering the essential nature of reality. As Alan Sokal said in his lecture to a 2008 *Sense About Science* lecture:

*...a worldview giving primacy to reason and observation and a methodology aimed at acquiring accurate knowledge of the natural and social world. This methodology is characterized, above all else, by the critical spirit: namely, the commitment to the incessant testing of assertions through observations and/or experiments-the more stringent the tests, the better-and to revising or discarding those theories that fail the test.*⁸

Science, as traditionally portrayed, is an exemplar of this approach with its rational commitment to: (1) empirically-based evidence; (2) systematic procedures to move from observations to theory - the so-called scientific method; and (3) norms and values that promote critical, open, and disinterested argument. This ensures science will eliminate, even if over time, the deleterious effects of unwanted personal, social, and political influences. This view of science centres on its practitioners.

- This view faces a number of intellectual challenges, namely: (1) **problem of induction** (no rational means for deriving necessary generalisations from specific experiences as explicated by Hume some 300 years ago); (2) **underdetermination** (multiple equally successful explanations available e.g. earth centric verses helio centric; phlogiston vs oxygen, that make any choices non-rational; and (3) **incommensurability** (inability to assess one view from within another)
- **Social constructionism** argues that we live in constructed world of social realities or narratives, our 'making sense' within a background of cultural assumptions and understandings. Therefore science is another enterprise to be seen in its social context, and the social, political, and ethical dimensions of science cannot be ignored or minimised, when analysing its contributions. Social researchers will see the

⁷ A similar concept here is 'methodological naturalism' as the fundamental assumption of all sciences. Act in scientific research, as if there is nothing outside the physical world - 'supranatural' or supernatural, God, and so. The major challenge by *Intelligent Design* is to this very assumption.

⁸ <http://www.senseaboutscience.org.uk/PDF/AlanSokalLecture2008.pdf>

accepted, discarded, and discredited as giving the full picture of the scientific project. They often accuse supporters of the traditional view of 'air-brushing' away mistakes of science but declaring the mistakes as non-science. Typically they acknowledge science offers us greater control over our environments, but not as a benign activity without negative consequences. Overall social analyses reject an idealised view that promotes a single rational process, transcending our social and historical contexts. Unlike the first view, all those affected by science – producers and consumers – are seen as full stakeholders in its direction, activities, and outcomes.

- This social view also faces problems with explaining the successes of science in producing reliable knowledge about our world compared to other human endeavours, such as folk generalisations and religious and spiritual endeavours.
- I shall conclude this comparison with a radical social perspective proposed by sociologist Steve Fuller⁹ to explain science's special status. He argues that it comes not from any unique capacity to generate knowledge, but from:
 - Distinctive social organisation, enabling global concentrated teamwork supported by considerable material resources.
 - Political, corporate, and military 'where-with-all' to apply its research outcomes to all aspects of our society.
 - Capacity to control its own history writing, 'airbrushing' away mistakes and diversions to leave an image of constant progress.

I would expect Steve Fuller's view to be rejected by most scientists and most philosophers of science. What do you think?

Thank you.

⁹ Steve Fuller, *The Philosophy of Science And Technology Studies*, Routledge, New York, 2006 p.2

Happy Holidays, Merry Xmas, the holiday tree.

The chill of the season is being heated up by the bickering talk of the War on Christmas.

However, before those who believe aim the cannons at those who don't, a new study shows some atheists may be celebrating the birth of Christ in traditionally religious ways this Christmas.

As reported by [CNN](#), about one in five atheist scientists with children involve their families with religious institutions even if they do not agree with the teachings, according to a study done by Rice University and the University at Buffalo.

The study included in-depth interviews with 275 atheist scientists at 21 elite research universities in the United States. Researchers found that many scientists affiliate with churches to allow their children to make educated decisions about what they want to believe, according to the December issue of [Journal for the Scientific Study of Religion](#). In fact, 17 percent of atheists in the study attended a religious service more than once a year.

"We thought that these individuals might be less inclined to introduce their children to religious traditions, but we found the exact opposite to be true," said Elaine Howard Ecklund, a sociologist at Rice University and the study's principal researcher. "They want their children to have choices, and it is more consistent with their science identity to expose their children to all sources of knowledge."

According to [Live Science](#), the study also found some attend services because their spouse or partner is religious, while others enjoy the sense of community.

"Our research shows just how tightly linked religion and family are in U.S. society — so much so that even some of society's least religious people find religion to be important in their private lives," Ecklund added.

Despite the strong link of religion to American society, some still feel threatened by secular ideologies surrounding Christmas, as shown by a group of residents who were angry about Rhode Island Governor Lincoln Chafee's decision to refer to the tree in the statehouse as a "holiday tree" instead of a Christmas tree, crashing a tree lighting ceremony on Tuesday night, [Politico](#) reported.

The findings surrounding atheists shouldn't be too surprising, since the [Pew Forum Religious Survey](#) taken back in 2008 that showed 21 percent of self-described atheists responded that they believe in God.

CNN Belief Blog

Study: Some atheists with children attend religious services

By Dan Merica, CNN

Washington (CNN) – Nearly one in five atheist scientists with children involve their families with religious institutions, even if they personally do not agree with the institutions teachings, a recent study says.

The study, conducted by Rice University and the University at Buffalo, found that these scientists affiliate with churches for both social and personal reasons. Additionally, the scientists indicated a strong desire to prepare their children to make educated decisions about their personal religious preference.

“This was so surprising to us just because of all of the public discussion about the ways in which scientists are very against religions people,” said Elaine Howard Ecklund, a sociologist at Rice. “When in fact, those we might most expect to be against religious people are sitting alongside them.”

Study participants also indicated they were involved in a religious institution because of the religious preferences of a spouse or partner.

One of the most interesting findings, according to Ecklund, was that some atheist scientists want to expose their children to religion due to scientific reasoning.

“We thought that these individuals might be less inclined to introduce their children to religious traditions, but we found the exact opposite to be true,” Ecklund said. “They want their children to have choices, and it is more consistent with their science identity to expose their children to all sources of knowledge.”

Ecklund said there were cases in which survey respondents identified that not only did they introduce their children to one church, but they also attended other religious services in the hope that the children would better understand each denomination.

“I think that understanding how nonreligious scientists utilize religion in family life demonstrates the important function they have in the U.S.,” Ecklund said.

Sociologist Kristen Schultz Lee of University of Buffalo co-authored the study, which can be found in the December issue of the *Journal for the Scientific Study of Religion*.

The data was pulled from a survey of 2,198 tenured or tenure-track faculty at 21 U.S. research universities. Around half of survey respondents identified a form of religious identity, while the other half did not.

Pew <http://religions.pewforum.org/pdf/report2religious-landscape-study-key-findings.pdf>

Conception of God

	NET believe in God	Personal God	Impersonal force	Other/Don't know
	%	%	%	%
Total population	92	60	25	7
Protestant	98	72	19	7
<i>Evangelical churches</i>	99	79	13	7
<i>Mainline churches</i>	97	62	26	8
<i>Historically black churches</i>	99	71	19	8
Catholic	97	60	29	8
Mormon	100	91	6	2
Jehovah's Witness	98	82	11	5
Orthodox	95	49	34	12
Jewish	83	25	50	8
Muslim	92	41	42	10
Buddhist	75	20	45	10
Hindu	92	31	53	7
Unaffiliated	70	28	35	6
<i>Atheist</i>	21	6	12	3
<i>Agnostic</i>	55	14	36	5
<i>Secular unaffiliated</i>	66	20	40	7
<i>Religious unaffiliated</i>	94	49	35	9

Throughout the report, figures may not add to 100 and nested figures may not add to the subtotal indicated due to rounding.