

Cincinnati Skeptic
Vol. 4, No. 4
The Newsletter of The Association for Rational Thought
April, 1995
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The Broken Circle: A True Story of Murder and Magic in Indian Country
Rodney Barker.
New York: Simon & Schuster, 1992.

This report reminds me of a tale told about the father of quantum physics. Niels Bohr had a lucky horse shoe nailed over the door to his lab. When Einstein asked him, "Surely, Professor Bohr, you don't believe in that old superstition?" Bohr, with that famous twinkle in his eye, replied, "They say it works even if you don't believe in it." Something of this sort is going on among the Navajo in this book.

Let me say up front the story is worth reading even if you are not interested in the sub-theme of Navajo magic. The murder of three Indian men by white teenagers happened in Farmington in the summer of 1974. The town of about 40,000, one third Navajo, is located in northwest New Mexico bordering on the largest Indian territory in the United States. Barker describes a time and place of racist attitudes towards Indians, which reminds me of nothing less than the deep South in the same period. Indians are Jim Crowed in school, business and employment, while "well meaning" whites tell the author convincingly that the Indian citizens of this town are happy, and no prejudice exists. In fact, the town's teenage boys consider it a sport to "roll," i.e., mug Indian men too drunk to defend themselves. For three of the town's high school students this "accepted" activity escalates into torture and murder of three men on two successive weekends.

The murders and the lack of appropriate punishment by the courts provide the cause and occasion for protest marches by Navajo against the racist town establishment. Newspaper and TV publicity provide fuel for all the non-negotiable demands, marches and counter-marches we are familiar with from that period of history. A Federal government report on the situation aids the intransigence of the Indian leaders, firms the stubborn minds of the white politicians, while wiser and cooler heads on both sides go unheeded.

The murderers are treated as juveniles and sent to the New Mexico boys reformatory. They are discharged after serving the two years permitted in this institution. The senior of the three feels pursued by Indian ill will while he is a student in a college where no one knows of his deed. He is killed in an accident he perhaps did not do enough to avoid. The youngest seems to live only half a life because he is the emotionally sickest of the three. The third alone, who was involved in only one of the murders, manages to reconstitute a normal life with job, marriage, and children. Yet he also feels pursued by the ill will of the Indians he has harmed, and appears to stumble from one accident to another.

Barker pursues the rumors of Navajo magic, the claim that haatali (medicine men, shamans) have put the hex on the three evil doers. We learn a great deal about Navajo religion, which unlike Christianity does not oblige a believer to forgive his enemies. For the Dineh (Navajo) the entire universe is alive, all things possess spiritual power. When some action upsets the balance of this universal spirit world, the correct ceremonies must be performed to return the world to harmony. The use of such religious power against enemies of the people was among the most secret and dangerous of Navajo ceremonials. For the Navajo, even for the Christianized among them, there was little doubt that a Blackening Ceremony had restored harmony. The city police, the sheriff, and the FBI of course dismiss the tales of witchcraft as so

much Indian mumbo-jumbo.

Among the Navajo the belief in witchcraft and the efficacy of white and black healing ceremonies is an intricate part of their religious world view. The strict and easy distinction made by Christians and thus by the Skeptical Inquirer between religion and superstition, between prayer and quackery would not have meaning to a traditional Navajo. For that matter, it would not make sense in most religions. To tell a Navajo believer his witchcraft did not work, would equal telling a Christian his prayer was mere mumbo-jumbo.

-- Wolf Roder, A.R.T. member, Cincinnati, Ohio.

Genealogy of Nonsense: 1900 to New Age

Investigations Officer Joe Gastright, who gave members a whirlwind tour of nonsense from ancient times to Mme. Blavatsky and the Swedenborgians at April's meeting, returned to plow through the twentieth century at the December meeting.

The theme of his talk was nonsense as a tradition passed from one generation of practitioners of phony psychic powers to another. The belief in psychic powers does not just pop into people's minds at random, but is present in culture now as it has been since ancient times.

In the United States, fringe groups in the nineteenth century included Hinduism, vegetarianism, water treatment advocates, homeopathy, perfectionism, pseudo-science, Transcendentalism, liberal fringe groups, eclecticism, and of course freethinkers and skeptics, often lumped with fringe groups. With the exception of Transcendentalism, the uniquely American philosophy of Emerson and Thoreau, all of these beliefs are present today among the semi-religious and pseudo-scientific groups known collectively as the New Age.

During the latter part of the nineteenth century skepticism and freethought enjoyed a period of growth. One result was a proliferation of magicians who undertook to debunk spiritualists. The magicians ignored the religious ideas offered by the spiritualists and concentrated on revealing their claims of psychic manipulation of the natural world -- levitation, for example. The debunkers used two methods: unmasking, or revealing the tricks being used, and duplicating the "psychic power" effects using mundane methods and without appeal to supernatural powers.

Eventually many states passed laws prohibiting activities like fortune telling, divination, and healing without a license. Many psychic practitioners worked around the laws by developing a religious or semi-religious philosophy in which to wrap their techniques and organizing churches. Scientology and the Church of Christ Scientist are two classic examples of the conversion of secular psychic scams to religious entities.

The World Columbian Exhibition in Chicago in 1893 provided a place for eastern philosophies to display their wares to Americans eager to learn about philosophies based on the notion that everyday life, as miserable as it is, is not real, and that only the mind is real. Hundreds of representatives of hundreds of religions convened to present their ideas about Karma, reincarnation, and transmigration. Such concepts were explained in ways that suited western thinking.

The most influential of all the nineteenth century spiritualists was H.P. Blavatsky (1831-1891), a woman of enormous, if misdirected, energy. Mme. Blavatsky claimed that she had gone on pilgrimage to Tibet, consulted with the masters of eastern religions there, and then wrote a book, *Secret Doctrines*, describing everything she had learned and calling it Theosophy. Theosophy includes a vast range of fringe religious, philosophical and pseudoscientific ideas. In Mme. Blavatsky's time it was established in many countries, and still is alive and well today. It serves as a well from which those interested in such ideas may select whatever appeals: an assortment of Christian and Hindu heresies, spiritualism, auras, chakras, assorted lost cities (Mu, Atlantis, Lemuria), reincarnation, the Akashic record, and so on.

Mme. Blavatsky chose Annie Besant, an advocate of two other fringe notions, atheism and birth control, to lead Theosophy in her stead. During the early part of the twentieth century, Besant promoted Theosophy effectively, writing many books and lecturing widely. Among other projects, she channeled chemistry, producing a book of esoteric imaginary chemistry complete with diagrams.

Theosophy was not the only show in town, however. Edgar Cayce (1877-1945), an active churchman from Hopkinsville, Kentucky, lost his voice while working as a traveling insurance salesman. Upon regaining it, he became convinced that he had been the beneficiary of a miracle and that he had psychic powers. He believed he could use these powers to diagnose and select treatments for disease, but only when in a trance. When fully awake, he claimed not to remember or even understand the trance-induced diagnoses and treatments he offered his clients. Cayce never wrote anything down, but devoted followers took notes and books followed.

Later spiritualists included Jeanne Dixon, Elizabeth Montgomery, and many others. All of these later practitioners of the psychic read and used the ideas of Blavatsky, Cayce and other earlier spiritualists, thus carrying this tradition of nonsense forward to the most recent practitioners, now part of the many-faceted phenomenon called the New Age, which includes every form of nonsense indulged in earlier, often updated with a bit of scientific-sounding lingo.

The course of nonsense like that purveyed by Blavatsky, Cayce and later spiritualists has been greatly influenced by the culture which surrounds it. The Christian church, for example, was able to suppress astrology so effectively that no book on the subject was published from about 200 C.E. to 1800. The waning power of the church in present times is one factor which encourages various occult philosophies to thrive. Today nonsense thrives in part because legitimate scientists have, reasonably enough, no interest in it and see no need to try to correct it. -- Ed.

Book Review: The Physics of Immortality

The Physics of Immortality: Modern Cosmology, God and the Resurrection of the Dead

Frank J. Tipler.

New York: Doubleday, 1994.

Frank Tipler, with whom I attended the University of Texas at Austin, is a physicist. He has written a book that claims to prove that god exists, that there is a heaven and that we will all be there forever. Fortunately the sex will be great. He even computes that everyone will eventually be matched with the most beautiful person that could logically exist and that this will have "...100,000 times the impact of meeting the most beautiful . . . (person) in the world" (p. 257). It sure sounds good. But if this is physics, there should be some falsifiable predictions in the theory. Tipler explicitly states that he is an atheist but that he might change his position if some of the predictions of his theory are verified (p. 305).

His theory predicts that the mass of the top quark is 185 ± 20 GeV. (A GeV is an energy unit that is equivalent to a mass unit according to Einstein's equation, $E = mc^2$.) On 30 April 1994, this mass was measured and reported to be 174 ± 17 GeV (Science News, vol. 145, no. 18, p. 276.) So this prediction has been verified. He nevertheless stated in an interview with National Public Radio in January that he is still an atheist.

Here is his summary of the implications of his theory: "The Omega Point Theory allows the key concepts of the Judeo-Christian-Islamic tradition now to be modern physics concepts: theology is nothing but physical cosmology based on the assumption that life as a whole is immortal" (p. 338). The Omega Point Theory is Tipler's name for the idea that the universe will collapse into one point at the big crunch. This point is Tipler's god.

To get a better understanding of Tipler's idea of god, imagine all the numbers between 0 and 1 but not including either 0 or 1. We are going to add to this set of numbers one additional element (call it "G"), by specifying what it means for numbers to be near G. If we know every number near to G, we must know where G is located. Consider the diagram on page 1. In any neighborhood of G (represented by the oval) we say that there must be at least one number (call it "b"), which is strictly between 0 and 1 and such that every number greater than b (and still between 0 and 1) is in the neighborhood.

This idea precisely defines where G is for our set. (It's in the same place that the number 1 would normally be located.) In a very similar way, Tipler defines a special point, G, in space-time. This point is an extension of space-time the way our G was an extension of the set of numbers strictly between 0 and 1. Tipler's point is supposed to be god. He calls such a point an Omega Point and believes that there is only one. The name derives from Pierre Teilhard de Chardin's idea of the same name. Chardin's theory has some vague, superficial similarities to Tipler's.

This construction is not new to physics; calling it god is new and the name, "omega point," is new. It is uncommon to

assume that there is only one such point, but Tipler has shown that there are possible space-times (solutions to the Einstein field equations) which permit only one. An obvious question to ask is why this point is a person. The short answer is that it is so smart that it must be a person. I will comment more on this later.

To get this theory going, Tipler assumes: "...let the universe be such that life can continue until the end of time, literally forever" (p. 3). Since the scenario which Tipler envisions for the final state of the universe is complete collapse and he wants life to last until the end, this is quite an assumption. Life will last "forever" because our subjective experience will be infinite even though the lifetime of the universe used in physics is finite. This makes some physical sense and a similar idea is commonly used to describe something falling into a black hole. Since our bodies cannot exist under such physical conditions, we will need new bodies that are immune to such physical stresses. This is achieved through resurrection as virtual computers running in the biggest computer around -- the universe itself!

So how will the universe be turned into a giant computer so that every person that ever lived in the universe will be emulated to achieve immortality? This derives from the Anthropic Principle stated above (life as a whole is immortal). Tipler believes that our planet is the only one with advanced intelligent life. In his book, *The Anthropic Cosmological Principle*, (written with John Barrow), he states, "...if they (extraterrestrial intelligences) did exist and possessed the technology for interstellar communication, they would also have developed interstellar travel and thus would already be present in our Solar System" (p. 576). Briefly, "Where is everybody? Since I don't see them, they must not exist." According to Tipler, because we are alone, we will have to take over the universe and control it.

It was proved earlier in this century that machines that reproduce themselves can be constructed. These are called von Neumann machines after their inventor. We now create a space probe which is a von Neumann machine and send it out to a planet in some solar system so that it creates copies of itself. These copies are then sent to other solar systems to continue the exploration. According to Tipler's calculations, it will then be possible to explore our galaxy in about 600,000 years. This assumes that a von Neumann machine can be reduced in size to about 100 grams using nanotechnology. (This is about the size of a chicken's egg.) To explore the entire universe by this method will require about 10 billion billion years (10¹⁹ years or 10,000,000,000,000,000,000 years). So why do we need to control the universe? To control its collapse and turn it into a giant computer. Why do we need to control its collapse? To ensure that there will be energy to run things.

Without the sun we would not be able to sustain life. On the time scales which Tipler uses, the sun will be long gone. Wherever life is then, it will be necessary to have a hot spot in the sky somewhere. Otherwise entropy will take over (the heat death of the universe). While the universe is collapsing to the omega point, life will have to control the collapse of the entire universe to have enough energy to sustain itself. Of course his theory succeeds because he has assumed the anthropic principle. He doesn't tell us how the collapse will be controlled, but then he may have wanted to let us solve some of life's little problems before he solved them all for us. Finally, Tipler defines life as "...a form of information processing..." and a person as "...a computer program that can pass the Turing test..." (p. 124). Hence, it is only necessary that a sufficiently sophisticated computer exist until the big crunch into the omega point to satisfy the anthropic principle that life as a whole is immortal. So it is necessary to understand why the universe must be completely taken over by life.

The reason life must control all the universe is that otherwise it will eventually be extinguished as the universe collapses (p. 144). This would contradict the anthropic principle. Since the only way that life can exist near the time of collapse is as some abstract information processing, the universe will have become a computer of sorts. Although I do not find it clearly argued, Tipler seems to think that this state of a life-filled universe is an immanent manifestation of god (the omega point) and that it is a person. "The Omega Point in Its immanence counts as a Person because, at any time in our future, the collective information processing system will have generated, or will be able to generate, subprograms which will be able to pass the Turing Test; high intelligence will be required at least collectively in order to survive in the increasingly complex environment near the final state" (p. 155). Similar thinking would allow us to say that the set of ants now existing is also a person, perhaps even the ants in one colony.

This is really sleight-of-hand. Tipler claims that because the parts of a thing have a property, the whole also has the property. This is not always true. For example, I am made of atoms and atoms are small. It does not follow that I am small. Similarly, it is not clear that the universe is smart just because there are smart things in it. Nor is it clear that the

universe is a person just because there are persons in it. Tipler would probably say that the universe could pass the Turing test, but it is unclear what it could even conceivably mean for the universe to take the Turing test. There is also the problem of identifying the omega point with the universe (or that portion of the universe where life has completely taken over). At least the end portion of the universe (or should I say ass?) can be considered to develop. The omega point is outside space-time and therefore doesn't develop or change -- some god!

Why will you and I be emulated in the giant computer that the universe will eventually become? The answer is that continued survival near the final state of the universe will require total knowledge of the past, hence you will be resurrected (as a conscious subprogram in the universal computer) as part of the reconstruction of the past required for total knowledge. Tipler then argues that it will be cheap in computer resources to grant you an eternal, perfect life (with great sex and your own privately emulated universe if desired) using game theory results. This is the work for which Gary Becker won the 1992 Nobel prize. Becker has used it to describe love. Hence, Tipler says that you will be raised and given life because god loves you. This is cute; I am sure that it is persuasive to every Christian in town.

What Tipler seems to have really done is suggest that with much cooperation it is possible to create a computer that will emulate everyone. We could also explore the universe if it is done very systematically. (We have to control its collapse, turn it into a computer that will eventually emulate us, etc.) The god he finds is really the universe after it has been converted into a giant computer by our descendants. This means that Genesis 1:26 should read, "Let us make god in our image, after our likeness...." His numbers are often OK, but he seems to have forgotten that there will be many more intelligent creatures (predicted by his theory) after Homo sapiens dies out which will need more resources than we do for emulation. It is not clear that there will be enough resources to emulate all of the intelligent creatures that will ever exist in the way he suggests. Even if enough resources exist, it is highly implausible (in fact, impossible or nuts) to think that such a degree of cooperation will ever exist. If there is other intelligent life, then it is just possible there will be serious conflict, to name one of a hundred other objections.

I cannot shake the feeling that this is an elaborate joke, but Tipler has clearly spent a large amount of his professional life thinking about these things. The anthropic principle is just another way of stating the belief (or hope) that life, and human beings in particular, have special meaning in the universe. It is sad that Frank Tipler has wasted so much talent in responding to this irrational, although quite understandable, belief.

-- Bob Riehemann, A.R.T. member, Bellevue, KY, with thanks to A.R.T. member Wolf Roder, who provided editorial assistance.

Book Review: Lies My Teacher Told Me

Lies My Teacher Told Me: Everything Your American History Got Wrong.

James W. Loewen.

New York: New Press, 1995.

It is traditional among skeptics to be skeptical of such things as self-declared psychics and alien abductions. This is easy and entertaining, since despite any claims of open-mindedness we make, we all know deep in our hearts that there aren't any psychics, and aliens just don't go around snatching people. In the American Heritage Dictionary the first definition of a skeptic is "One who instinctively or habitually doubts, questions, or disagrees with assertions or generally accepted conclusions." Merely laughing at frauds and abductees is not in itself skepticism; a skeptic must be prepared to question beliefs even when they are not clearly false. In an effort to encourage this I provide the following book review.

In *Lies My Teacher Told Me*, James Loewen surveys and reviews twelve American history textbooks, used mostly in high school but sometimes in college. He points out factual errors and omissions, but more importantly he attempts to explain why errors show up in American history texts. Most of Loewen's claims are well documented and plenty of references are provided for the interested reader. An index is also provided.

History books are, according to Loewen, driven more by the need to provide role models and inspire patriotism than by the need to teach history. An example is the treatment of Woodrow Wilson in the surveyed texts. Wilson is portrayed as a great statesman reluctantly entering World War I and struggling afterwards to create the League of Nations. The texts do not mention that Wilson was a white supremacist who ordered the racial segregation of the federal government. The

history texts are more interested in providing a hero than in exploring uncomfortable issues like racism.

Lies discusses the Eurocentric view of early American history presented in current texts. Vasco de Gama is portrayed as the first person to sail around Africa despite the fact that the Phoenicians, who were from Africa and black, beat de Gama by 2,000 years. The civilizations in the Americas before Columbus arrived are portrayed as ignorant primitives living in the wilderness despite cultures that in many ways rivaled European culture. Even non-English Europeans are ignored once discussion of the English begins. This leads to a narrow view of history that denies non-English, nonwhite students any sense that people like them might have been important and denies all students an accurate view of history.

History texts consistently present America as the "land of opportunity." They tell tales of people like Andrew Carnegie, holding him up as an example of what intelligence and hard work can accomplish. They fail to mention that the vast majority of rich people had rich parents. By omitting any discussion of social and economic inequity history texts reinforce the notion that poor people are poor because they lack some virtue, a belief which is currently quite popular.

It would be unfortunate for an aspiring skeptic to read Lies only to accept everything Loewen says without question. One must not make the mistake of assuming that all the end notes are supporting references; many of them are merely interesting asides. For the most part, however, Loewen is willing to confess when he doesn't know something and encourages readers to think for themselves. Lies My Teacher Told Me is an important book, and well worth reading.

-- Andrew W. Jergens, Cincinnati, Ohio.

Research Update:

Who's Buried in Alexander's Tomb?

In late January Liana Souvaltzi, an archeologist, announced that she had discovered the tomb of Alexander the Great near Siwa, an oasis in Egypt's Western Desert. The flurry of excitement over the discovery spread even to the dignified pages of the New York Times.

But not for long. On February 6, the Times reported that the site had been inspected by George Thomas, the General Secretary of the Ministry of Culture of Greece, and a team of leading Greek archeologists. The Greek archeologists report that the site is not clearly a tomb, as Souvaltzi claimed, but may be a temple. They also said the ruins are not in the Macedonian style, as Souvaltzi claimed, nor were they of the time of Alexander. The team found no eight-pointed Macedonian stars on fragments at the site as Souvaltzi claimed, and estimated that the site dates from Roman times, three centuries after Alexander's death.

Souvaltzi also claimed that she had found three tablets at the site proving that Alexander had been buried there. According to Souvaltzi, one tablet, by Ptolemy I, Alexander's lieutenant, confirmed the old story that Alexander had died by poisoning and another tablet suggested that the Roman emperor Trajan had later visited the tomb.

Dr. Yanni Tzedakis, Director of Antiquities for the Greek Government said, "These inscriptions have nothing to do with this period of Ptolemy I, and they are very well dated. We did not see any of the words she says were inscribed on the tablets, not Alexander, not Ptolemy, not even the word poison."

The Greek team also complained that Souvaltzi would not allow the team to read her report on the site. Tzedakis said, "The fact that the report on the excavations is not being shown to us is curious. She should present photos and plans, along with details of the excavations, to back up her claim. This is how it is done in Greece."

Souvaltzi refused to brief the visiting Greek archeologists about her finds, failed to go to the site with them, and did not explain why she would not cooperate with them.

Souvaltzi, who has a degree in archeology from the University of Athens, has been excavating the site for four years, financed by her husband. Her husband, although he has no formal training in archeology, has also helped out by translating tablets for Souvaltzi. Souvaltzi says, according to the Times, that "she has received mystical guidance in her search, in part from snakes."

Three years ago Souvaltzi wrote an article for a magazine published by Cairo University in which she claimed that this site was the tomb of Alexander. Leading Greek and Egyptian archeologists said at that time that her claim could not be substantiated.

The chairman of the Egyptian Antiquities Organization, Abdel-Halim Nouredin, who in earlier reports had backed Souvaltzi, is backpedaling: "It is an important discovery, but we have to be a bit careful," he said. "We must wait for further study and a reconsideration of the text."

-- Ed.

Reference:

Chris Hedges. "Official Greek Archeological Team Doubts Egyptian Site Holds the Tomb of Alexander." New York Times 6 Feb. 1995, natl. ed.: A4.

More Skeptical Blurbs

Andrew O. Lutes, A.R.T. member from Mansfield, Ohio, and prolific author of skeptical blurbs, has produced another batch of blurbs for A.R.T.'s Skeptical Blurb program. When nonsense turns up on local TV or radio or in local newspapers, A.R.T. President Roy Auerbach faxes the perpetrator an appropriate blurb. The blurb is a brief, factual summary of the scientific understanding of the issue, whether it is psychics, dowsing, astrology, or alien abductions.

The Blurbs program will work only as well as A.R.T. members do. When you spot credulous treatment of paranormal or fringe science issues in the local media, call A.R.T. President Roy Auerbach (home, 731-2774) and tell him what you saw and the fax number of the offending station or newspaper. Roy will send off the appropriate blurb.

Roy can send a blurb only if we have one that deals with the issue at hand. We have fewer than 20 blurbs, so many topics have not been covered. Here's how you can help: Find an article on a favorite bit of nonsense in Skeptical Inquirer, Skeptic, or some other source, read it, and write a clear, factual, short (about 1 double-spaced typed page) explanation of the phenomenon, tack on your references at the end, and send it along to The Association for Rational Thought, PO Box 12896 Cincinnati, OH 45212.

To inspire you, here are some more blurbs by Andrew Lutes, champion blurb writer: