

## Interview with Ronald L. Numbers

**Ronald L. Numbers** is Hildale Professor of the History of Science and Medicine Emeritus. He is B.A. in Mathematics and Physics, 1963, Southern Missionary; M. A. in History, 1965, Florida State University; and Ph.D. in History of Science, 1969, University of California, Berkeley. His book on the history of creationism, *The Creationists: From Scientific Creationism to Intelligent Design* (2006), is widely acknowledged as the main reference on such topic. His most recent book is *The Warfare between Science and Religion: The Idea That Wouldn't Die* (2018), coedited with Jeff Hardin and Ronald A. Binzley, which presents a reevaluation of the historiography of Science and Religion.

Interviewed by **Henrique Rodrigues Caldeira** and **Laura Jamal Caixeta**, students of the graduate program in History of the Federal University of Minas Gerais (UFMG) and members of the Editorial Board of *Temporalidades*.

**[Revista Temporalidades]** We would like to begin with a couple of questions about your trajectory. Today you are one of the most distinguished scholars on the history of science and religion. What prompted you, in the beginning, to study this subject?

**[Ronald L. Numbers]** Well, originally, as an undergraduate, I studied mathematics and physics. And briefly I went to graduate school in mathematics. But I found out that you couldn't talk to people about mathematics (laughs). I wanted to have a more social discipline to work in. And being a resident of the state of Florida, I visited the Florida State University (FSU) to explore maybe doing something in the social sciences. The head of the M.A. program in the social sciences discouraged me from applying. Because I loved reading history, I went next door to the History Department and they welcomed me. So I decided to get a master's degree in history, where they had a professor who taught American intellectual history and the history of science. I had no idea there were such animals! But I loved them both and did well in them. When I was finishing my M.A. at FSU, I applied to the University of California, Berkeley, to pursue a doctorate in the history of science and got in there. From 1965 through 1969, I studied at Berkeley. When I first went there,

I thought I would work on the history of physics in the 19th century, especially thermodynamics. But my major professor there, A. Hunter Dupree, had written an outstanding biography of Asa Gray (Darwin's foremost American disciple), who was very religious. And that was the first time I realized that the study of science and religion was a legitimate topic in the history of science. So, basically, in the physical sciences I latched on to the history of the nebular hypothesis, which became my dissertation<sup>1</sup> – and would have been my first book if the University of Washington Press hadn't taken over six years to publish it. Thus, *Prophetess of Health: A Study of Ellen G. White*<sup>2</sup>, the second book I wrote, became my first book. These days many young scholars expect to have their revised dissertation out in a year or so. And I always discourage them with my story (laughs).

**[RT] The first books you published dealt with the history of science and religion in more domestic settings, restricted basically to America and Christianity. Recently, you have written and edited works with a wider scope, addressing other national and religious contexts. What has motivated this shift?**

**[RLN]** Well, I think it's just part of maturing and expanding my interests. It's very rare that you would see a young scholar take a really broad topic for a dissertation. I think it is kind of the normal curve. It starts with more focused study. But when I came here [Madison, Wisconsin], in 1974, Wisconsin had an established history of science department with half a dozen or so historians. And I came from a very religious background. Most of my male relatives were ministers. The incoming chair of this program in the history of science was David Lindbergh (recently deceased). He also came from a conservative evangelical background, and his father was a minister as well. So we hit it off. He did early stuff, medieval primarily and the Scientific Revolution. And I did 19th, 20th century. There were no good surveys of the history of science and religion back then. So I sketched one out with different chapters and he loved it. He had not worked on the history of science and religion before. So we were able to get some grant money and organize a conference, which resulted in the book *God and Nature*<sup>3</sup>, which did quite well, although it was a little bit more technical than we had imagined. About 20 years later we did another collection of essays, *When Science and*

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<sup>1</sup> NUMBERS, R. *Creation by Natural Law: Laplace's Nebular Hypothesis in American Thought*. Seattle: University of Washington Press, 1977.

<sup>2</sup> NUMBERS, R. *Prophetess of Health: A Study of Ellen G. White*. New York: Harper and Row, 1976.

<sup>3</sup> NUMBERS, R.; LINDBERGH, D. *God and Nature: A History of the Encounter between Christianity and Science*. Berkeley e Los Angeles: University of California Press, 1986.

*Christianity Meet*<sup>4</sup>, which is more accessible. But it was collaborating with David Lindbergh that got me into doing broader stuff.

**[RT] Talking about internationalization, in *Galileo Goes to Jail* you have called attention to the fact that creationism, despite its American pedigree, has broken out in many parts of the globe, including Brazil. This seems to have happened particularly in the 60s and 70s, when many other products labelled "Made in America" also flooded the world, from t-shirts and jeans to action movies and free-market ideas. In your view, is there a relation between the high export rate of creationism and those of other American products?**

**[RLN]** I think there are intriguing parallels. I think it was more in the eighties and nineties that creationism really got to spreading abroad. Earlier, especially in the 1920, when the Made in America label was slapped on creationism, most commentators in other countries made fun of hillbilly Americans (in Tennessee especially, because of the Scopes Trial) and thought that something like that would never happen in their country. But 60 years later, it started appearing in other countries, in Australia especially. South Korea became a big promoter of American-style creationism. One of the things that had happened at that time, in the late 20th century, is that creationists had stripped biblical creationism of its biblical references and started selling it as a scientific creationism or "Creation Science." In some places that seems to have helped a lot because they could say, "Oh, we're just adopting American or Western science."

I helped organize a conference a number of years ago on creationism in Europe, the papers of which have appeared as a book, *Creationism in Europe*<sup>6</sup>, edited by Stefaan Blancke, Hans Henrik Hjermitsev, and Peter C. Kjærgaard. The contributors found a fairly significant following of creationism in Europe. Now I'm collaborating with a South Korean, Park Hyung Wook, on a multi-authored study of creationism in Asia. There the story gets a little more complicated because, for example, you find a number of anti-evolutionists among the Hindus of India that tend not to insist on a young Earth at all. They don't accept human evolution, but they don't have a six to 10,000-year history either. The person who's contributing an essay on Japan, G. Clinton Godart, focuses

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<sup>4</sup> NUMBERS, R.; LINDBERGH, D. *When Science and Christianity Meet*. Chicago: University of Chicago Press, 2003.

<sup>5</sup> NUMBERS, R. (Ed.). *Galileo Goes to Jail and Other Myths about Science and Religion*. Cambridge: Harvard University Press, 2009.

<sup>6</sup> BLANCKE, S.; HJERMITSLEV, H.; KJÆRGASARD, P. (Eds.). *Creationism in Europe*. Baltimore: Johns Hopkins University Press, 2014.

on the Buddhist antievolutionists, who are not Young Earth creationists. In South Korea most of the creationists are American-style antievolutionists.

**[RT] Over the last years, we have been witnessing – both in Brazil and in the US – a growing presence of movements questioning consensual scientific knowledge, such as the sphericity of our planet, global warming, and the efficacy of vaccines. Do you see any relation between these movements and creationism?**

**[RLN]** I think it's a complicated story. I do see both pro-evolution and anti-evolution organizations spreading out to encompass climate change. One leading anti-creation organization, the National Center for Science Education, is now dedicated equally to opposing deniers of climate science. Some creationist organizations, such as the Institute for Creation Research, are promoting the opposition to climate change as well as creationism. But the link between opposition to evolution and climate change is not logically necessary.

There is an interesting study by a sociologist of science and religion, John Evans, “*Morals not Knowledge*”<sup>7</sup> (which has a free version available online<sup>8</sup>), that shows that most of the people he surveyed among US conservative Christians accepted most scientific claims. It was only when those scientific claims impinge on their religious values that they resist science; most of chemistry and astronomy and physics, they would have no questions about. There are also two other books I might mention that might be good for reviewing this issue. One is by Naomi Oreskes. She has a brand new book out, *Why Trust Science?*<sup>9</sup>. In a recent issue of *Time Magazine*, she has a guest editorial, “You can trust in science,”<sup>10</sup> making the case for trusting in science. And then there is a new book by Elaine Ecklund, *Religion vs. Science: What Religious People Really Think*<sup>11</sup>, where she surveys attitudes toward science and religion in, I believe, eight different countries. So you get a really broad survey from around the world.

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<sup>7</sup> EVANS, J. *Morals Not Knowledge: Recasting the Contemporary U.S. Conflict between Religion and Science*. Berkeley: University of California Press, 2018.

<sup>8</sup> Available at <https://www.luminosoa.org/site/books/10.1525/luminos.47/>. Last access in 11/30/2019.

<sup>9</sup> ORESKES, N. *Why Trust Science?*. Princeton: Princeton University Press, 2019.

<sup>10</sup> ORESKES, N. “Science Isn’t Always Perfect—But We Should Still Trust It”. *Time*, New York, 10/24/2019. Available at: <https://time.com/5709691/why-trust-science/>. Last access in 11/30/2019.

<sup>11</sup> ECKLUND, E.; SCHEITL, C. *Religion vs. science: What religious people think*. Nova York: Oxford University Press, 2018.

[RT] Finally, last year you co-edited a book<sup>12</sup> about the “Conflict Thesis” in the history of science and religion (an interpretation that science and religion have always been – and will always be – at odds). The book makes it clear that the success of this now outdated historiographical model can be understood by looking at the context in which it was produced, a time in which scientists struggled for professional status and institutional positions. What effects do you think our present context, especially considering the growing skepticism about scientific authority, may have on the historiography of science and religion?

[RLN] I think one of them is what you’ve referred to earlier: the internationalization of the study of science and religion. Even in a single nation you’ll have different versions of science and different versions of religion. So we have to be very careful as we move around the world and specify which religious and scientific groups we’re talking about. Because a lot of people tried to market their product as science. You have “Christian Science” for example, and “Creation Science”. And just because something’s called science doesn’t justify its claims of science.

[RT] And do you think the history of science and religion can help us deal with this complex issue of scientific authority?

[RLN] Well... I'd be happy to see it happen.

to see it happen.

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<sup>12</sup> HARDIN, J.; NUMBERS, R.; BINZLEY, R. (Eds.). *The Warfare between Science and Religion: The Idea That Wouldn't Die*. Baltimore: Johns Hopkins University Press, 2018.