PEPPERDINE UNIVERSITY

Leaven

Volume 17
Issue 2 *Theology and Science*

Article 4

1-1-2009

An Interview With Edward J. Larson, Pulitzer Prize Winning Author of Summer for the Gods: The Scopes Trial and America's Continuing Debate Over Science and Religion

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CONDUCTED BY D'ESTA LOVE

The Scopes trial, known as the trial of the century, occurred in the summer of 1925. John Scopes was on trial for using a high school textbook which summarized Darwin's "alternative evolutionary mechanism." It was a trial that pitted evolution and Darwinism against scripture and fundamentalist religion. William Jennings Bryan, prosecuting attorney, and Clarence Darrow, defense attorney for John Scopes, were orators with uncommon skill and national reputations. The result was a debate about evolution versus creation that so greatly influenced the religious landscape that its impact is still evident today.

D'Esta: Early in the proceedings of the Scopes trial, Clarence Darrow tried to corner William Jennings Bryan into a position where he could be accused of interpreting scripture. How significant was the interpretation of scripture to the discourse of the trial?

Ed: It was an issue that ran throughout the entire trial. William Jennings Bryan was in the mainline fundamentalist tradition. Today we might say he was in the evangelical tradition, but our terms have changed since then. Both terms (fundamentalist and evangelical) have evolved.

Virtually everyone in the fundamentalist tradition based their understanding of Genesis, chapters 1 and 2, on the Schofield Bible. No one in 1925 believed in a young-earth theory. Everyone then believed that the earth was very, very old. However, there were two positions among fundamentalists regarding creation, and both positions were supported by scripture. Fundamentalists believed either that the days of creation were symbolic ages, or they believed that they were literal days and there was a gap of time between the opening sentence of Genesis and the rest of the book, allowing for an ancient earth (reflected in the fossil record) before the current creation. This was the debate among them concerning creation and both views are reflected in the Schofield Bible, referred to as the Bible of the Fundamentalists. In both cases they were very careful to say they were not interpreting scripture; they were simply reading the plain words of scripture.

Those who supported the gap theory loved to say that they were just saying what is evident—the days of creation in Genesis are literal days and then there is a gap. They would accuse the day/age people of interpreting the days as ages. The day/age people would maintain that it is evident that the "day" is metaphoric (like many things in scripture) because there cannot be a day before there is the sun. This, they would maintain, is not interpretation. Bryan was very much involved in these debates, and he himself subscribed to the day/age theory. And he would insist that he was not interpreting scripture.

Clarence Darrow and his team also knew their Bibles. There was only one person in the room who knew his Bible better than Darrow and that was Bryan. Darrow knew where he could push Bryan. He could turn

1. Edward J. Larson, *Summer for the Gods: The Scopes Trial and America's Continuing Debate over Science and Religion* (Basic Books: New York, 1997).

to any number of issues such as Noah and the flood, Joshua making the sun stand still, or Jonah in the belly of the fish, to ask if these examples were typology inspired by God, or a literal story inspired by God. Bryan was happy with either point of view, but he knew he was speaking to an audience beyond the reaches of the courtroom. Both Darrow and Bryan understood they were not at a scholarly lecture. They knew the trial was being broadcast nationally over the radio. They knew everyone was going to read their words the next day in the papers. So Bryan had to speak to an audience that knew he was speaking to the authority of scripture. Darrow wanted the audience to think that this great fundamentalist spokesperson was interpreting scripture, because once you interpret scripture why couldn't one interpretation be that God started an evolutionary process? Why couldn't the story of Adam and Eve be interpreted as metaphoric? It was tricky because they weren't speaking just to each other but to an audience larger than their courtroom. They were both master orators who knew how to communicate and that made their exchange so interesting. Both were profoundly sincere, and they believed in their cause. They also enjoyed speaking and each knew he was up against the best speaker in the country. So in a way they were playing a game. It was like a chess match between two great players, and they played the game at multiple levels.

I did not know—before I wrote this book—at what a sophisticated level this debate was taking place, which allowed me to engage it most deeply.

D'Esta: Throughout the trial there were references to theistic evolution and creationism. How are these terms related to Intelligent Design? Is this just new language for the same thing?

Ed: Yes and no. Terms acquire meaning by usage and therefore they can change. Theistic evolution used to have a very precise meaning and today it is very general. It reflected the thinking of Asa Gray who was trying to interpret a Darwinian world. But now it is the belief that species evolve over time and God in some way is involved in the process. The head of the human genome project, Francis Collins, calls himself a theistic evolutionist, and he is also a very fine scientist. He is a geneticist and no one would question his scientific standing. He works in evolutionary biology and believes that God guides the process. Now he would say that you cannot demonstrate the existence of God scientifically, because science is limited by looking for natural explanations of physical phenomenon. He can't prove there is a God behind the evolutionary process, but he believes that there is. He thinks there is plenty of scientific—not just religious—evidence to support that belief. Now you could say, and we would have twenty years ago, that he believes there was an intelligent designer (small i and small d) behind it all.

Since then the term Intelligent Design has acquired a specific meaning, especially if capitalized. That is because a certain group of people led by Phillip Johnson and Bill Dembski, along with a few others, have stamped it with a particular meaning. When they say there is a grand designer it isn't what was previously meant by intelligent design. Now Intelligent Design refers to one specific and narrow sectarian view of how this design took place. It means that God comes in and designs each species or intervenes and puts certain things in the process. So you see how it has acquired a special meaning.

The same thing to a lesser extent happened to creationism. If you read *On the Origin of Species*[2] you would have to say that Darwin was a creationist because he believed God created a few things in the beginning and they evolved into the current varieties of species. Anybody who was a theistic evolutionist would also be a creationist in that sense of the word. In contrast, Henry Morris and his Institute for Creation Research, which only dates to the 1960s, has stamped a special meaning on creation science and scientific creationism and to a lesser extent on creationism in general. These terms now mean something very specific—young-earth creationism. That is, that the world was created in six literal days. The land was created on the third day and all the land animals (including humans) on the sixth day. So now when you use

2. Charles Darwin, *On the Origin of the Species* (Dover Publications, 2006; originally published in 1859).

the term creationism in America (certainly scientific creationism) it carries that understanding of creation, where before 1960 it likely meant an old-earth creation. That is, that the earth is very old and the days of creation represent ages of creation.

So in one sense of the term Francis Collins would be a creationist and an intelligent design person, but he is not once you lock into the Henry Morris understanding. Or he is not an intelligent design person in the Philip Johnson, Bill Dembski view of things. So the meanings of words clearly evolve, and it is tricky to use some of these terms because they have acquired added meaning. So when the courts deal with these views of creation and they say that it violates the separation of church and state for a school to mandate the teaching of creation science or creationism or Intelligent Design, they are very specific to say "we are not saying you can't teach about God. We're not saying you can't teach that the whole system is in the anthropic principle. We are not talking about scientific ideas. We are talking about a particular sectarian belief."

Creation science today basically means young-earth creation (created in the last 10,000 years) in which all the different kinds of species were created directly by God in six literal days and there has been no macro evolution since that time. If you say Intelligent Design you lock into old-earth creation, which means that God literally and directly created all of the species at various times throughout a very long history of the earth. When I was in school we called that progressive creationism, but now Intelligent Design has basically co-opted that very specific meaning. Both of these views are rooted ultimately in a philosophical, religious viewpoint that is not exclusively Christian. Many members of the Unification Church and many Islamic people support Intelligent Design. Many Muslim countries also teach creation science.

But many Christians, such as Francis Collins, who are theistic evolutionists, would not believe in that narrow view of Intelligent Design or creation science—yet they are evangelical Christians. So it is a subset of Christianity that holds these narrow and sectarian views about creation. It is a battle. One reason why it is so inappropriate to get into this subject in our schools is it that it is a battle among believers as opposed to a battle of believers against non-believers. It is a division among deeply devout Christians about which approach to take.

D'Esta: When we use terms such as creation science can we really say it is a science? Are scientific standards and methods used to any degree by those who support this approach to creation?

Ed: No, because the supporters of both Intelligent Design and creation science admit they are not looking for naturalistic explanations; they are looking for supernatural or theological explanations. Science looks for naturalistic explanations but it is important to say that science might not provide the whole answer. A given scientific statement may be the best natural explanation but it might not be entirely true. The value of science is that it has technological applications that are repeatable and predictable. For example, if someone is sick we can give that person medicine and we can also pray for healing. Both approaches may be true and both may provide results. But they are separate routes to healing. There can be a physical cure (the use of an antibiotic) and a supernatural cure (through prayer). You can pray for a person and he might get well and he might not get well. Prayer doesn't work in a predictable, repeatable way. But we see examples of people who are not cured by natural means but are healed by the miraculous intervention of God. One route is not necessarily more valuable than the other. So accepting its limits and recognizing that they do not necessarily have the whole answer is part of the humility of science. Respecting science in its own realm is part of the humility of religion.

D'Esta: I was surprised to see that eugenics, which is the improvement of the human race through heredity and imposed reproduction, was a topic that entered into the discourse of the Scopes trial. Is this debate carried on through subjects such as cloning or genetic engineering?

Ed: Most logically this topic should not be tied to evolution but to genetics. Once you have the idea that there are certain genes that have both good and bad potentials and you have an evolutionary view of life, then many persons will inevitably feel compelled to discourage people from breeding who are carrying debilitating genes. Some are also led to encourage breeding among the fit rather than the unfit. It was based on an idea of Mendelian genetics.

Well, think about today. People think that being a sexual predator might have a genetic connection. If that is true, do we really want to let those people breed, or do we want to genetically engineer those people? Or if you have a disease like Huntington's disease, where you die when you are in your forties, do we want to use in vitro fertilization and pick the fertilized egg to implant based on the one that does not have Huntington's disease? We could say the same thing with any number of debilitating diseases or disabilities. Then, if there are traits we like such as fast running, blue eyes, intelligence, or brown hair do we, with our technology, test eggs that have been fertilized through in vitro fertilization for a variety of these traits? When we do, we are designing babies as much as the eugenicists. The eugenicists were doing it more crudely in the sense that they would sexually segregate or sterilize those who carried certain diseases or traits so they couldn't have children. The end result, however, was to design the next generation on sort of a wholesale level.

Now we are trying to do it on a retail level. Now we have hundreds of thousands of people who are concerned about the traits they carry and who may choose to use in vitro fertilization to pick their next generation. These are the same kind of questions raised by eugenics and they come from science because they come from applying Mendelian genetics, which of course was defined by a Catholic monk and a very devout Christian. They raise many ethical questions. Of course, Mendelian genetics was profoundly supported by many deeply religious people. Woodrow Wilson and Calvin Coolidge, for example, supported eugenics, and the church was split over the questions raised at that time. Now the church is split over the genetic engineering of humans (human gene therapy). Is genetic engineering a gift of God we should embrace, or is it playing God and ultimately destructive of the value of all human life?

Science is exploding the possibilities associated with genetic engineering, but it is humans who make decisions as to how they are used. Like atomic bombs—science can't tell us how to use the technology it creates because by definition science is amoral. It is a tool. With any tool, such as a sword, for example, we have to ask if we are using it to defend people or to destroy people. Today there is more power with science. What you could do with a sword you now can do with an atomic bomb or the push of a button. We still have to go back to ethical, religious and moral standards to think about how we should live with these powers. It is giving science too much credit to ask it to answer these questions for us. This goes back to the issue that science does not give us the total answer. It just gives us the naturalistic explanation.

D'Esta: Returning to the issue of evolution—was the anti-evolution debate a peculiarly American event?

Ed: In the 1920s the anti-evolution campaign was peculiarly American. Part of the reason was that the European churches, which were state churches, were not in the same place as churches in the United States. We have always had a free market of churches in the United States. Therefore, we have a diversity of religious ideas. In some Catholic countries the Church would not have supported evolution and there would not be a battle over these various viewpoints. Now there are changes in that we are seeing anti-evolution movements in schools outside the United States, and in general they are worldwide—except in Europe. Evolution is an issue in the Islamic world because it violates many readings of the Koran. There is only one country in Africa where evolution can be taught and that is South Africa. All other African countries are dominated by anti-evolutionary ideas and therefore evolution is not taught. The teaching of evolution is also an issue in the Pacific Islands. Africa and the South Pacific Islands have been heavily influenced by evangelical Christianity (through its missionary efforts in those regions of the world), which has its roots in the United States.

D'Esta: Why wasn't creation included in the five fundamentals of faith: absolute accuracy and divine inspiration of scripture, the virgin birth, salvation through Christ's sacrifice, the bodily resurrection, and the authenticity of biblical miracles?

Ed. This is a very good question. The list of five fundamentals of faith was originally formed by conservative members in the Presbyterian church, and evolution was certainly an issue at that time, but it caused too much of a conflict. There was too much division in Christianity over the appropriate definition to use. You would have thought they could have made a general statement that God was the Creator, but that would have been too general. If you brought a more precise definition, what view would you cut out? Would you cut out the day/age position or the literal day/gap theory? Also, the debate between evolution and creation is not limited to Christianity.

Books were published that led to the announcement of the five fundamentals. One was called *The Fundamentals*[3] and was sent to all preachers in the country. That led to the crystallizing of the list. A couple of articles were published on origins, but they were written by theistic evolutionists and there could not be an agreement as to how you would define the evolution/creation debate. If you said creation took place in six literal days you would have cut out Bryan, or if you just said creation with no definition it would have been too broad. So the problem was a matter of which definition they would use. But certainly anyone who subscribed to any of the five fundamentals believed that God created the earth.

D'Esta: So what influence did the Scopes trial have on the continuing debate over evolution, or more broadly, the debate between science and religion in America?

Ed: We can't know all of its impact but there are at least a couple of areas that we can see. First it was a national phenomenon that everybody followed at the time. Before then creation versus evolution was just one of many issues that seemed to capture the rising cultural tension between religion and society. The great religious debate in America could have focused on any one of these issues such as the virgin birth, the inerrancy of scripture or the authenticity of the biblical miracles. With the Scopes trial you had such powerful speakers as Bryan and Darrow who articulated the issue before a national audience that evolution became one of the defining issues in the American debate over the role of religion and society, especially religion and science. Bryan stressed the great social implications of believing in an undirected evolutionary process, where Darrow focused attention on how this issue was absolutely corrupting the freedom of science. Their voices made this the argument for many Christians in the United States, and their words pushed evolution higher on the agenda of their concerns.

Another impact of the debate was in the response of the crowds. Even though Bryan articulated his case powerfully and energized his own supporters, the press seemed hostile to him, as did elite public opinion represented by universities and university presidents and teachers. Historian George Marsden contends that a lot of fundamentalists decided they could not ever win over the dominant culture, and they retreated into a subculture. Before that they could argue that America was a Christian nation and that Protestantism was the dominant force in the culture. They could not argue that any more. So they said, instead of going to their universities like Harvard and Yale, we will build our own universities like Wheaton. Rather than go to their camps, we will build our own Christian camps. Rather than listen to their radio stations, we will have our own Christian stations. Rather than be in their Boy Scouts, we will start our own youth movements. Rather than give to their charities, we will give to our own—we'll support our own concerns and we'll have our own social circles.

3. *The Fundamentals: A Testimony To The Truth*, edited by A.C. Dixon and later by Reuben Archer Torrey, is a set of ninety essays in twelve volumes published from 1910 to 1915 by the Bible Institute of Los Angeles.

Before 1925 there was more acceptance of the social culture. But after that many Christians began building their own subculture. It wasn't the Scopes trial alone that began this tendency, but I think it was a key public event that led to the creation of an evangelical subculture within America.

There was a third impact that is the flip side of the second. Because of the trial, many people in science and secular culture came away saying these fundamentalists are Luddites. They are rejecting the very ideas that are giving us hope for the future. Many people believed evolution was progressive and leading humanity forward, and as a nation we are evolving forward. Basic science is the foundation of medicine ar agriculture, and the fundamentalists are rejecting all these things. There is such hostility that we can't deal with these religious ideas because they are irrational.

Also, a stereotypical image of fundamentalists was created in the minds of many secular Americans. It was further captured in the film *Inherit the Wind*[4] by the way Frederic March portrayed Bryan, which was very far from the real image. So there are three ways in which the Scopes trial played out and continues to resonate in America: evolution became a vital and defining issue for many Christians, an evangelical subculture developed, and a stereotypical image of fundamentalists was created in the minds of many secular Americans. It was an important event in many ways.

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4. *Inherit the Wind*, directed by Stanley Kramer (1960).