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LOGOS-SOPHIA

It's you or me kid!



**CREATION
VS.
EVOLUTION**



**Journal 5 of the P.S.U.
Philosophical Society
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LOGOS-SOPHIA

THE JOURNAL OF THE
PITTSBURGH STATE UNIVERSITY
PHILOSOPHICAL SOCIETY



VOLUME V, SPRING 1993
SPECIAL ISSUE:
CREATION AND EVOLUTION

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INTRODUCTION

Donald Wayne Viney

The Pittsburg State University Philosophical Society is happy to present the fifth volume of *Logos-Sophia*, the official journal of the society. This volume marks the first time that an entire issue has been devoted to a single topic. The topic is the creation/evolution debate. Most of the articles published here were selected from papers written for a seminar in Creation and Evolution during the Spring 1992 semester, taught by Dr. Viney. The articles represent a variety of perspectives on the creation/evolution controversy. This edition of the journal is dedicated to John Scott, a professor of history who was dismissed from this school in 1925 for, among other things, teaching evolution (see article "Monkey Business in Southeast Kansas").

The main activity of the Philosophical Society over the past year was to sponsor Star Trek Week, November 16th through 20th. The week included a trivia tournament and five lectures on various aspects of the television and film versions of Star Trek. Dr. Shirley McConnell of the department of Communication spoke on "The Enduring Friendships of Star Trek." Dr. Stephen Teller of the department of English discussed "Literary Aspects of Star Trek." Dr. Marjorie Donovan of the department of Social Science presented a paper entitled "Where No One Has Gone Before?: Gender and Racial Stratification in Star Trek." Mr. Mark Simmons, Program Director of KRPS-FM, spoke on "A Science Fiction Writer Looks at Star Trek." Dr. Donald Wayne Viney considered "Star Trek as Philosophic Fiction."

Sherri Strickland was elected President of the Philosophical Society after having served as Secretary. Ellen Harrington doubled

up on the jobs of Vice-President and Secretary. In the Fall of 1992 Brad Roberson was elected President. Mr. Roberson's art work provides the cover to this issue of *Logos-Sophia*. Mr. Todd Gimlin, former Creative Director of the Philosophical Society, designed the Society's logo.

The Philosophical Society wishes to thank Dr. Mike Modaress, Rick Huguenin, and Rebecca Viney of the Office of Instructional Media for their generous assistance in putting together this journal.

CREATION AND/OR EVOLUTION: A LOOK AT THE DEBATE

Elinor Colahan

My main topic is on the ongoing debate between Scientific Creationists and Evolutionists or Darwinians. Due to the misconceptions about "fundamentalists," I am going to begin with the question: What does it mean to be a fundamentalist?

Kathleen C. Boone says this in her book *The Bible Tells Them So: A Discourse On Protestant Fundamentalism*:

The popular image of the fundamentalist - the smug television preacher who inveighs against the immorality of 'secular humanists' while fulfilling his own lusts in secret - is an anomaly. For every such figure, there are millions of other fundamentalists, less visible and therefore less notorious. (1)

In fact, to put all fundamentalists into one group is a mistake. Actually, to be exact, the term "evangelism" is used more now because, as Boone states: "*fundamentalism* is now reserved as a term for extremism" (8). Due to television preachers and authoritarian ministers, fundamentalism is a bad word to many people.

The article "Who's Really Doing Evangelism" states that most Christians who read *Christianity Today* think evangelism is "Communication or sharing about Christ, his claims, and his relevance" (Engel, 35). Beyond that definition, there are three main groups: the fundamentalists, the Pentecostals, and the charismatics. Evans and Berent, in their book *Fundamentalism: Hazards and Heartbreaks*, explain the origin of the word "fundamentalist" as coming from "a publication of volumes widely circulated between 1910 and 1915,

entitled *The Fundamentals*" (1). Fundamentalism has never been a denomination, but it is an "ideology" within some churches, which encourages believers to separate themselves from the "essentially evil world" (Evans and Berent, 1).

Pentecostals are the ones who believe in being filled with the Holy Spirit. Their services are full and varied, but usually include these things: lots of singing, speaking in tongues and interpreting God's message, calling people out from their pews by naming their needs for prayer, and divine healing. Randall Balmer explains the reason for their type of worship: "pentecostals believe that the spiritual gifts bestowed upon the early church in the book of Acts are available to modern-day believers" (xi). Some examples of Pentecostal churches are the Church of God in Christ, the Assemblies of God, the Foursquare Gospel, and many other unaffiliated churches.

The charismatics are found with denominations such as Southern Baptists, Episcopalians, and Roman Catholics. They may believe in the spiritual gifts, but tend to dislike the "emotive outpourings" of the Pentecostals (Balmer, xi). Those definitions are the "norm" according to several authors, but even they state the lines are fuzzy and one type tends to run into another.

There is a conflict between Creation Scientists, who are trying to prove the literal reading of Genesis is scientific fact by attacking Darwinism, and evolutionists fighting back. While doing research for this report, I was surprised to find out that the creation-evolution controversy is not only current, but very heated. I am offering the issues to you and do not wish to present biased material. Therefore, I will share some viewpoints from both sides.

Just as there are many different types of evangelicals, there are many different beliefs about the creation-evolution controversy. To put all creationists into one group is a mistake. Some evangelical Christians would agree with Johnson that God could have created the world "gradually over billions of years," which is known as theistic evolution (Woodward, 33). St. Augustine defined this theory as "seed principles." Professor Davis A. Young of Calvin College discusses this by saying God created everything "in a potential form,

so that in time they might become the way we see them now" (p. 60).

For example, an article in *U.S. News and World Report*, talks about a group of about 2,300 scientists who call themselves "evangelical Christians," known as the American Scientific Affiliation (Sheler and Schrof, 60). They think science and religion could be compatible. "Dorothy Chappell, chairman of the biology department at Wheaton College, states: 'Many of us believe God has revealed himself in both'" (Sheler and Schrof, 60). Henry Fairfield Osborn, who was a Research Professor of Zoology at Columbia University, had the same idea in 1922. "Evolution by no means takes God out of the universe, as Mr. William Jennings Bryan supposes, but it greatly increases both the wonder, the mystery, and the marvelous order which we call 'Natural Law,' pervading all Nature" (Osborn, 11). This quote is taken from an essay written in response to a statement by William Jennings Bryan in the *Sunday Times* of February 26, 1922.

Christianity Today had an article called "A Professor Takes Darwin to Court: A new book mounts a credible challenge to evolution's sweeping claims" by Thomas Woodward in their August 19, 1991 issue. David L. Wilcox, chairman of the Creation Commission for the American Scientific Affiliation and professor of science at Eastern College, Saint Davids, Pennsylvania, said this about this controversial book: "*Darwin on Trial* may be the most important book on the evolution debate in decades" (35). The author, Phillip E. Johnson, is a professor of law at the University of California at Berkeley, so he comes at Darwinian evolution from a logical, not scientific, standpoint. Before I go on, Johnson does *not* claim to be a "Biblical literalist", but is a creationist by this definition: "anyone who believes in a God who creates" (Woodward, 33). However, he also believes "Darwinism is as much the product of religious bias as 'creation science'" (Woodward, 33). His central thesis is that Darwinian evolution is grounded not on scientific fact, but on a philosophical doctrine called naturalism" (p. 33). "His target is Darwinism (not Darwin himself), the vast system of modern thought that has evolved since the Darwinian revolution of the 1800s which is a fully naturalistic evolution—meaning evolution that is not directed or controlled by a purposeful intelligence" (p. 34).

Many evangelical Christians believe in the literal reading of the creation account in Genesis. *U.S. News and World Report* gives the results of a "new poll" by the "Gallup Organization" in its December 23, 1991 issue. According to the poll, "nearly half of all Americans subscribe to a fairly literal reading of the biblical creation account," (Sheler and Schrof, 57). They have a strong and dedicated organization on their side. The vice-president of the Institute for Creation Research in San Diego, Duane Gish, states: "Anyone who believes in evolution cannot accept the biblical record of creation" (59). This belief is currently taught at "hundreds" of Bible schools and Bible colleges around the country (59).

A philosopher who has a lot to say about this is Michael Ruse, author of *Darwinism Defended: A Guide to the Evolution Controversies*. When talking about those who believe in sudden creation, he quips: "God created the world in a working week, and that is that" (286). Ruse explains the creation - evolution controversy as being motivated by a desire to keep evolution out of classrooms. Of course, that was the issue in the 1920's. But he claims the "new movement" has "moved with the times" (290). Instead of insisting on "crude Biblical literalism", creationists are intent on proving Genesis scientifically (291). So, they think Scientific Creation should be taught as an alternative to evolution. Ruse goes on to say evolution is given only "minimal treatment" in biology classes because of conservative school board members who dislike the teaching of evolution to their children (293). So, the Creationists have a partial victory in the classroom according to Ruse.

Now, I am going to outline two arguments for sudden Creation and against gradual evolution. The first is about the fossil gaps and the flood being responsible for the fossils. The second argument is about the second law of thermodynamics which states that "the physical processes always go from order to randomness - you can scramble an egg but you cannot unscramble it" (Ruse, 296). Just as with fundamentalists and creationists, all evolutionists do not represent the same thoughts. I have offered a few ideas for discussion on these two controversial arguments.

In a book entitled, *It's A Young World After All: Exciting Evidences for Recent Creation*, Paul D. Ackerman cites evidence for the Biblical flood. "His findings support not only the historical fact of the flood but its occurrence at the time indicated by the Bible" (95). George Dodwell claims the earth tilted from its axis at the same time of the flood. It is only a "possibility" however, but it could help explain "puzzling mysteries in the fossil record" (Ackerman, 96).

The book *Scientific Creationism*, edited by Henry Morris and written by the institute for Creation Research, goes into much more detail when discussing the flood and its relation to fossils. First of all, there were many other natural disasters besides the flood. This meant everything alive was running for its life, but few made it. So, when the "sediments settled down out of the water" they formed the "various strata that we find around the whole world today" (Ruse, 299). This is due to the "organisms" leaving "remains in a progressive fashion, because of their different original habitats and abilities" (300). Douglas J. Futuyma, in his book *Science on Trial*, insists the Scientific Creationists are wrong to believe a flood can account for the "orderly sequence" of the "fossil record" (183). He goes on to mention that some sedimentary deposits are twelve miles deep, and could not have formed that fast. Ruse brings up another problem related to the flood accounting for the progression in fossils, "there was *not one* dinosaur, or trilobite, or mammoth, that was lucky enough, or clever enough, or fast enough, to climb up to the top of the hill, and thus escape the fate of its fellows" (315).

"The flight of time's arrow is downward rather than upward, as evolutionists claim" (Ackerman, 114). The illustration given in this book is that of the monkey typing. Ackerman explains that the monkey wouldn't have enough time to put out a literary work because of the second law of thermodynamics. He goes on to explain that the "longer the monkey types, the greater the chance that its typewriter will break...to mention nothing of the monkey or its paper supply!" (113).

Henry Morris and the Institute For Creation Research go beyond Ackerman by denying the usual evolutionist's reply to the

second law of thermodynamics. Evolutionists “distinguish between ‘closed systems,’ where no new usable energy can come in, and ‘open systems,’ where new usable energy can come in. The second law obviously applies only to closed systems” (Ruse, 296). Creationists say even evolutionists can’t explain the law away. The Creationists claim there must be a Designer to make the world go from chaos to order. For example, if you plant a garden and don’t pull out the weeds, it will become overrun and disordered. Just as the garden needs a gardener, they say the earth needs a Creator (Ruse, 306).

Futuyma counters this in *Science on Trial* by using cases where order comes from disorder:

A Human body arises from the relative formlessness of a fertilized egg; disordered water molecules form ordered ice crystals in our refrigerators. The reason, of course, is that neither an organism nor anything else except the universe as a whole is a closed system: the earth and its organisms are open systems that acquire energy from the sun to build complexity from simple precursors. (183).

Ruse brings up the same point: “The world is not a closed system: usable energy is always coming in from the sun. Hence, evolution is possible” (306). The idea that the world could have come from chaos without an orderer is still a debatable issue.

The differences in fundamentalists is an example of the varying beliefs among creationists and evolutionists. The examples I gave represent the many debates going on today. Even though there are conflicts among those who don’t agree on creation and evolution, I think evolution will continue to be taught in schools.

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FACT AND FICTION IN *INHERIT THE WIND*

Neil Bryan

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF TENNESSEE, That it shall be unlawful for any teacher in any of the Universities, Normals and all other public schools of the State which are supported in whole or in part by the public school funds of the State, to teach any theory that denies the story of the Divine Creation of man as taught in the Bible, and to teach instead that man has descended from a lower order of animal.

Thus was passed one of the most controversial laws in America, the law that became known as the "Butler Act" of 1925. The trial to test this law stirred up America for the next fifty years, is the subject of numerous books and essays and movies were even done on it, based on a play by Jerome Lawrence and Robert E. Lee — the main subject of this paper. For such a large effect however, the whole incident began rather quietly.

Dayton, Tennessee was a small town, barely 1,800 souls. One of these, George Rappleyea, along with a few city officials, decided to stage a test of the Butler Act. The test case would determine if the law was Constitutional. The case set a precedent for judgment (and possibly the fines), and gained some press coverage for their small town. How much coverage, they didn't realize.

Once a plan of action had been established, a defendant was needed. The perfect choice seemed to be John Scopes, the local

science teacher. Scopes was young, unmarried, and fairly popular in Dayton — although he did have a reputation for smoking cigarettes, and even dancing. Although Scopes did not normally teach biology, he was substituting after the regular biology teacher had become ill. The textbook he was teaching from, Hunter's *Civic Biology*, was the standard biology book of Tennessee — and it also contained Darwin's theory of evolution. When approached with the idea of a test case Scopes agreed to be the guinea pig. The drama of dragging Scopes out of his classroom and putting him in jail are Hollywood's fabrications. A wire was sent off to the local ACLU to inform them, and ask for the possibility of some media coverage. Then the case exploded.

The ACLU wired back immediately, asking the details of the plan of prosecution. After a few weeks and several telegrams, Dayton received a shock—William Jennings Bryan, three time presidential candidate, was to be on the prosecution team. To a town consisting mostly of Fundamentalists, having this great man, a deeply religious man himself, in their town raised a cry of joy. Then they learned that Clarence Darrow, brilliant legal mind and declared agnostic, was to be the main defense lawyer. While they weren't overjoyed, the townspeople gave Darrow a fairly warm reception.

In the movie *Inherit the Wind*, the people of Dayton, almost all of them Fundamentalists, are shown as ignorant, backwards people with a deep hatred for anyone opposing their beliefs. Their hero, Bryan, is also portrayed as a once-great-but-now-not-capable old man. Although somewhat based on reality, neither of these are true as shown in the film. The Fundamentalists were (and some still are) strict Protestant Christians with a firm belief in a literal interpretation of the Bible. However, they did not threaten Darrow, nor did they throw glass bottles at Scopes. Only when their religion was being attacked did they become angry and threaten to run people out of town on the railroad. Bryan, although aging, was still a brilliant legal mind. He never terrorized Scopes girlfriend on the bench (indeed, Scopes was not even going steady with anyone at the time), and he didn't break down in front of the jury like a babbling idiot (yet the film's portrayal of him eating constantly is correct; this was due to a rare

form of diabetes from which Bryan suffered).

The trial itself is somewhat more accurately portrayed in the movie. Darrow did bring in several scientific witnesses to explain Darwin's theory of evolution (since none of the jurors knew anything about it); they were not allowed to testify. The explosive scene where Darrow cross-examines Bryan is true transcript almost to the word. But although Bryan does die after the case is closed, it is five days later—not in the courtroom.

Near the end of the trial, the townspeople were becoming restless, the media was having a field day with "the small town ignorance", and the nation was feeling the effects of the biggest evolution/creation feud ever. So Dayton pulled the plug.

The city officials, after nine days of grueling court proceedings and bitter words, quietly told the judge to bring the case to a close—and quickly. So on July 21, 1925, the judge ruled that enough testimony had been heard and instructed the jury to decide. They found John Scopes guilty of violating the Butler Act, and he was fined \$100, the minimum allowed. After eleven days that effected the whole nation, the Great Monkey Trial, as it came to be known, was over.

THE CREATION AND EVOLUTION DEBATE IN SOUTHEAST KANSAS

Missi Lindsay

On August 25, 1925, just a few weeks after the conclusion of the Scopes Monkey Trial, Clarence and Ruby Darrow arrived in Girard, Kansas to visit Emanuel and Marcet Haldeman-Julius. Clarence Darrow's chief mission in the visit was to arrange for the publishing of his writings. Emanuel would eventually become the publisher of these writings, which were part of the collection that became known as the Big and Little Blue Books.

This visit was Darrow's third to Southeast Kansas. His first visit, in May, 1909, was made to defend Fred D. Warren. Warren was the managing editor of the weekly newspaper, "Appeal To Reason." This newspaper served as the voice of American Socialism. Warren had been angered at the forced extradition of three men that had been accused of killing Frank R. Stuenenberg, the ex-Governor of Idaho. In response to this extradition Warren offered a \$1,000 reward for the capture and extradition of William Taylor, an ex-Governor of Kentucky. Taylor had been implicated in the death of a political opponent. Warren was indicted by the Federal Government. Even though Darrow had prepared a strong defense for Warren he was not acquitted. Darrow did, however, help in slowing down the negative response the Federal Government had to socialist activities.

Darrow's next trip to the area was in October, 1918. The purpose of this visit was for him to participate in a miner's rally for labor leader, Alexander Howat. He also spoke to a group of people in Pittsburg concerning the war in Europe.

In 1925, on Darrow's third visit to the region, he was warmly received by the residents of Southeast Kansas. As the Pittsburg

newspaper, "The Daily Headlight," phrased it, Darrow was a man with, "a number of friends in Girard and neighboring areas."

During his stay local reporters were invited to interview him at the Haldeman-Julius home. One of the topics the reporters inquired about was Darrow's opinion on the origin of the earth and the descent of humans. Darrow expressed doubts that Kansas would pass an anti-evolution bill at this time. In the interview the name William Jennings Bryan was brought up. Darrow stated that Bryan was a, "sincere and an ignorant man." Emanuel agreed entirely with Darrow on this subject, as well as on the subject of religion.

Emanuel remembered a time he had heard Bryan giving a sermon to an audience at the Academy of Music. The sermon was titled, "The Prince of Peace," and it attacked Darwin and evolution. Emanuel was a teenager when he had the experience of hearing Bryan but, as he was quoted as saying, he'd, "read enough Darwin, Huxley, and Spencer to know what a jackass Bryan was making of himself." He continued, "He was an ignorant, stupid, narrow-minded, malicious man with a magnificent voice and the ability to talk in a way that impressed his medieval-minded audiences of yokels and bible-thumpers. About 20 years later Bryan would preach the same sermon in the Scopes Monkey Trial, for he never learned anything, nor did he care to learn anything, once he got the dogmas of the Fundamentalists settled in his small, narrow mind. As he put it himself, he was more interested in the Rock of Ages than in the age of the rocks."

The people in Dayton, Tennessee, the location of the Scopes Monkey Trial were some of the medieval-minded audiences of which Haldeman-Julius spoke. His wife Marcet, reported about their trip to Dayton to attend the trial. She wrote that as they entered town at 3:00 am the first morning of the trial signs were hanging literally everywhere. They were on buildings, fences, walls, etc... There were messages such as:

"Read your BIBLE."

"God is Love."

"Read your BIBLE for a week."

"You Need God in Your Business."

"Where Will You Spend Eternity?"

She said she felt as if they had, "stepped by mistake into a Methodist camp-meeting." She found that the Fundamentalists of Dayton took the Bible very literally. They thought God looked like a man because the Bible said that man was created in the image of God.

She related a story told to her while in Dayton that illustrated the "Hell-fire quality of religion in Tennessee." The story goes as follows: A chemical and mining engineer, Dr. Rappleyea, lost four of his mine people in a railroad accident. One of the victims was a six year old boy. At the boy's funeral his mother kept moaning, "Oh, if I only knew he was with Jesus! If I only knew that!" The preacher replied, "I'll not lie to you even to bring you peace. The ways of the Lord are his. You know and everybody here knows that this boy had never been baptized. He had never confessed Christ. There can be no doubt but that at this moment, he is in the flames of Hell." Dr. Rappleyea called the preacher outside and asked why he had said what he had to the boy's mother. The preacher told the doctor that he'd not lie for any reason, even to bring the mother peace. The doctor's answer to this was that maybe he should quit talking then.

Chances are good that the preacher didn't quit talking. And even if he did there was, no doubt, another waiting to take his place. Marcet made the Scopes Monkey Trial sound like a carnival. She described the street in front of the court house as being lined with hot dog wagons and refreshment stands. "And in the midst of this scene was William Jennings Bryan. Bryan reminded me of the preacher in the story I just mentioned." Marcet described him as a hard man that probably believed a lie told for the glory of God is justified. She said he was a, "muddle-head, incoherent alike in thought and emotion."

Bryan died shortly after Marcet sent her notes back to Girard for publication. After her notes arrived she and Emanuel also returned to Girard. Just days after that the Darrows arrived in Girard. Which brings me back to Clarence Darrow and his interviews in Southeast Kansas.

After being interviewed at the Haldeman-Julius home the Darrows and the Haldeman-Julius' took a drive to Pittsburg where

another reporter was waiting for an interview with Darrow at the Hotel Stillwell. The reporter would ask questions that were originally asked by John Raulston, the presiding judge in the Scopes Monkey Trial.

This interrogation served several purposes. It questioned the scientific and religious beliefs of the defense team. It accused the defense team of trying to oust Raulston from the bench. It charged that Darrow and his defense teams wanted revenge for their failure to dominate the court at Dayton. And it charged that the defense team disparaged Raulston's fidelity to the Bible.

The interrogation did not surprise Darrow. Raulston's Fundamentalism irritated Darrow and he viewed the interrogation as a publicity stunt that would help secure Raulston's re-election. Darrow said that he didn't care if Raulston was re-elected or not. For if he cared he would not help the campaign by noticing the judge's questions. But, since he did not care he would answer them.

Raulston's questions and Darrow's answers went as follows:

Q. First, when you insist man descended from a lower order of animals have you the evidence to support this theory sufficiently definite to justify the expectation that intelligent people will accept and adopt this theory?

A. The evidence of evolution is so conclusive that in the short space of 50 years, nearly all scientists and students interested in the question the world over have accepted it.

Q. Second, have you any evidence that this theory can in any aspect of life be beneficial to man? Is not the contrary true—that it tends to degrade man?

A. The truth as to the scientific facts and theories always benefits the world. All modern civilization is based on science.

Q. Third, doesn't the theory of evolution seek to destroy the doctrine of inspiration of the Bible?

A. The theory of evolution does not seek to destroy any religious belief. It is simply concerned with the truth. When the scientists first announced that the world was round and revolved

around the sun, they were accused and convicted of trying to destroy religion. And I am inclined to think that Judge Raulston believes the theories now, although I am not sure he does.

Q. Fourth, doesn't it propose to eliminate the divinity of Christ?

A. Evolution is not concerned in any way with the divinity of Christ. Millions of evolutionists believe it. It has no purpose to eliminate the divinity of Christ.

Q. Fifth, doesn't it deny the resurrection?

A. I know of no teaching of evolution that discussed the resurrection of Christ, or of any other of the large number whom it has been claimed were brought to life after they were dead.

Q. Sixth, if the theory of evolution does destroy man's faith in the integrity of the Bible, of the divinity of Christ, in the resurrection, doesn't it thereby undermine the Christian religion?

A. This question, in view of the other answers, means, if the theory of evolution is true, should it still be taught even though it may destroy the religious faith of some people, or would it be better to encourage people to believe what is not true? The judge must settle this for himself. I noticed that the Christian church does not hesitate to send missionaries to help undermine every other religious faith in the world.

Q. Seventh, can civilization survive the destruction of the Christian?

A. Yes, civilization existed long before Christianity; it exists where there is no Christianity. The growth of civilization is only the growth of intelligence and knowledge.

After Darrow answered Raulston's questions the reporter asked, "Doesn't Judge Raulston take himself a little too seriously in thinking that attorneys for the defense are interested in him or his campaign?" Darrow's reply was, "I am sure none of them would notice him if he did not ask questions. I can't understand why he thinks any of us care about his religious views."

It has been recorded that the Haldeman-Juliuses, along with

other citizens of Southeast Kansas witnessed Darrow to be a rational skeptic, a contemporary spokesperson, and a warm human being. A reporter was quoted as saying, "For Darrow at ease is hugely human, open and honest, generous of a great warmth of personality which is poorly disclosed in the press dispatches of his engagements in court. He displays a wholesome tolerance, acquired in long, close study of man's frailties."

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MONKEY BUSINESS IN SOUTHEAST KANSAS: THE STRANGE CASE OF PROFESSOR SCOTT

Donald Wayne Viney

While the battle between Clarence Darrow and William Jennings Bryan raged in Dayton, Tennessee over the state's anti-evolution law, a less publicized battle was being fought in Southeast Kansas which also concerned evolution. John Thomas Scopes was the teacher involved in Dayton's "monkey trial" in July 1925. He agreed to be a guinea pig to test the Tennessee law. That same month John G. Scott was the teacher at the center of the evolution controversy at the Kansas State Teachers College in Pittsburg (now Pittsburg State University).¹

John G. Scott was an Assistant Professor of History at KSTC from 1923 to 1925. Professor Scott was dismissed from the Teachers College after a controversy arose concerning a class he was teaching in Citizenship. The controversy was, in part, over Scott's teaching of evolution to his class. Of course, the Scopes trial was very much in the public eye and Scott apparently took advantage of this to encourage students to think about evolution. Unlike Tennessee, Kansas had no law prohibiting the teaching of evolution. Nevertheless, the idea of teaching evolution to future teachers at the Teachers College was not something that the conservative Christian leadership of the college would permit.

According to the *Kansas City Post* (July 24, 1925), Scott was "dismissed by heads of the Kansas State Teachers college because they believed he taught evolution and championed free love." Dean G. W. Trout took over Scott's class. According to students, Trout

"openly accused Scott of advocating promiscuity in his championing of free love." The *Post* goes on to talk about the "bitter argument" between Trout and Scott's students, and how they "hotly" defended Scott's teaching. The students circulated a petition in Scott's behalf but they feared "the effect on their grades and receiving of their diplomas if the protesting petition" were turned into President W. A. Brandenburg. Scott himself was quoted as saying that Brandenburg held this threat over the students should they continue to "monkey with the monkey business." Scott denied proselytizing and said that his students were grown men and women who could decide for themselves what to believe. Scott's students presented their notebooks as evidence that he frankly discussed as his personal opinion, "that the common conception of marriage simply was an economic institution and held that marriage and attempts of the church to hold dominion over the intellectual development of its members were two of civilization's greatest mistakes."

The Pittsburg Daily Headlight (July 24, 1925) gave a decidedly different slant to the story. The Pittsburg newspaper reported Brandenburg as denying that any controversy over evolution lead to Scott's dismissal. According to Brandenburg, "From numerous reports which had reached us from different members of the class in citizenship, we felt reasonably sure that the class was not receiving that particular content in citizenship which would be expected of them as teachers in our state." Brandenburg related that Dean Trout had taken over the course and, "from reports received from members of the class it is being received with profit." Brandenburg emphasized that it was "our policy to have all subjects, as well as science, taught in such a way as to strengthen faith and belief in Christian civilization."

The *Headlight* is silent on the specifics of Scott's dismissal, merely quoting Brandenburg's vague statement on the issue. Nor is there any mention of the heated exchange between Trout and Scott's students, or of the student petition and their fears of retaliation from Brandenburg. The *Headlight* does give Scott the last word, "It is educational prophylaxis. The students were exposed to ideas and are being given treatment to counteract this." According to the *Post*,

Scott would be "associated in the college of social sciences in Columbia university [New York]" after leaving Pittsburg.

There is a curious reference in the *Headlight* to a "mock trial affair." Brandenburg says, "This action on our part has positively no connection with, or reference to 'the mock trial affair'." An article by Scott, published in the liberal *Haldeman-Julius Monthly* two months later sheds light on this reference. According to Scott, students initiated "a mock Scopes trial to be held off the campus, downtown in the court room." Scott says that Brandenburg called the students into his office one at a time "and showed them the danger to themselves and to the school if they carried on this mock trial" (Scott, 383). One may surmise that Scott's influence had something to do with putting the idea in student's minds to hold the mock trial.

Scott's article is a sardonic and witty report on how a college could be refashioned along fundamentalist lines, using KSTC as an example. The guiding principle should be "the protection of students from ideas" (Scott, 378). Scott retaliates against Brandenburg with a satiric expression of relief that since the President had received an honorary doctorate from a Christian college it was no longer improper to refer to him as Dr. Brandenburg, "even at the expense of high sounding degrees which mean nothing to God" (Scott, 379).

Scott's ironic recommendations include peopling administrative and faculty positions with graduates of church schools and seminaries. He notes that many Protestant ministers teach at KSTC who would otherwise preach to empty pews! While no particular denomination is favored, Scott notes that Brandenburg encouraged all faculty to be affiliated with some church. Since "we are building for a future Ku Klux Kulture" Baptist and Methodist churches are to be preferred since, according to Scott, it is from their ranks that the Klan is largely supported.

Scott's lampoon includes the suggestion that specially endowed chairs be created for combating ideas like evolution and democracy. Until this could be accomplished, colleges could follow KSTC's example and sponsor guest speakers, like Dr. Harry Rimmer, who can show that scientists are wrong in accepting evolution, "that the Bible

is the sole source of the knowledge of man's beginning and ending, that God in his divine providence has so fixed up everything that no one needs to think" (Scott, 380).³ Scott remarks that the local Klan members supplemented Rimmer's work by distributing pamphlets denouncing evolution.

In addition to screening administrative positions and hiring only like-minded fundamentalists, Scott wryly notes that the faculty "must be closely watched," for "unfortunately some teachers must be employed who come from godless universities" (Scott, 380-381). He then recounts the case of a "young man" who came to Pittsburg "two years ago from a godless university," who was popular with students and who openly attacked the "Knoble Klan" and taught evolution. The man was called on the carpet by his department head who said that he would not be hired for the coming year. Though there had been no complaints about his teaching, the President was unhappy with his "general attitude." The man then spoke with the President who insisted that the department head desired his dismissal and that "he always followed the wishes of the heads." The trouble, the President said, was a "lack of cooperation." When the man again saw the department head he repeated the President's words, but "there was no balm in Gilead for him" (Scott, 381).

Of course, Scott is retelling his own story. He is the young man from the "godless university" (University of Missouri) who had arrived two years before (1923). The department head is Dean Trout and the President is Brandenburg.

Scott ends his article with other anecdotes about shenanigans that went on at KSTC, most having to do with Brandenburg. According to Scott, the Ku Klux Klan censored "The Green Lizard," a student publication, and saw to it that "the picture of a tiny nude statue in a larger picture of a drawing room was erased (Scott, 382). Scott also relates how Brandenburg attempted to make the faculty wear caps and gowns at commencement. First the faculty voted in the President's presence for donning the regalia. Later, Brandenburg agreed to a secret ballot and the faculty voted against the measure by an overwhelming majority. Scott accuses Brandenburg of heading a

crusade against President Nicholas Murray Butler of Columbia University for having ideas; Scott says that this led to Butler's dismissal. Further, Scott claims that Brandenburg squelched a movement among KSTC's faculty to affiliate with the American Federation of Teachers and discharged the leader of the movement. He also compelled all male teachers to pay money to join the local Chamber of Commerce. Finally, there is the story about the mock Scopes trial.

Scott gives an unflattering portrait of Brandenburg and the KSTC administration. The close ties between Brandenburg, the Protestant churches and seminaries, and the Klan which Scott portrays bespeak an environment hostile to the free exchange of ideas. Of course, the article is colored by the fact that Scott wrote it shortly after Brandenburg fired him. Nevertheless, the *Post's* article corroborates Scott's account of the charged atmosphere at KSTC. Moreover, Brandenburg's remarks in the *Headlight* smack of doubletalk and his comments about student attitudes directly contradict what the students told the *Post*. I leave it to historians to verify or falsify other details of Scott's account.

Much has changed in the nearly seventy years since Scott was fired for teaching students about evolution and free love. Academic freedom is such today that not only can a course be offered on Creation and Evolution, but a student journal on the topic can be published without fear of censorship from religious bigots. Perhaps it is going too far to suggest that, in John Scott, Southeast Kansas had its John Thomas Scopes, for there was no legal battle between titanic rivals in Kansas as in Dayton. Moreover, Scott was not, like Scopes, a volunteer. He was more a sacrificial victim of an ideological struggle. On the other hand, the underlying issues of intellectual freedom were the same. As Clark Kerr, the former President of the University of California said, "The aim of the university is not to make ideas safe for students but to make students safe for ideas."

FOOTNOTES

1. I wish to thank Mr. Gene DeGruson, Curator of Special Collections and the University Archivist at Pittsburg State University, for first bringing my attention to the Scott case and for his generous help in finding the relevant sources.

2. Harry Rimmer (1890-1952) was a Presbyterian minister but he had no earned academic degrees. He was a popular apologist for a strict literal reading of Genesis; he visited college campuses and publically debated evolutionists. Rimmer visited Kansas State Teachers College in 1924 at Brandenburg's invitation and gave a lecture attacking evolution. Brandenburg invited Rimmer to become a faculty member at KSTC but he declined. However, Rimmer was the unofficial curator of the college's museum and he occasionally took students from Pittsburg on archaeological digs (Numbers, 70-71).

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PRE-PATRIARCHAL CREATION STORIES

Leslie Miller-Mangile

Today when people think and talk of how this world and everything in it came into being there seems to be two major divisions of thought; evolution or creation. Within the evolutionary theory there are several fairly well known sub-divisions but of the creation theory most people know only the patriarchal stories of the Jewish, Christian, or Islamic faiths. The creator is male, a God. However there are other stories of creation, stories which tell of the world made by both a God and a Goddess. Some of the very oldest stories have only a female creator, a Goddess.

The Goddess, the Great Mother, the Divine Ancestress are general terms for a female deity who has been called by a thousand names. Worship of the Goddess can be traced back through archaeological, mythological, and historical evidence to about 30,000 B.C. and is known to have been world wide.

Because the worship of the Goddess is so ancient and because of the hostility and suppression of later patriarchal religions toward Goddess worship some of the stories we have of Her creation of this world are but fragments. A few short lines, a poem or a prayer that could be easily memorized during times when possessing any writings of Her religion could be a sure death sentence. Still, Her stories existed, passed down orally in some cultures until it was safe to write of Her again. There are even a few old writings in bone which have somehow survived. There are a few rare cultures in which Her worship has never been given up and is as strong today as it was in ancient times.

Legends of the Goddess creating the world or at least the people in it can be found in every corner of the world from the far north to the deep south, from the east to the west. It is these creation stories which I will discuss in this paper. I hope to show how matriarchal creation differs from patriarchal creation and the different ways in which the Goddess creates. I will also give examples of creation myths which seem to parallel each other while coming from different cultures in far parts of the world.

In most patriarchal creation stories the God says, 'Let there be' and so creates the light and the dark, the waters and the land, and all the creatures therein. The male God commands, it is his words that create. In the majority of Goddess creation stories She creates from Her own body, giving birth not only to the heavens and earth but often to other Gods and Goddesses and in some cases humankind itself. There are other myths in which the earth already exists and the Goddess creates humans from things She finds around Her. In these stories we can see some similarity to the Christian creation of man where he is formed from the earth. The closest a Goddess comes to commanding into being is in a legend in which She is said to have used singing to create. The song is said to have been very deep and sweet far removed from the commanding words of the patriarchal God. The resounding theme in Goddess creation stories is that She is an intricate part of everything She makes.

Let me first tell the stories in which the Goddess is literally the Great Mother, giving birth to all. Hear first from the old worlds of Mesopotamia, Sumerian, and the Greek. This first piece comes from Mesopotamia and lists some of the names by which the Goddess is called.

Mother of all Mothers
She who gave birth to all
though known as Tiamat
by those who rejoiced at Her murder
rippled as distant echo
of the mighty Mother Goddess Sea
Nammu, Asherah, Atargatis, Nuneit,

Well remembered as Creator of all,
first owner of the Tablets of Destiny (Stone I, 8)

The Sumerian account of the creation goes like this:

Ama Tu An Ki-
Mother who gave birth
to heaven and earth.
Primordian Creator of the Universe
who oversees the fashioning of life
and to each decrees their fate.
Oldest of the Old
ancient, even among Sumerians.
Mother Primeval Sea left memories
in the land of the two rivers-
that it was She who created all above,
that it was She who created all below. (Stone II, 37).

Now hear from India a prayer to the Goddess Maha Devi that
tells of the intimate relationship between the creator and the created.

She who holds the Universe in Her womb
source of all creative energies
Maha Devi who conceives
and bears and nourishes
all that exists (Stone II, 16).

Lastly, from around the world, from the Cuna people of
Panama there is the Goddess Mu Olakukurtisop, the Great Blue
Butterfly Lady. "In the days before the world began, Mu gave birth
to the sun and taking Her sun as Her lover, She gave birth to the Moon.
Mating with Her grandson Moon, She brought forth the stars, so many
that they filled the heavens. Then mating with the stars the sacred
womb of Mu once again stirred with life so that in this way She
brought forth all the animals and plants. It is for this reason that the
Cuna people remember that Mu Olakukurtisop gave birth to the

universe—created all that exists” (Stone I, 78).

In these next three legends the world already exists and the Goddess resides there. From things already in the world the Goddess creates humans. The writings that tell of the Goddess Nu Kwa of China come from the Chow period (about 1000 B.C.) and the later Han period in China. Note the similarity between this and the next legend which is from the American Indian Grandmother legends.

“To the valley of the wide flowing Hwang Ho, came the Goddess Nu Kwa and there from the rich golden earth She fashioned the race of the golden people, carefully working the features of each with Her skillful fingers. But so arduous was Her task that She soon tired of making these individual creatures and began to pull a string through the mud. In this way She made the others, through not as carefully formed as those of the golden earth, the ancestors of the Chinese people.” (Stone I, 27)

“Long ago Grandmother sat by her oven baking clay pots. From the clay She formed the images of a man and a woman and put them in her oven to bake. Because this was her first attempt, Grandmother was not sure how long to bake these images and when She pulled them from the oven She found that She had burned them—thus making the black or negro race. Again Grandmother forms the clay and puts the images in Her oven to bake. Too soon this time She pulls the images from her oven and they are pale—the race of whites. One more time Grandmother forms the clay into the images of a man and a woman. Into Her oven she slips them and watches over them carefully. Finally She pulls them from the oven, they are the true rich red of well baked clay. This is the race of the Red Man (Stone I).

In Babylonian theology the Goddess is referred to as Mami or Aruru, these names are used interchangeably. From references found in several different texts of Akkadian Babylonia we find the information included here.

Aruru, Oldest of the Old

Creator of Life

Mami, Divine Mother of all...

Sweeter than honey and date wine
was the ancient Mother
for it was She who made all life
by pinching off the fourteen pieces of clay
and laying a brick between them
She made seven women
whom She placed to the left
She made seven men
whom She placed to the right
Forming them into people
She then placed them on the earth" (Stone I, 104).

There are other legends which tell how the Goddess created the world by means other than those mentioned above. Here are three: two from the North American Indians and one from the Finnish.

"In the beginning there was nothing but Spider Woman, She who was called Sussistananko, Thinking Woman, Thought Woman, No other living creature, no bird or animal or fish yet lived. In the dark purple light that glowed at the Dawn of Being, Spider Woman spun a line from East to West. She spun a line from North to South. And then She sat by these threads that stretched to the four horizons, those strands that She had drawn across the universe, and sang in a voice that was exceptionally deep and sweet. As She sang, two daughters came forth: Ut Set, who became the mother of the Pueblo people, Nau Ut Set, who became the mother of all others" (Stone II, 92).

The Navajo Goddess is the process of nature and can be thought of as comparable to Mother Nature. It is interesting to note the way people are created in this legend.

"Creator of the Navajo people, Changing Woman, Estsan Athlehi, is the Mother of All. She is the Holy Woman who brings each season, Mother Earth who is the seasons, Iyatiku who brings all life, Mother Nature in all that She unfolds.

Some say that She was born at the foot of the Mountain Around Which Moving Was Done, born on a bed of flowers, a delicate rainbow arching as coverlet over Her infant body. From Her body

grew the four mountains of the compass points, the mountains that mark the East and the West, the mountains that mark North and South. This day of truth was a day of joy...For if Changing Woman had not been born, she would not have rubbed the skin of Her perfect body—and in this way brought forth the Navajo people". (Stone II, 94-95)

From the Finnish culture of the North we have the legend of Ilmatar, literally Sky Mother who is most often referred to as the Water Mother.

Descending upon the billowing waters
of the never ending ocean,
Ilmatar was rocked in the waves of the wild sea,
blown along in the foamy tempest
of winds from the East.
Carried for centuries upon the swelling waves,
She floated to the East
She floated to the West
She floated to the South
She floated to the North
Feeling only cold and dreary
Ilmatar began to regret
that she had left Her home of gentle breezes.
In the sleepest moment of Her sadness,

a lovely teal came flying over
seeking land on which to rest
searching for a nesting place-
and finding only moving waters.
It was then that gracious Ilmatar
lifted Her great knee from the sea
creating the first hill of land established.
It was on that knee the teal soon built her nest.

Knee as green as spring's blossoming.
Held the teal's nest up high

held the six eggs of gold
held the seventh one of iron.

But how long could the water Mother
hold the stillness of Her knee?
Thus Ilmatar moved to find comfort,
causing the eggs to fall into the waters,
causing them to shatter into fragments
From the lower shells the earth took form
from the yolks came the lustrous sun,
from the white part came the moon,
and from all that was speckled in the eggs-
the stars came forth.
Still Ilmatar floated on the waters,
now peaceful and serene.
For ten more years She floated,
until the day when She raised Her head
from beneath the waters-
and thus began Creation.

Pointing with Her fingers,
She formed the fjards along the ocean
Her toes created the underwater caves
where fish might lay their eggs in safety.
With the deepest part of Her body
She formed all that was in the ocean floor.
Her feet created beaches
Her head made the long curving bays.
Even the crazy rocks that stood in open water
were formed by the ancient Water Mother-
She who made all earth.

Oldest of all woman,
loveliest of all woman,
first of all Mothers,

then formed the pillars
that held the sky in place
and upon the rocky cliffs
She engraved the forms of figures.
Still Ilmatar remained in the ocean waters,
owner of powers too numerous to count,
possessor of magic too deep to comprehend -
and perhaps She lives there still (Stone II, 143-144).

This last creation story I have no time frame for. It was told to me and is part of the oral tradition of Wiccia, a Goddess religion whose beginning is buried in the long forgotten past. I was caught by its simple statements.

In the beginning there was the Word.
That word was Mother; Inna, Mu,
Any, Nammu, Ua Fit, Mary,
Marianna, Le Mer, and all
those born of mothers uttered the
Word, for they knew Her as the
source.

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CREATION MYTHS OF THE WORLD: THEIR MEANINGS AND SIGNIFICANCE

Ellen Harrington

According to *The Dictionary of Philosophy and Religion*, a myth is "a narrative account taken to be true, but now known to be true" (375). Myths usually explain a natural phenomena, a social custom, or tell of great heroes. The study of creation mythology can be a very captivating subject since there are many possible avenues of exploration. There are several categories of imagery or styles into which myths fall. One could trace the early dominance of female deities and their eventual elimination by male deities. Myths could be looked into by continental location. Nevertheless, the catalog is expansive, and too much so for a paper of this length. Therefore, the following elements of creation mythology will be explored: the probability of belief by the ancients in the cosmogony of their particular religion; themes or categories of cosmogonies; and finally, the symbolic meanings and similarities within and between cosmogonies.

Did the ancients believe in the creation myths of their various religions or was there a certain amount of skepticism? In the consideration of this question, certain factors must be taken into account. First of all, one should think about how sophisticated the people were in regard to the workings of the natural and supernatural world. Today, the average person listening to a creation myth would either dismiss it as a piece of fiction or find humor in it, if it was particularly outlandish. In contrast, how would a person of 3,000 years ago respond, for example, to the Babylonian myth, which contends that the sky and earth are the remains of Tiamat, the primal

sea goddess? Secondly, one must also look at how and when a creation myth is told. If it was presented to the ancients as the Christian creation story is today, odds are, they heard it as children and continued to hear it as they grew up. Children tend to believe what adults tell them, especially if the adults are persons of authority or someone the child trusts. There is no way of knowing how many people carried what they believed in childhood into adulthood. However, by observing what people believe now, one can estimate that at least a small majority (i.e. 51-60%) most likely believed their creation stories. Undoubtedly, that percentage could be higher or lower, but there is no way of knowing for certain. Furthermore, one must also consider how powerful or influential the religion was as far as determining laws; a powerful religion could make skepticism a dangerous proposition. According to Philip Freund, the ancients did take their creation stories seriously. Expressing doubt or skepticism would have branded one a heretic and probably cost that person his/her life (19). With that statement, one can presume that if there were skeptics, they either weren't very vocal, or were eliminated from the society. Nevertheless, there is one definite case of ancient skepticism that survives today. It is a play by the Greek writer Aristophanes entitled *The Clouds*. In it, Socrates (470-399 B.C.E.) denies Zeus' existence by stating that Zeus isn't the one who sends the rain. The clouds send the rain. Even though this example comes from a play, it is more than likely a reflection of Socrates' opinion of the Greeks' religion. Socrates was forced to drink hemlock because of his "bad influence" on the young men of Athens. One can perhaps conclude that while skepticism more than likely existed, very few people seemed willing to make their doubts vocal for fear of reprisal.

Creation myths can be put into several different thematic areas or categories. Of these, two of the most predominant are water and god and goddess mating. Water can be seen as a nurturing substance, like in a womb, that is either the primary god or goddess or the substance from which life rises. For example, in both the Summarian and Babylonian cosmogonies the first goddess is the primal waters; in the Summarian story, it is Nammu—the Babylonian,

Tiamat (Kramer 39, Larousse 49). In the Bushongo cosmogony, water is the first element present in creation (Sproul 44). Philip Freund stated that most likely, water myths came from civilizations that were either surrounded by water or near water (53).

In the myths that had a god and goddess mating, the sky was male and the earth female. In Summarian myth it was Ki (earth) and An (sky), and in the Chinese myth it was Yang (sky) and Yin (earth) (Kramer 40, Colum 237). Usually, the god and goddess were either already present or the goddess would bear the god. Then, together they would make the rest of creation. There is one myth in this category that doesn't follow this pattern. In the Egyptian myth, the god Geb is the earth and the goddess Nut is the sky (Colum 3).

Another theme in creation myths is the birth of the world from an egg. Philip Freund suggests these eggs could have been inspired by the ancients' reverence for the sun and moon, or early man could have based them on what was observed when birds hatched their young (59). This theme is in two Greek creation stories. In one, Eurynome lays the "Universal Egg" which brings forth all the contents of the world (Sproul 157). In a later Greek myth, Nyx, the night, laid an egg that became Uranus (the sky) and Gaia (the earth) (Colum 61).

Another type of creation myths is the monster/dismemberment. In these myths, an initial creator either willingly or by force becomes the world or helps to create something in it. The ancients seemed to feel the final act of creation was self-sacrifice of a creator (Freund 69). Many creation myths contain dismemberment themes. In the Babylonian myth, while fighting Marduk, Tiamat is ripped in two, with part of her becoming the sky and the other part, the earth (Colum 19). In the Greek myth, Uranus gets his genitals cut off by Cronus and from the foam created when Cronus threw them in the water, Aphrodite is born, and the drops of blood become the Furies (Grant 87). Not all dismemberment myths are quite as gory as the preceding ones. In fact, the ancients felt that very often the sacrifices of these gods and goddesses were honored by festivals and fertility rites at the time of the equinoxes (Freund 157). An illustration of a god willingly

giving himself to humans to become the world would be P'an Ku from an early Chinese myth. P'an Ku came into being from Yang and Yin. Before his death, P'an Ku carved out the mountains, valleys, seas, and rivers. When he died, every part of his body became a part of the earth (Colum 237-38). As far as divine beings sacrificing themselves for the good of the humans, a case could be made to put Jesus Christ in this category. Although Jesus didn't become an actual part of the earth, he symbolically nourishes humans everytime the Eucharist takes place. Also, Jesus sacrificed himself on the cross so that humans' sins could be forgiven (Freund 69).

Creation also occurred "by way of mouth." Creation in this category can take place through speaking or other methods. For example, in the Christian and Jewish creation stories, God speaks and what She/He speaks comes to be. Also, creation "by way of mouth" in another form is quite interesting as well as entertaining. In the Bushongo myth, the creator, Bumba, feels a pain in his stomach, retches, and vomits everything that makes up the world. (Sproul 44-45).

Another theme in cosmogonies would be the difference between the world as a divine substance and as a divine product. A divine substance would be the earth itself actually being a god or goddess or being a close, connected extension of a god or goddess. For example, in the Babylonian myth, Tiamat is both the sky and the earth. The Greek myth has Gaia as the earth. P'an Ku, in the Chinese myth, becomes the world. With the earth being a god or goddess, obviously the ancients would have viewed the world as a divine substance. On the other hand, the world as a divine product would be a god or goddess making the world from nothing or some substance that is not from him or herself. In the Jewish, Christian, and Islamic religions, the earth would be a divine product because in the creation stories, God speaks and what is spoken, becomes. In a majority of the contemporary religions, there doesn't appear to be much reverence for the earth. A big part of that could be that Yahweh, God, or Allah is not the earth, but the maker of it.

Not only do creation myths fall into themes and categories,

but there are also many similarities and symbolic meanings within and between them. Anyone who studies more than one culture's creation myths will notice similarities between them. Sometimes the myths are homogeneous because the cultures are similar; however, there are several like characteristics in creation stories from all over the world. In a great many of the creation myths the order of creation itself is often very similar. For example, the creation stories of the Christian, Greek, Babylonian, and Bushongo religions all begin with water, then follow in much the same way. In the same four religions, women are seen as either a punishment (Greek) or as someone who had or continues to cause problems (the other three). Why are these similarities present? According to Joseph Campbell, there are two possible answers. He feels that "the human psyche is essentially the same all over the world... Out of this common ground have come what Jung has called the archetypes, which are common ideas of myth" (51). The other possibility is as follows: An agricultural society would undoubtedly have a myth dealing with the goddess giving birth to the world as the earth gives birth to the seeds. As that civilization grew and spread, not only did the knowledge of farming get passed on to others, but also the mythology would surely follow (Campbell 52). Therefore, mythology and especially creation myths can be seen as a unifying force of sorts that gives humans a sense of belonging.

The events and characters in creation myths are not always meant to be taken literally, and at times some of these symbols can even be misinterpreted by a society. For instance, a symbol in a cosmogony our cultural is familiar with is the snake or serpent in the Christian creation story. Most people associate the snake with evil, since it is the culprit who tempted Eve, causing "the Fall of Man." However, according to Joseph Campbell, "the snake is the symbol of life throwing off the past and continuing to live" (45). So, instead of being cast in an unfavorable light, the snake can be seen as perhaps the human races' ability to overcome their banishment from the garden and separation from God and live their lives.

As mentioned earlier, a god and goddess mating is a common theme in creation myths. But, that theme also has a deep symbolic

significance. Campbell states: "There is a basic mythological motif that originally all was one, and then there was separation—heaven and earth, male and female, and so forth." Campbell goes on to say that reuniting not only with each other but also with the deity is the ultimate goal of humans (53). The symbolic separation is present in many myths. For example, in the Chinese cosmogony, Yang and Yin were united, but then for a reason not given they were separated (Colum 237). In the Summarian creation story, An and Ki were the cosmic mountain and then separated by Enlil (Kramer 40). Finally, in a Greek myth from the eighth century B.C.E., Nyx laid an egg that later separated into Uranus and Gaia (Colum 61). According to Campbell, the symbols were very important to the ancient people to help them experience the myth. The priests would more than likely be the ones who would have the mystical experiences and since one can't describe a mystical experience, the symbols were needed to help the "lay" people understand their importance (61). There are many similarities and symbols that are shared among creation mythologies.

The study of cosmogonies can reveal many different things about ancient cultures and can hint about how those people thought and felt towards their religions. The symbols and shared themes help point out just how related the human race really is.

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NON-DARWINIAN THEORIES OF EVOLUTION

Bob Murry

Before going into the details of some of the non-darwinian theories of evolution, it might be prudent to define Darwinism. My working definition of Darwinism is a large one that not only includes the basic principles set down by Darwin in his *Origin of a Species*, but also all those more modern and specific concepts that are now maintained by neo-Darwinists.

Neo-Darwinists profess a belief in what they call the modern synthetic theory. This theory was developed mostly during the first half of the twentieth century as more became known about the sciences of genetics and the study of populations. There are some generalizations that can be made about the synthetic theory that cannot be made about the other competing ideas of evolution.

First, mutation has no natural direction. This may sound strange at first; one of the main tenants held by laymen who profess to be evolutionists is that it proves that man is superior to the other organisms in form and function and that this is because evolution has moved organisms to this high perfection. This statement does not follow from the synthetic theory. Mutation, the synthetic theory says, is a random process. Mutations are actually more likely to be harmful than helpful to the organism. As far as direction is concerned, any movement toward one direction is due to natural selection pressures of an environment rather than to any internal direction and movement toward ultimate perfection.

Second, mutation is the only mechanism by which a new species can occur. In other words, a giraffe won't have longer necked

babies just because it stuck its neck out all of its life. Its babies will have necks of varying sizes and each baby will have a different probability of surviving and reproducing efficiently. So far, the synthetic theory says, no sufficient evidence has been found to prove such an inheritance of acquired characteristics.

Third, evolution is a slow and gradual process, which takes place over long expanses of time. Through a steady process of mutation and natural selection, species gradually evolve and diversify. These gradual processes have slowly worked to produce the diverse amount of species populating the earth today.

Now that we know what neo-Darwinism is, it is time to learn why some might think that there is a need for an alternative theory of evolution. Most alternative theories question the ability of the synthetic theory to answer several questions.

The first question is how can the great diversity of life be explained by a process that is so incredibly slow that no one has actually observed it in nature beyond the most insignificant and superficial changes such as color? The problem is that the usual synthetic theory answer is that, given enough time, anything is possible. True, but does that really tell us anything? Many say that if the only mechanism available to organisms for evolution is mutation, that the process is too slow and inefficient for the changes needed to occur even in the time frame of 4.5 billion years.

The second question is, if evolution is truly random, why is it that patterns of change occur over long periods of time and through many changes in environments such as the increase in brain size of ancestors of man and the decrease in the number of toes in the modern horse? These examples seem to show a pattern of change over millions of years as though there is some sort of internal or inherent force driving the evolution of creatures from one species into another.

The third question is, if evolution is gradual, then why is there a total lack of fossil records of transitional forms of organisms? With only rare exceptions does the fossil record bare out what neo-Darwinism predicts. There should be long periods of time in the fossil record where species gradually and almost imperceptibly change

from one species into another. But there are not.

Non-Darwinian theories of evolution can be grouped into three categories, each with a different solution to the problems of evolution as stated above.

(1) Orthogenesis.

The belief that some inner force impels organisms to evolve in a given evolutionary direction is called orthogenesis. Many times this idea is brought in harmony with a strong belief in a God with an intimate relationship to the creatures God has created. Proponents of this belief are Bergson and Teilhard de Chardin. However, some like Lamarck and in more modern times Osborn and Werth lean toward this idea as the only logical explanation to the apparent direction of evolution.

Although, this is a good idea, the synthetic theorists would probably counter that any form of orthogenesis is probably unprovable at best, and teleological at worst. However, orthogenesis does provide a way for many people to solve the conflicts of their beliefs in God and modern science.

(2) Inheritance of acquired characteristics.

As mentioned before, inheritance of acquired characteristics is a theory that states that the next generation of offspring is directly affected by the environmental conditions faced by the parents. If an organ is used very often by the parents then it might enlarge in size in the children, or if it is never used it might decrease in size. Although this theory was first popular before much was known about modern genetics, a few theorist still uphold it today, and point to different evidences as scientific proof. So far, none of the scientific studies have been very convincing to the scientific community at large. Lamarck was probably the most famous believer in inheritance of acquired characteristics.

(3) Saltationsim.

The idea that large mutations produce new species suddenly is called saltationism. This idea directly challenges the tenant of gradualism. Saltationism explains the apparent gaps in the fossil record as not gaps at all. Saltationists say that there really is no gap. Evolutionary change just occurred very, very quickly. New evidence has been found by geneticists that large changes can be made in an organism with the change of just the right gene in just the right place. How likely this will occur to the benefit of the organism is still an unanswered question. Some famous believers in saltationism are Koestler, Gould, and Eldridge.

Can the problems of evolution be resolved with new evidence? Will the fossil record eventually prove gradualism to be true? Will a new discovery be made that puts one of these theories or a totally new and unique one into the preferred light? The answers to these questions are still up for grabs.

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THE WOES OF CREATION SCIENCE

Denise Rose

According to Roland Mushat Frye, a professor of English with training in theology, "Creation science cannot be regarded as representing either responsible science or responsible religion" (Frye, 22). Charles Hartshorne, a philosopher, is more explicit when he says that creation science "is bad philosophy, bad science, bad theology, and bad hermeneutics (textual interpretation), and no good thing at all" (Hartshorne, 67). These are strong words. However, this sort of opprobrium cast on creation science is not uncommon. Proponents of creation science view the vehemence with which their position is attacked as unfair. They merely promote "equal time" in the public schools to insure that children are not indoctrinated into believing in evolution without having considered the alternative of special creation. My purpose in this paper is to substantiate the claims of Frye and Hartshorne without endorsing their rhetoric. To be precise, I argue that creation science *is* bad science, bad philosophy, bad hermeneutics, and bad theology. But it is not "no good thing at all." There is a place in the public school curriculum for the study of creation science.

CREATION SCIENCE: A VOCAL MINORITY.

Proponents of creation science or scientific creationism—the terms are interchangeable (Morris and Parker, xiii-xiv)—believe that the biblical story of creation and world history, including Noah's flood, is supported by the evidence of science. The main group in the United States which supports this idea is the Creation Research Society (CRS), founded in 1963. The CRS requires that members "sign a statement of belief accepting the inerrancy of the Bible, the

special creation of 'all basic types of living things,' and a worldwide deluge." Only Christians can be members of CRS (Numbers, 409). The CRS is closely associated with the Institute for Creation Research (ICR), founded in 1972 at Christian Heritage College in San Diego, California. Dr. Henry Morris, a hydraulic engineer, is arguably the most important figure in the movement, having been a prime mover in the founding of both the CRS and ICR (Numbers, 408-411). He is a prolific writer and a tireless proponent of scientific creationism.

There are many who would agree with Morris about the veracity of the biblical account of creation and world history. According to *US News & World Report* (Dec. 23, 1991), 47% of all Americans believe that God created human beings pretty much in their present form within the last 10,000 years. The distinguishing mark of scientific creationists is that they believe the scientific evidence supports the biblical account. Scientific creationists lay down the gauntlet. They say, "Creationists are perfectly willing to let the issue be decided on the basis of the scientific evidence alone, so why aren't the evolutionists?" (Morris and Parker, xiv). Ironically, the evolutionists believe the issue was decided on the basis of the scientific evidence in the nineteenth century! Of course, scientific creationists do not agree with the evolutionists and they resent the patronizing attitude of their opponents.

Scientific Creationists boast that "there are literally thousands of scientists" who reject evolution. As of 1974 the CRS had over 500 members (Morris 1974a, 8). However, in terms of numbers of scientists and science educators, the scientific creationists are in the minority. The two most prestigious scientific societies in the United States, the American Association for the Advancement of Science and the National Academy of Sciences, actively oppose creation science. In addition, the National Education Association, the National Science Teachers Association, and the National Association of Biology Teachers have campaigned against creation science (Larson, 129-130).

Against the opposition of the vast majority of scientists and science educators the scientific creationists have taken their cause to

state legislatures. In 1968 the United States Supreme Court ruled in *Epperson v. Arkansas* that laws prohibiting the teaching of evolution—such as the law that was at issue in the 1925 Scopes trial—are unconstitutional. Instead of trying to outlaw the teaching of evolution, the Scientific Creationists have promoted “equal time” laws that mandate that creation science be taught alongside evolution. Here too the Scientific Creationists have been largely unsuccessful. In 1982 United States District Court Judge William R. Overton ruled against Arkansas’ equal time law calling it “simply and purely an effort to introduce the Biblical version of creation into the public school curricula” (Montagu, 376). Overton’s ruling effectively ended this creationist legal strategy.

CREATION SCIENCE AND SCIENCE

Scientific creationists claim that their view is supported by the deliverances of science. *Prima facie* this claim is false, for many of the things that scientists teach as “scientific facts” are denied by the scientific creationists. Here are two examples: (1) Scientists say that the last dinosaurs became extinct more than sixty million years before human beings walked the earth. Scientific creationists say that dinosaurs and human beings were contemporaries. Unfortunately, the only direct evidence for this claim—the so-called Paluxy river footprints—is now conceded, even by scientific creationists, to be dubious (Kitcher, 120-123). (2) Scientists say that the universe is around fifteen billion years old. Scientific creationists date the universe between six and ten thousand years old. Scientific creationists agree that the universe seems to be very old but they insist that God created light from distant stars in transit, making it appear that it had been emanating from a distant source for millions of years (Morris 1974, 224).

Evidence for the items I have listed does not presuppose the truth of evolution. However, there are differences between most scientists and scientific creationists on matters that have a more direct bearing on evolution. Here are two examples (continuing the

numbering from above): (3) Scientific creationists claim that there is circular reasoning in geologic dating. The relative ages of geologic strata are determined by the fossils they contain; but the evolutionary stages of the fossils are determined by the ages of the geologic strata (Morris and Parker, 240-241). Scientists deny that this circularity exists (Kitcher, 63-66). William Smith, who discovered the method of dating strata by their characteristic fossils, was a creationist. Smith's method was used for more than half a century before scientists accepted evolutionary theory.¹ (4) Scientific creationists claim that the second law of thermodynamics is inconsistent with evolutionary theory (Morris and Parker, 205f). Scientists deny that this inconsistency exists (Kitcher, 89-96). Counter-agencies making for increased order within a system—like the earth—are not inconsistent with the system, as a whole or statistically, gradually losing energy available for work.

These differences between scientific creationism and its detractors are, I emphasize, *prima facie* evidence that creation science is not supported by the findings of modern science. At any rate it puts the burden of proof squarely on the shoulders of scientific creationists. For those who can follow the arguments—which I have not given but only suggested—the differences may serve as solid evidence that creation science is not good science. There is a deeper issue of what science is and whether creation science even qualifies as science, much less good science. This is a question for the philosophy of science.

CREATION SCIENCE AND PHILOSOPHY

The only philosopher of science whose work the scientific creationists usually mention is Karl Popper. According to Popper, the chief virtue of a scientific theory is that it be *falsifiable* by some conceivable observation. Scientific creationists maintain that, according to this criteria, neither creation nor evolution is scientific (Morris and Parker, 9). Ironically, this claim is in direct conflict with their argument that the second law of thermodynamics is incompatible

with evolution. They cannot have it both ways. If they use their thermodynamic argument then they must believe that evolution is falsifiable; if evolution is not falsifiable, then they cannot consistently use the thermodynamic argument.

But what about creation science itself? Is it falsifiable? Not according to Morris:

There is not the slightest possibility that the *facts* of science can contradict the Bible and, therefore, there is no need to fear that a truly scientific comparison of any aspect of the two models of origins can ever yield a verdict in favor of evolution (Morris 1974a, 15-16).

One wonders what it could mean to compare two "models" for their scientific merits if there is "not the slightest possibility" that one of the models cannot be false. How is it a genuine comparison if one knows the answer in advance? Philosophers of science now know that Popper's falsifiability criterion was too strict, but, as Philip Kitcher says, "there is surely something right in the idea that a science can succeed only if it can fail. An invulnerable 'science' would not be science at all" (Kitcher, 45).

It is a characteristic of scientific creationism that it is invulnerable. No evidence could possibly count against it. We have already noted that, according to creation science, God created the universe to look older than it actually is. Morris and Parker call this "functioning completeness" and they maintain that it "is inherent in the very nature of creation" (Morris and Parker, 307). Morris is clear on this point:

[The] "apparent age" of the world has no necessary correlation with its "true age." Real creation obviously requires creation with an "appearance of age." Thus, Adam was made as a full-grown man, the newly formed trees had fruit on them, the light from the stars could be seen on earth at the moment of their creation, and so on. If anything is ever truly *created*, it necessarily must look initially as though it had a prior existence, and therefore it has an appearance of some "age," if that "age" is conceived in terms of present processes" (Morris

1967, 62-63).

This idea was first proposed by Philip Gosse in his 1857 book *Omphalos* (Greek for "navel"). Gosse argued that anything God created would appear to be older than it actually is. The trees in the Garden of Eden would have rings and Adam would have a navel. Gosse referred to this as *prochronism*. In this way Gosse attempted to reconcile the mounting geological evidence of earth's antiquity with a creation that took place only four thousand years ago (Milner, 339).

Whatever else one says about functioning completeness (or *prochronism*) it is clear that it disqualifies creation science as being science in any sense that practicing scientists would understand. It is an assumption with no testable consequences and it sheds no light whatever on any scientific theory. As Bertrand Russell once remarked, if the evidence of memory—and I add, dating methods—is not generally reliable, then, for all we know, God could have created the universe five minutes ago (Russell, 159-160). It makes no difference whether we speak of five minutes or six thousand years. The idea is useless from a scientific point of view.

On the issue of dating methods there *is* a genuine difference between evolutionists and scientific creationists. According to Morris, "if we are to know *anything* about creation—its date, processes, order, duration, or anything else—the Creator must tell us!" (Morris, 1967, 54). Evolutionists assume that the universe and the earth are as old as the best dating methods say they are. Since the dating methods can, depending on the progress of science at the time of their use, yield different estimates, evolutionary time scales are open to falsification. Evolutionists exhibit a stance more in keeping with the spirit of scientific inquiry.

CREATION SCIENCE AND HERMENEUTICS

Scientific creationist estimates of the age of the universe are ultimately based on what they believe the Bible teaches. As Morris says, "the only proper approach to determining the date of creation"

is to rely on the biblical data alone (Morris 1967, 63). According to Morris, "The Bible is a book of science!" (Morris 1974b, 229). Morris's confidence seems profoundly misguided when one remembers Martin Luther's attack on Copernicus as an "upstart astrologer" and a "fool" whose heliocentric system contradicted the plain sense of scripture (Fosdick, 31). Or again, there are Galileo's prosecutors who appealed to the Bible as a final authority on the movements of the heavens. What few people realize is that those who rejected the new astronomy by appealing to the Bible made as good a case as the scientific creationists make against evolution. For the Bible suggests that the earth is stationary (Chronicles 16.30, 1 Samuel 2.8, and Psalms 93.1 and 104.5) and that the sun moves around it (Joshua 10.12-14, 2 Kings 20.9-11, and Isaiah 38.7-8).

Morris's approach to scripture is perhaps best illustrated by looking at what he says about a passage that has nothing to do with evolution. Leviticus 11.5-6 says that rock badgers and hare chew the cud. Both *The New American Bible* and the *New Revised Standard Version* of the Bible point out in their notes on this passage that rock badgers and hare are not ruminants but only appear to chew the cud. This poses a dilemma for a scientific creationist who wishes to endorse the Bible as a book of science. If the biblical authors were merely reporting what appeared to them, then the Bible is not a book of science. But if the Bible is a book of science, then it is a book with some errors, as the Leviticus passage shows.²

Gleason Archer, a Hebrew scholar who supports the scientific creationist view on the falsity of evolution, admits that the Leviticus passage is the report of an appearance and not of a scientific truth (Archer, 126). Morris avoids the problem by a bit of creative linguistics. The Hebrew word for hare is 'arnebet. According to Morris, "The arnebeth is evidently now extinct, so that we do not know exactly what it was, but at any rate it was not a hare" (Morris 1974b, 245). Apparently, when science contradicts the clear sense of scripture, he is willing to change the scripture to mean something else. Most biblical scholars would say that the problem is not in the Bible but in Morris's interpretation of it.

Biblical exegetes usually distinguish the biblical medium from the biblical message. The writers of the Bible expressed their faith in God in a variety of ways. They evoked the grandeur of God's creation through poetry and song. They saw their own history through the eyes of faith and wrote of the mighty acts of God. They expressed hope in God's providence through prophecy. There are also parables, moral fables, and myths. But always the writers pointed to the transcendent creator whose love is the purpose of creation. All of this was accomplished without the aid of scientific research, exact historical reporting, or even much philosophic sophistication. Notwithstanding, it is a well-spring of Western culture and the heart of Judaism, Christianity, and Islam. As well say that *Moby-Dick* cannot be great literature unless it accurately portrays whaling as say that the Bible cannot be divinely inspired without being a book of science. This simply misses the point.

CREATION SCIENCE AND THEOLOGY

Defenders of creation science characterize creation and evolution as mutually exclusive world views, although they are aware that many theists believe in evolution. They are of two minds about theistic evolution. Sometimes they claim that evolution is inherently atheistic (Morris and Parker, xii, 299). In other moods they acknowledge that theistic evolution is possible. They insist that theistic evolution "must be judged on the basis of theological criteria, not scientific" (Morris and Parker, 300). But what is this but an admission that evolution is not inherently atheistic? Furthermore, if evolution is not inherently atheistic, then one is not arguing about atheism when one evaluates the scientific merits of the theory of evolution.

Theologians separate the questions, "What is the explanation (if any) of the existence of the universe?" and "What accounts for the complex patterns of order, life, and mind within the universe?" Science may well answer the second question without answering the first. As Hartshorne says,

Science deals with relations of creatures, things in the world, to other things, later or earlier in time or elsewhere in space. Only theology and philosophy deal with relations of creatures to the Creator (Hartshorne 1981).

This is not to say that scientific theories cannot have implications for theology. However, it is to suggest that a division of labor is in order. It is not the theologian's business to tell scientists which scientific theories are true. By the same token, it is not the scientist's job to judge the adequacy of various theologies.

Since the advent of modern evolutionary theory Christian theologians have worked in various ways to accommodate the new science without making rearguard attempts to salvage outdated theories. Some have said that evolution may be God's way of creating. This was the view of Asa Gray, Darwin's American botanist friend (Gray). The great nineteenth century Anglican clergyman, Charles Kingsley, put the point even more precisely: God makes things make themselves (Hartshorne 1984, 73). Interestingly, one need not know of evolutionary theory to adopt such a view. Jules Lequier, a French thinker and contemporary of Darwin who apparently did not know the Englishman's evolutionary theories, spoke of "God, who created me creator of myself" (Lequier, 70).

While the scientific creationists are anxious to judge the theological adequacy of theistic evolution, they are reluctant to put their own theological stance to the test. For example, if God creates the universe to look older than it is, does this not make God a deceiver? Morris and Parker reply to this objection with a *non sequitur*: without "functioning completeness" there can be no creation as they believe it to be (Morris and Parker, 307). This may be true but it does not answer the objection that their theology makes God a deceiver.

Another example of the poverty of the scientific creationist's theology is the assumption that God expects human beings to believe that the Bible is the sole source of information about origins. This assumption is untenable for two reasons. First, as we have already

seen, there is good reason to believe that the Bible is not a book of science. Second, a distinctive characteristic of human beings—one of the things that sets us apart from other animals—is the ability to reason at high levels of abstraction. Ever since the days of the ancient Greek philosophers and scientists people have used this ability to attempt to discover their origins—evolutionary theory is simply the latest attempt. A theology which says that God demands or even expects us not to use this ability is like a theology that says Mozart should not have composed music.

CREATION SCIENCE: A GOOD THING?

Hartshorne says that creation science is “no good thing at all.” Hartshorne’s assessment overlooks the fact that creation science can serve as a good example of a bad thing. Every introductory logic text contains a section on informal fallacies. Students are taught the principles of good reasoning by analyzing examples of reasoning’s counterfeits. Creation science can serve a similar function in each of the disciplines on which our discussion has touched. For example, scientists have been quite vocal in their opposition to creation science and their arguments are presented in readily accessible anthologies (Godfrey and Montagu). Philip Kitcher, a philosopher of science, presents an overview of both the philosophy of science and the scientific case against creation science (Kitcher). In addition, biblical scholars and theologians have exposed the hermeneutic and theological mistakes of creation science (Frye).

Another, more positive, contribution of creation science, is that it has forced philosophers, scientists, and theologians to be more clear about the assumptions that undergird their various programs. Defenders of evolution have not been innocent of importing dubious metaphysical and epistemological assumptions into their works. Hartshorne points to such assumptions in the thought of Carl Sagan (Hartshorne 1991). Christian philosophers and scientists have given trenchant criticisms not only of creation science, but also of those who would use science to support an atheistic stance (Hasker, Van Till, Craig). Likewise, Christian philosophers and scientists have give

voice to the dominant trends in thought about creation and evolution that the scientific creationists routinely ignore (McMullin).

Scientific creationists ask for "equal time" in public schools so that students will be exposed to the two "models of origins," creation and evolution. This assumes that creation and evolution are the only two "models of origins" and that they are on equal scientific footing. Both assumptions are incorrect. We have also seen that creation science is deficient philosophically, hermeneutically, and theologically. At very least, however, creation science may serve as an example of what science, philosophy, hermeneutics, and theology are not and it invites scholars to be clear about their presuppositions.

NOTES

1. Morris knows of Smith's work and Smith's creationist views. He even says that "there is certainly nothing much in [the fossils Smith used to date geologic strata] to speak of evolution" (Morris 1989, 189). These admissions are fatal to the objection that Morris raises in his other writings that one cannot use fossils to date the strata without presupposing evolution.

2. The Bible contains many statements, besides the ones mentioned here, that directly or indirectly contradict the teachings of science. It is extremely difficult to imagine that any intelligent person, using only the Bible as a guide, could have discovered that the sky is not a solid dome with water above and below it (Genesis 1.7; Job 37.18; Psalm 104.2 and Isaiah 40.22). It is equally doubtful that careful scrutiny of the Bible would lead one to believe that there is no such place as Sheol beneath the earth where the dead are said to dwell (Numbers 16.33; Job 26.5-6; Ezekiel 26.20-21). A psychology based on the Bible would refer to demon possession rather than neurological disorders to explain epilepsy and related problems (Matthew 8.28-34, 17.14-19; Mark 5.1-13, 9.14-29; Luke 8.26-33, 9.37-43). These are by no means the only examples of the Bible's scientific fallibility, but they are enough to show that it is ridiculous to appeal to the Bible

as "a book of science."

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CREATION VS. EVOLUTION

Mickey Scholes

In most public educational systems the theory of evolution is taught as a Scientific fact. The purpose of this paper is to look at the scientific evidence from a creationist point of view and thereby give an alternate explanation of the origin of our present day earth. Many people believe in Theistic evolution as a means of compromising between the best that both sides have to offer. I do not wish to address this issue because if God used evolutionary procedures to accomplish his goals on the earth it is still Creationism. When I refer to evolution I mean the abiogenesis or no God at all evolution.

Science is a general term given to a broad range of disciplines that includes nearly everything we can think of in the physical world. But, to study science there is one basic concept that is widely accepted as the proper approach to problem solving. That concept is the use of the Scientific Method. There are as many different versions of the Scientific Method as there are scientists but a general outline of the procedure is as follows:

1. Identify the problem
2. Make clear and precise observations
3. Formulate a hypothesis
4. Use tests and experiments to verify hypothesis
5. Analyze the data
6. Formulate a theory

Two major points that colleagues of an experimenter will look at for verification of a theory are the reliability and validity of the experiments used. Reliability is the capability to produce the same results over and over again with an experiment. Validity is the idea of testing what you actually say you are going to test. For example, dropping a piece of

chalk to see if it will go up or down is not a valid experiment for the theory of Quantum Physics yet it is a valid experiment for the idea of universal gravitation.

The point behind all this scientific jargon is to say that neither evolution nor creationism is scientifically provable with our current technological capabilities. No validity can be established to any one experiment or group of experiments to prove either theory true or false.

"It is impossible to devise a scientific experiment to describe the creation process, or even to ascertain whether such a process can take place. The Creator does not create at the whim of a scientist."¹ The best we can hope to accomplish is a detailed study of the current evidence to help us see which theory should be considered proper for our school systems.

One major problem concerning this issue is that evolutionists propose their ideas and perceptions as scientific fact rather than theory of results of observation. "Science to be truly science is classified knowledge; it is the explanation of facts. Tested by this definition, Darwinism is not science at all. Darwin does not use facts; he uses conclusions drawn from similarities. He builds upon presumptions, probabilities and inferences."²

There are four very significant concepts in Science that seem to directly point to the fact that the high complexity seen in our world today could not have possibly happened by accident. The first concept is the two Laws of Thermodynamics. These Laws are consistent patterns in nature that under normal circumstances have never been observed as being broken. The First Law states that nothing is currently being created or destroyed, energy and matter can only be converted to different forms. In plain English what this means is all the stuff (molecules, atoms, and electrons) that we have now are the same ones that were around ten thousand years ago. So, the question to the evolutionists should be where did all this stuff come from? Generally speaking most evolutionists believe the Principle of Uniformitarianism, meaning that the same processes that are operating now are the same processes that have been in motion since the world

began. But, for all of the matter we have now to be here, the First Law of Thermodynamics had to have been broken some time in the past. Creation science says that God created all matter. Evolutionists have no real explanation at all, they simply say matter was always there. The Second Law of Thermodynamics states that systems always move toward a higher level of entropy. Entropy being a more random or mixed up state of being. The same argument holds true for this law also. If evolution were true the Second Law would also have had to have been broken so that simple living organisms could go against the law and become more complex.

In a statement by Philip Kitcher the evolutionary concept of the second law is stated: "Evolutionary theory would contradict the second law if (and only if) the construction of Darwinian histories required us to suppose the existence of thermodynamically closed systems in which entropy does not increase. But no such supposition is required. Darwinian histories do presuppose that large amounts of energy remain available for work in large numbers of systems of living things."

"However, this response is itself irrelevant, since it confuses quantity of energy (of which there is certainly enough) with conversion of energy. The question is not whether there is enough energy from the sun to sustain the evolutionary process; the question is how does the sun's energy sustain evolution?"

"Although it is true that the two laws of thermodynamics are defined in terms of isolated systems, it is also true that in the real world there is no such thing as an isolated system. In all systems, the Second Law describes a tendency to go from order to disorder in most systems, time produces an actual change from order to disorder." Thus for evolution to be true the Second Law of Thermodynamics would have had to have been broken many times in the past each time an organism moved higher up on the complexity scale. Living things are certainly more complex than non-living things. So if living things were formed out of non-living things the Second Law would have to have been broken at this time also, which brings up the second concept to be discussed.

Spontaneous generation, life from non-living compounds, has never been observed. How can evolutionists make a claim that their theory is based on scientific evidence when no one has ever seen it? Mr. Stanley Miller supposedly proved the possibility that life came from a primordial soup by shocking various compounds in solution to produce amino acids. His experiment was quite reliable but as for its validity there are no grounds for any of his claims. First, amino acids are far from living organisms. According to NASA it takes at least four hundred linked amino acids to be considered living. But, his major flaw is that he conveniently forgets to tell anyone that he must immediately remove his creation from its environment because it would be destroyed by the very conditions that created it. Sidney Fox tried to solve the problem of linking the amino acids together by using complex heating techniques. He succeeded in producing blobs that had no reasonable order to consider them as living. His conditions also destroyed what his conditions made. Many people have tried to formulate an experiment that would prove that spontaneous generation has occurred but up to this point it has remained as a major flaw in the theory of evolution.

The third and possibly the most subjective concept is the evidence given by the fossil record. "Subjective" means that both sides can look at the exact same fossil specimen and come up with two totally different explanations concerning the meaning behind the physical evidence.

The general idea of evolution, conceived by Charles Darwin is "that evolution is a slow and gradual process that takes place by small, discrete steps. Contemporary neo-Darwinians have followed Darwin's lead. They use the idea of genetics to give substance to the gradualist thesis. The orthodox view is that many individual genetic changes are needed for a population to achieve reproductive isolation from its ancestors. A large number of new alleles must enter the gene pool and become prevalent in it. Speciation is gradual, a process in which small genetic changes accumulate until a new species is formed."

If this gradual process of change were to occur it would stand

to reason that there should be a continuous growth pattern in the fossil record with transitional forms representing the norm and abrupt changes being quite rare. Yet the exact opposite is true if one looks at the fossil record in a clear and objective manner.

"Geology affords no support to the hypothesis that species have been made from pre-existing species, and suggests no theory of development by natural cause. In fact, this development hypothesis was not even true science because it was refuted by the central evidence that species do not shade into one another, higher species sometimes appear earlier than lower species."

To further clarify the Creationist's views on the fossil record it would be helpful to look at four major transitional areas that must have occurred in the past for the evolutionary theory to be true.

1. Protozoan to Metazoan:

"One of the major unsolved problems of geology and evolution is the occurrence of diversified multicellular marine invertebrates in Lower Cambrian rocks and their absence in rocks of greater age. These early Cambrian fossils included porifera, coelenterates, brachiopods, mullusca, echinoids, and arthropods. Their high degree of organization clearly indicates that a long period of evolution preceded their appearance in the record. However, when we turn to examine the pre-Cambrian rocks for the forerunners of these Early Cambrian fossils, they are nowhere to be found."

2. Invertebrates to Vertebrates:

"The 'earliest' vertebrates are certain orders of fish, the Osteostraci and the Heterostraci. Concerning these, one of the nation's leading vertebrate paleontologists, Dr. Alfred Pomer of Harvard, has written: "In sediments of late Silurian and early Devonian age, numerous fishlike vertebrates of varied types are present, and it is obvious that a long evolutionary history had taken place before that time. But of that history we are mainly ignorant." If vertebrates did evolve from invertebrates then there must have been a period of time where the invertebrate's exoskeleton moved from the outside to the inside. Certainly, this extremely complex occurrence must have taken a great deal of time and would of course show up

somewhere in some transitional forms. Yet, nowhere in the fossil record is there even a hint that such an event occurred.”

3. Fish to Amphibians:

Probably the most convincing transitional area for Creationists is the supposed change from aquatic bound organisms to terrestrial forms. If this transition were to occur there must have been a major reconstruction of the pelvic and pectoral girdles in fish to produce an animal capable of carrying its own body weight outside of an aquatic environment. The bones that form the pelvic and pectoral girdles, in even the most advanced fishes, are very small, weak and loosely bound compared to the large, strong and firmly bound bones in terrestrial life forms. For a group of fish to gradually firm up these large necessary structures for walking one would expect to find intermediate stages where the bones were growing larger and more capable of their task. Yet nowhere in the fossil record has any such in-between stage been observed.

4. Difference in Amphibians, Reptiles and Mammals:

Of much more significance is the fact that each of the various orders of amphibians, reptiles and mammals appears suddenly in the fossil record, without incipient forms leading up to it and without transitional forms between it and any other order.

For example, the paleontologist George Gaylord Simpson notes that each of the 32 orders of mammals in the classification system appears suddenly in the fossil record with all its distinct original characteristics fully expressed. Concerning this, he says:

“This regular absence of transitional forms is not confined to mammals, but is an almost universal phenomenon, as had long been noted by paleontologists.”

The fourth and final concept in science that supports Creationism comes from the biological field of Genetics. The basic idea used by evolutionists concerning this topic is that new species were formed because genetic mutations allowed a wide variety of different species to come into being while natural selection weeded out the weak and unadapting species which eventually died off.

“Evolutionary change is change in the genetic constitution of

a population. Mutation will lead to the formation of new alleles. The major claim of a Darwinian theory of evolution is that the principle factor of change is natural selection. The most important evolutionary change comes about because some allelic pairs are fitter than others, and these obtain greater representation for their constituent alleles in subsequent generations."¹¹

This seems to be a plausible theory to someone who does not know anything about mutations except that they cause organisms to change. But the problem comes when we scientifically look at the facts about mutations.

1. Mutations are Random:

There is no way for an organism to know or choose when, where or how much of a mutation will occur at any point in time. The probability of two or three mutations occurring in a row to form such complex structures as taste buds, pain receptors or ear drums is so remote that it really isn't even worth considering.

2. Mutations are Rare:

There are approximately one in ten thousand mutations per gene and one in one million per generation.

3. Mutations are Harmful:

At least 99% of all mutations are harmful to the proteins and cells they are associated with.

4. Mutations are extremely small:

There are approximately three billion nucleotide bases in the human chromosomes. If one of these bases is not in the right order a mutation occurs. This will cause a change in one protein. There are billions of proteins in our bodies throughout our lifetimes. How could a tiny little mistake in one protein, cause such a drastic change in an organism to alter its anatomical or physiological make-up for the rest of its life? Considering these facts about mutations it is hard to imagine how these rare, random, small and mostly harmful changes can be the major mechanism used to form the enormous amount of diversity we see on the earth today.

DNA, the biological molecule that controls all the structural and metabolic processes in all living things, is another genetic aspect

that points to an intelligent creator. The processes of replication, protein synthesis, mitosis, and meiosis are so extremely complex there is no possible way these processes could have randomly occurred the first time let alone happening over and over again through all the various kingdoms of living organisms. Last of all, for DNA to be formed there must be a specific set of complex enzymes present to synthesize the parts in order. But the only place where these enzymes can be produced is from a molecule of DNA. So the question to the evolutionists is which came first the enzyme or the DNA. No theory based on probability or chance could ever clearly show how such a complex phenomenon has occurred outside of the plan and purpose of an intelligent designer.

In conclusion I believe it is only fair and right for Scientific Creationism to be giving at least equal time if not more time in all public educational institutions.

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4. Morris; p.43
5. Ibid p. 43
6. Kitcher; p. 25
7. Larson; p. 45
8. Morris; p. 81
9. Ibid; p. 82
10. Ibid; p. 83-84
11. Kitcher; p. 20

Names and Terms for God

DOWN

1. Hebrew verb meaning "to create" used only of divine creativity.
2. Hebrew for "Lord" used in place of God's proper name.
3. Semitic word for "God" and the name of the chief Canaanite god.
5. Greek word for "being a friend." In conjunction with 6 across, "being a friend of wisdom."
6. A Mesopotamian word meaning "of the mountains" or "of the breasts" that came to mean "Almighty."
9. Greek word meaning "reason" or "theory." In the New Testament, this term is translated as the "word" of God, referring to Christ.

ACROSS

2. $\alpha\gamma\alpha\pi\eta$; Greek word for God's love in the New Testament.
4. The name of God created by combining (7 across) with the vowels from the Hebrew word for "Lord" (2 Down). Found in the King James Version of the Bible.
6. Greek name for she who, according to Proverbs 8:22-30, was God's first creation and who was God's "master worker" in creation.
7. יהוה ; the proper name of God in Jewish scripture.
8. The Arabic name for God used by Muslims.
10. Many ancient people portrayed the divine being as a female. For these people, the deity was not a god but a _____.
11. The title of God used some 250 times in the Hebrew canon, meaning simply "God."

