

THE TRIAL OF THE CENTURY

The story of how a little country town attracted the attention of the world by providing the stage for one of history's greatest debates between science and religion

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In recent years we have witnessed a number of sensational, highly publicized trials, involving such people as O.J. Simpson, Scot Peterson, Martha Stewart, Bill Clinton, and Michael Jackson – all of them famous people and events that somehow attracted the attention of the tabloids, the bloggers, and 24/7 cable news networks. Indeed, it is said that if it were not for modern, electronic news outlets, with their insatiable need for material to attract viewers, that such events would never get the huge amount of attention that they receive.

But the fact is that the trial still referred to by many as “the trial of the century” occurred before the day of television, and before computer web sites or the internet. And it did not take place in New York, Washington D.C., or California. I am referring to the famous “Scopes Monkey Trial,” which took place in the summer of 1925 in the little town of Dayton, Tennessee, in the Rhea County court house, just 40 miles northeast of Chattanooga.

During that summer, national and world attention was riveted on the little east Tennessee town (population about 3,000). That trial was covered by every major news organization in the United States, with hundreds of news reporters, including such famous writers as H.L. Mencken and Westbrook Pegler. It was the scene of history’s first radio broadcast of a court proceeding, and it made headlines in virtually every nation in the world. For more than a week the little town of Dayton was like a huge county fair, with vendors selling food and souvenirs.

On trial was John T. Scopes, a young graduate of the University of Kentucky, who was charged with violating a Tennessee law that forbade the teaching of evolution in the public schools.

The trial attracted two of this nation’s most famous lawyers, William Jennings Bryan for the prosecution, and Clarence Darrow for the defense. Bryan, known as the “Great Commoner” was a fundamentalist in religion but a progressive in politics. A three time Democratic party candidate for the presidency, he had been secretary of State under Woodrow Wilson, and was the author and deliverer of the famous “Cross of Gold” speech. In 1921 he had come to Kentucky to lecture in support of a law then before the state legislature to outlaw the teaching of evolution in Kentucky schools. The law

failed by one vote. He continued to campaign for the measure, however, and it passed in Tennessee in 1925. Governor Austin Peay signed the law reluctantly, saying that it was only a symbolic measure and could never be enforced. Scopes was indicted just six weeks after its passage.

Clarence Darrow was one of the nation's most famous defense attorneys – an ACLU type who had defended the famous socialist Eugene V. Debs, and successfully pleaded that a Chicago jury spare the lives of two of the nation's most notorious killers – Nathan Leopold and Richard Loeb, the kidnapers and murderers of little Bobby Franks.

These two great legal minds and masters of oratory locked horns for ten days over an issue that had inflamed millions of people. Probably no issue of our day (besides the question of legalized abortion) is comparable to the issue of evolution in 1925.

How did little Dayton, Tennessee, become the venue for such a high profile event? The American Civil Liberties Union had let it be known that they would provide financial support for any teacher who was arrested for violating this law. Some of Dayton's city fathers (including the mayor and the school superintendent) thought of a scheme that might attract national attention to their little town – something they thought would be good for business. And it had to be done quickly, because there was already a rumor that the nearby and larger city of Chattanooga might be planning to do the same thing. ✓

Thus, John T. Scopes became a pawn in the hands of some clever, if not to say unscrupulous civic leaders. Meeting in a local drug store, they persuaded Scopes to be the catalyst for the big event, even though he was a first year football and basketball coach, who had only substituted as a biology teacher, and was not sure that he had ever taught evolution. ✓

And what was the highly volatile issue that motivated the great trial? Biologist Charles Darwin's book, *On the Origin of Species*, was published in 1859 – some 65 years before the Dayton trial. In that book he had set forth his theory of natural selection and that theory proved to be a turning point in scientific thinking. Few theories have had such an impact on subsequent scientific research or on the culture in which they were proposed.

Darwin was, of course, not the first person to suggest some form of evolutionary theory. People had speculated about the origin of species ever since they noticed that in nature, likes breed with likes, and produce more of the same. Some early Greek philosophers, as well as latter day naturalists had speculated on the idea of organic evolution.

Darwin, a medical student for a short time, who had later studied for the ministry, had visited the Galapagos Islands in 1831, as a ship's naturalist, and his observations of birds and tortoises led him to the idea that existing species on the islands had evolved from pre-existing ones. This was the beginning of his development of the theory that led to his 1859 publication, which, incidentally, said nothing specific about the origin of the human species or even mentioned the word evolution. This came later in his 1871 book, *The Descent of Man*.

The theory was widely acclaimed by biologists, but there were several problems that stood in the way of its acceptance. One was the ideas about genetics that were prevalent at the time. Darwin's first book preceded the work of Gregor Mendel. Without a comprehensive understanding of genetics, the mechanics of evolution would remain a mystery. Another problem was the prevailing view of the age of the earth, which at that time was considered to be no more than 30 million years, not enough time to account for the gradual changes Darwin's theory implied. And a third was the lack of a fossil record that supported the Darwinian theory.

Gregor Mendel's work on genetics was done mostly in the 1850's and 60's, and it proved to be one of the most significant series of experiments in the history of biology. Before his time there were various theories of heredity held by biologists. A prominent one was the Lamarckian theory (the one which Darwin himself actually favored at the time), which held that organisms could inherit acquired characteristics. This theory has since gone the way of such theories as alchemy and phrenology – interesting ideas that generated research but were doomed to be discarded. Another was the idea that an offspring might inherit a kind of blending of traits from its parents. A plausible idea but not the result that Gregor Mendel was surprised to find.

Mendel, an Austrian monk, did his work breeding and cross breeding pea plants. In his day, *chromosomes* and *genes* were unknown, and DNA was not to be discovered before the next century. Yet Mendel was able to figure out that organisms possessed some kind of genetic material that included

two types of elements – one he called dominant and the other recessive. The dominant and recessive elements (later called genes) combined, at the point of conception, in a purely chance fashion, so that the dominant element determined the outcome or phenotype of the offspring. Yet the offspring could continue to carry those recessive elements (which I will call genes now) and could be combined with another recessive gene in a later generation pairing, and the recessive trait would reappear. Thus, a rabbit who had a dominant gene that enabled him to run very fast might mate with a female that had a recessive gene for speed, and an offspring that received that dominant gene would be fast like his father. But the offspring might also receive a recessive gene from his mother, and thus if later paired with a mate who also had a recessive gene, they could produce offspring whose speed was of the ordinary type. Mendel's theory of genetics made Darwin's theory of evolution more acceptable, even though it is believed that Darwin never read Mendel's work. If an organism's inherited characteristics made it more able to adapt to its environment (and running speed is a survival skill for a rabbit) it would reproduce itself, and pass those characteristics along to its offspring. If it had characteristics that interfered with adaptation, and was unable to reproduce itself, its genes died with it. It is a theory of *survival of the most adaptable*.

The problem of the age of the earth was overcome by the early 20th century work of astronomers, who reached the conclusion that the universe is at least 13 billion years old, and the earth about four and one half billion, which is still considered to be the best estimate of the age of our planet. Thus, our world has been here long enough for evolution to take place.

It took longer to resolve the third issue – that of the fossil record. The story of hominid fossils is too long and complicated for this paper. For years, archaeologists searched for what they thought of as a “missing link” – an idea since discredited. Darwin's theory never indicated that humans descended from apes – only that they both descended from a common ancestor. The hominid fossils which are considered to be precursors of modern homo sapiens were found first in South Africa, then in East Africa. Most paleontologists believe that the evolutionary tree is as complete for humans as for any type of animal, and that it fits the Darwinian pattern. So by the early part of the 20th century the so-called “neo-Darwinian or modern synthesis” had come to be accepted by virtually all biologists. By this time Darwin had revised his original work many times, and had produced *The Descent of Man*. Mendel had contributed his work on

genetics, the Dutch botanist, Hugo Deverse had come up with the concept of mutations (spontaneous changes in genes), and in 1910 genetecist Thomas Morgan became the first to actually observe a spontaneous mutation and watch it spread through a breeding population in a Mendelian fashion.

Today the major tenets of the modern *evolutionary synthesis* are that populations contain genetic variations that arise by random mutation, recombination, and genetic drift with natural selection based on adaptive factors that promote survival and procreation. Not all of these changes are desirable from our point of view. While it is interesting that the superior human brain has resulted from such a process, it is disturbing to note that harmful bacteria are continually evolving traits that make them immune to current antibiotics and thus cause pharmaceutical companies to have to come up with ever more expensive medications to fight those pesky, little microorganisms.

It has been nearly 150 years since publication of *On Origin of the Species*, and the struggle between those who accept a theory of evolution and those who hold to a belief in creationism continues. The so-called “anti-evolution crusade,” is said to have been spawned first by the growth of Protestant fundamentalism in the 1920’s and then by compulsory education, which led to evolutionary theory being set forth to many students and families, who found it to be in conflict with their religious beliefs.

The outcome of the so-called monkey trial was somewhat anticlimactic. Scopes’ defense was that he had merely used the textbook approved by the state for high school biology, and the book, perhaps unknown to the legislators, set forth a theory of evolution. There was never any doubt of Scopes’ guilt. The real purpose of the defense was to get the law declared unconstitutional, while Bryan wanted the law to become a model for other states, assuring only the teaching of creationism in public schools.

Scopes was never called to the witness stand, and the most exciting development was when Darrow, the defense attorney, called Bryan, the prosecuting attorney, to take the stand as a witness for the defense. Darrow had no right to force Bryan to do so, but Bryan obviously thought that this was a wonderful opportunity to argue the merits of the law and the case for creationism in a forum that had the world’s attention. He had prepared a 15,000 word speech on the subject. But Darrow, who by now knew that the judge was not going to declare the law unconstitutional, paid little attention

to the law in his cross examination. Instead, he asked Bryan a series of questions obviously designed to show that the Bible was not an adequate source for information about the origin of man.

Darrow asked Bryan such questions as “Did Jonah actually live for three days in the belly of a whale...was Eve actually created from the rib of Adam...where did Cain find his wife...and was Noah actually able to cram two of every land animal in the world in a boat that was not much bigger than a football field...” Bryan staunchly defended the literal truth of the King James version of the Bible, though many thought he was being made to look foolish.

When the trial was over, Scopes was found guilty and was fined \$100. In my research I found two versions of how the fine was paid. One said that it was paid by the famous Baltimore columnist H.L. Mencken. The other said that it was paid by the prosecutor, William Jennings Bryan, who had always believed that the law should forbid the teaching of evolution but not make it a criminal offense. Scopes’ conviction was overturned on appeal, but the law was upheld by the Tennessee supreme court as constitutional and remained on the books until it was struck down, along with other anti-evolution laws, by a United States Supreme Court ruling in 1968. Scopes rejected a contract to teach in Rhea County the next year, accepting, instead, a scholarship to study geology at the University of Chicago. He later managed an oil refinery in Louisiana. The trial may have been emotionally draining for Bryan, because he died in Dayton, less than a week after the trial.

It is questionable that the Dayton city fathers were pleased with the outcome. Though the trial had put Dayton on the map, so to speak, it was forever to be referred to as “the little Tennessee town where they had the monkey trial.” Today it is not much bigger than it was then, though a few visitors do trickle in to see the Scopes trial museum, located in the center of town.

But the controversy continues. The theory of “scientific creationism” gained new support in the middle of the twentieth century, and an organization called the Institute for Creationism Research, founded in 1972, prepared creationist textbooks for the public school market, that were adopted by many school districts. One by one these were struck down by court rulings as unconstitutional, culminating in the 1987 U.S. Supreme Court ruling against Louisiana’s Balanced Treatment Act. The court ruled, in that case, that no law was needed to teach scientific evidence for or against evolution.

Therefore, this law must have been passed to promote religion. This ruling gave impetus to the Christian academy and home-schooling movements.

In spite of these court rulings, many people – probably the majority of the American population—do not accept the Darwinian theory. In my research I found one poll that indicated that 45% of Americans believe the Genesis account of a six-day creation of all living creatures. Another poll said that more than 80% of Americans say that God either created human beings in their present form or guided their development.

The most recent opposition to evolution is what is known as the Intelligent Design (or I.D.) movement. The proponents of I.D. do not contend that the universe was created in six days or that the earth is only ten thousand years old. I.D. proponents hold that the theory of natural selection can not fully explain the origin of life or the emergence of highly complex life forms. They accept that some evolutionary change has occurred during the history of life on earth, but they maintain that theirs is an alternative scientific rather than a religious explanation of the origin of the species. The movement's basic argument is that the design inherent in living organisms can be accounted for only by invoking a designer, and one who is very, very smart. This puts I.D. squarely at odds with evolution which is based on the combined action of random mutation and natural selection.

Most of those who accept an evolutionary explanation believe that Intelligent Design is simply a cover for a traditional creationist theory of human origin, but the Intelligent Design advocates contend that evolutionary theory is fatally flawed. The Intelligent Design advocates suffered a setback last December, when a federal judge in Dover, Pennsylvania, ruled that the local school board erred by requiring high school biology teachers to include I.D. when discussing the origin of the human species. The judge ruled that I.D. is a religious viewpoint and, therefore, a violation of the separation of church and state when required in public schools.

A recent *New Yorker* magazine article said that some 20 states are currently considering proposals that are hostile to the teaching of evolution and supportive of the teaching of competing theories. Even President George Bush and Kentucky Governor Ernie Fletcher have expressed support of Intelligent Design being taught in public schools. *We may be on the verge of another monkey trial!*