



# *Cincinnati Skeptic*

*Newsletter of The Association for Rational Thought*

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*Divination is of as many kinds as there are fruit-bearing varieties of the flowering duncce and the early fool.*  
— Ambrose Bierce

***In this Issue:***

Reichenbach Affair.....	1
Open Mike Meeting.....	1
Comments Corner.....	2
Puzzle for Thinkers.....	3
From the Un-Easy Chair.....	4
Too Many Books.....	5
Truly Minimum Knowledge.....	10
Membership information.....	11

## ***February Meeting***

### **The Reichenbach Affair: Pseudoscience in the 19th Century**

Bill Jensen, speaker at the February meeting, is a skeptic's delight. The University of Cincinnati faculty member's interests include chemical education and the history of chemistry, a field not lacking in pseudoscientific dust-ups. He is also curator of the chemistry department's collections of books, prints, and chemical apparatus. The sort of person you could readily expect to give you the lowdown on, say, phlogiston.

According to Bill, telling the whole story and distinguishing science from pseudoscience requires the investigator to evaluate both scientific and social aspects of a pseudoscientific incident. From the scientific point of view, experimental reproducibility of the alleged results and the compatibility of the proposed theory with established scientific theory must be evaluated to determine whether the incident under study is science or pseudoscience. Investigating the social aspects of the incident help explain the reception of the claim by the rest of the scientific community.

(Cont. Pg 7)

## ***March Meeting***

### **Members Welcome Open Mike Meeting**

The March meeting was nearly a disaster: our speaker called Program Chair and Meeting Organizer Brad Bonham thirty minutes before the meeting was to start and canceled. Capitalizing on members' habitual willingness to express themselves, Brad turned the occasion into an open meeting.

Brad reported that our missing speaker, Kathy Platoni, is a psychologist who appeared on a John Stossel television special last winter to demonstrate the use of hypnosis to relieve pain in surgery. The special opened with a Vegas-style hypnotist who assembled audience members on the stage and used hypnosis to persuade them to do a variety of silly things. Some of the program was devoted to practical uses for hypnosis, including a tape of a dental patient who had a cavity repaired while hypnotized.

Kathy Platoni endured repeated surgeries to correct facial bone deformities, followed by repeated laser skin resurfacing to reduce the scarring caused by the earlier surgeries. She became a candidate for hypnosis for pain relief during surgery when she realized that it was taking her a full year to recover from the damage to short term memory caused by conventional anesthesia.

(Cont. Pg 9b)

***WANTED!!! . . . .***

***Your Favorite Superstitions!!!!***

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The By-Laws require that officers for the following year be elected annually at the May meeting. They begin their duties on following July 1st.

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**Comments****Corner.....****The Route Traveled by Abnormal Knowledge**

by Joe Gastright

The well read Cincinnati in 1850 would have been exposed to mesmerism, phrenology, spiritualism, phrenomagnetism, anthropology, psychometry, neurology, and much, much more. I urge you to keep your mind open and defer reading their current meaning into any of these "sciences" The Baron Von Reichenbach's (cf. March meeting) researches on Magnetism had been first promulgated in Cincinnati and published in the *Journal of Man* (vol.1, no. 2) in February 1849. Over the next several years Dr. Joseph Rodes Buchanan, editor of the *Journal*, continued to excerpt the Baron's writings which were so similar to his own. Since Reichenbach's ideas were first published in a German chemistry journal, the *Annalen der Chemie and Pharmacie* in a supplement in May, 1845, it is truly amazing that they were translated into English and made it to the Midwest in such a short time. I have been asked to look into this subject by our editor and I will devote my next columns to my findings. I will take up Dr. Buchanan in a future number, but in the mean time I will look into the forces which brought the noted doctor to our fair city in the 1840's.

The Eclectic Medical Institute was the sponsoring institution for the *Journal of Man*, and without it, the mysteries of Od would have remained a mystery. Regular medicine, or allopathic medicine, as it was named by its enemies the homeopaths, was well represented in Cincinnati during the pioneer period. Daniel Drake came to Cincinnati as an apprentice from his parents log cabin near Maysville in 1800. He was obviously brilliant and in 1805 he was sent to study with the famous Benjamin Rush at the nations first medical college in the in Philadelphia. By 1819 Drake had founded the Medical College of Ohio, which has now become the University of Cincinnati Medical School. During a long and not always peaceful career, Drake wrote many books and was recognized as one of the founding leaders of scientific medicine.

We now need to look at the medical sectarians. During the 1820's and '30's a wave of alternative therapies challenged orthodox medicine as too foreign and too theoretical. Herbalists, medicine men, root doctors, botanics, hydropaths, homeopaths, and even methodists supplied inexpensive and often guaranteed therapies far removed from the intellectual pretensions of the "regular school." What they lacked in education and training they made up with enthusiasm, emotional appeal, and an abiding faith in their own intuition.

The call for "every man to be his own physician" was at its base an earlier outbreak of the 1960's. The community consciousness of this "great awakening" involved mass meetings, trance provoking dancing, and 24 hour celebrations far from any authority. The mood was anti-authoritarian, anti-intellectual, and very mystical. Does this sound familiar? Self-

adulation, self love, and defiance were considered virtues and these attitudes were effectively expressed and taught to the many converts awaiting the truth. Samuel Thompson, born in 1769, became a convert to "Herb Doctoring" especially with *Lobelia inflata*. He borrowed the rest of his cures from the "Quaking Shakers" who did trance provoking dancing of their own. Thompson is the first stop on our route to Cincinnati and the Eclectic Medical Institute. He also showed a business sense and profit motive which can still be traced within alternative medicine. In 1825 he published a *New Guide to Health; or The Botanic Family Physician*. You could buy it for \$2 and because he had patented his technique, you could get a license to practice "Thompsonianism" for an additional \$20. The herbs were supplied by the Shakers of course. (To be continued.)

## A Puzzle for Thinkers

### In Black on White!



Most adults in Cincinnati read a newspaper. At the Grock and Pramble Company the 2935 employees were surveyed. Seventy percent were found to read the Cincinnati Enquirer, sixty percent the Cincinnati Post, and 45 percent the Cincinnati Herald. Among these a quarter read both the Enquirer and the Herald, 30 percent the Post and the Herald, and 35 percent both the Enquirer and the Post. These include ten percent who read all three newspapers.

So how many read only the Enquirer, only the Post, or only the Herald? How many read no newspaper at all?

— adapted from *Mathematische Denkspiele*, p. 81

**Solution to last month's puzzle** - picking four of five valuables out of fifty-seven pieces by chance:

The probability of picking one of five good pieces out of fifty-seven is  $5/57$ , the probability of picking another one reduces to  $4/56$ , and so on  $3/55$ ,  $2/54$ . These fractions are multiplied together for the probability of picking four good pieces, which comes to .000012658 or one chance in 79,002 tries. The jury which did not convict O. J. Simpson may believe that Clandigger picked the good pieces by chance. I think Clandigger is a professional thief and knew exactly what he was grabbing.

**It's NEW!...**

**Don't you want one???**



**New means to debug your computer:**

Attach the *Netwanga Magic Bag* to your keyboard or network cable. The secret elements, circuits and software will ward off bugs, viruses, and hackers. Actual content of the bag: a computer pendant with a tiny dagger, wires twisted into various shapes, several lines of code written on special paper, and a tiny ceramic cat's head. According to the company founder, Marie Louise Sarapata, the workings are based on the principles of Haitian Voodoo. Thus far 650 of the magic bags, at \$ 13 each, have been sold.

Source: *Forbes* (10 January 2000) p. 56

**UC**

**Announcement:**

University of Cincinnati Skeptics

We are an organization that brings students with diverse backgrounds, world views, and opinions together to discuss topics primarily concerning science, religion, philosophy, and politics. We seek to promote freedom of speech and critical thinking—all views will be heard and all participants will be encouraged to come to their own conclusions. All students are welcome to attend our meetings and events. For more information, e-mail: [UC\\_skeptics@hotmail.com](mailto:UC_skeptics@hotmail.com) We have a full program of Spring Quarter Plans, Events, and Meetings.



## From the Un-Easy Chair...

Sometimes you get taken by a scam. And sometimes even a big, powerful organization like the National Geographic Society can be hoodwinked. Recently<sup>1</sup> their magazine published an article on an important paleontological discovery, another example of a dinosaur in the process of evolving into a bird. This one with a strikingly bird like body and a clearly dinosaur tail. They named it *Archaeoraptor liaoningensis* "bird of prey from Liaoning province" in China.

Unfortunately, this particular fossil was a fake. Someone stuck the fossil tail of a feathered *dromeosaur* on the body fossil of *Sinornithosaurus*. The circumstances under which the rock came into the possession of the NGS point to the possibility that financial gain was the reason for the hoax. Once the scam became public, the creationists had a field day.

From the ICR in California we read "Archaeoraptor Flight Aborted"<sup>2</sup> and "don't fall prey to claims that are too good to be true."<sup>2</sup> The same organization comments "... the fossil provides an extraordinary peek into the peculiar ideology and journalistic slant of a cadre of zealous scientists and the National Geographic Society that promotes them."<sup>3</sup> Our own AIG in Kentucky has no less than four articles of comment on their website.<sup>4</sup> They gleefully and at length quote Storrs L. Olson, the curator of birds at the Smithsonian, and one of the first scientists to call the scam.<sup>5</sup>

National Geographic has reached an all-time low for engaging in sensationalistic, unsubstantiated, tabloid journalism. ...

Sloan's article takes the prejudice to an entirely new level and consists in large part of unverifiable or undocumented information that "makes" the news rather than reporting it. ...

[The feathered dinosaur pictures are] simply imaginary and ha[ve] no place outside of science fiction.

None of the structures illustrated in Sloan's article that are claimed to be feathers have actually been proven to be feathers. Saying that they are is little more than wishful thinking that has been presented as fact.

There is something about National Geographic's colorful pictures and even more colorful language that invites a bit of burlesque. They do take the mouth too full and assert a little too categorically "we can now say that birds are theropods just as confidently as we say that humans are mammals." (p. 102)

It was not a "creation scientist" who questioned the reality of the bird fossil. On the contrary, it was one of the scientists who first examined the fossil for the Society, who also reversed himself and pointed out it was a composite as soon as he examined further evidence in China.<sup>6</sup> And it was other scientists who took exception to the fossil, *because it did not accord with evolutionary theory* as they understood it. The scientific enterprise once again worked as expected to falsify wrong conclusions.

The creationists take further pleasure in recounting and pointing out all the hoaxes and errors of the past; *Nebraska man*, who turned out to be pig's tooth, *Piltown man*, another composite, or the recent "life in a meteorite from Mars" flurry of news. We may expect to have this particular bit of flap served to us from now until forever.

In all the comment it needs emphasizing, that not only did science work as designed, but that the evidence for bird evolution is as strong as it was before *Archaeoraptor* was heard from. The evidence for this phase of evolution does not rest on a single fossil, nor can a simple fake destroy it, rather there exists a wealth of fossil evidence which remains unshaken, some of it discussed in the same *National Geographic* article.

(1) Christopher P. Sloan, "Feathers for T. Rex?" *National Geographic Magazine* 196 (Nov. 1999) p. 98-107.

(2) Institute for Creation Research, "Archaeoraptor Flight Aborted" *Acts and Facts* 29 (Mar. 2000) p. 1

(3) Stephen A. Austin, "Archaeoraptor: Feathered Dinosaur from National Geographic Doesn't Fly" *Impact* (ICR) No. 321 (March 2000)

(4) <www.answersingenesis.org>

(5) Jonathan Sarfati, "Archaeoraptor - Phony 'feathered' fossil." (on the website)

(6) Xu Xing, "Feathers for T. Rex?" *National Geographic Magazine* 197 (March 2000) 'letters forum'



If we consider economic free choice the only undisputed value, what is the difference between initiating a divorce and trading in a car?

—bio-astrologer Esmeralda von Löwenzahn-Dentdelion

## Too Many Books.... Too Little Time....



### *The Science of God:*

*The Convergence of Scientific and Biblical Wisdom*

by Gerald Schroeder

(New York: The Free Press, 1997)

*Faith, Reason, and Earth History: A Paradigm of  
Earth and Biological Origins by Intelligent Design*

by Leonard Brand

(Berrien Springs, MI: Andrews Univ. Press, 1997)

Both of these books are fundamentalist in the sense they argue the Biblical story of Genesis is an accurate description of history. Both are interpretations by religious believers who, in contrast to most "creationists" are in touch with reality, and who thus respond to the scientific insights and arguments about earth history and biological evolution. The readers of this newsletter may think that is little enough. Beyond these aspects the arguments of the two authors have little in common.

Schroeder is an MIT trained geophysicist who surely knows his science. His basic argument is that the Bible is not to be taken literally, but demands interpretation. He accepts only the Hebrew Scriptures, and does not discuss the New Testament. For much of his interpretation and argument he relies on the Babylonian Talmud, on Maimonides *Guide for the Perplexed*, and on the thirteenth century Nahmanides *Commentary on the Torah* in the Kabbalistic tradition. To Schroeder the Bible is a strange and poetic text which simply should not be read literally, lest it would appear filled with contradictions.

I would say, Schroeder makes the words of Genesis conform to and preview modern scientific insight. "In the Beginning" to Schroeder means the Big Bang and the beginning of the Universe. The first day runs to 15.75 billion years, the second to 7.75 billion. Day five corresponds to the Cambrian period of geological history, and so on. To explain why this is so, he provides impressive arguments from physics which I

would not pretend to understand, much less criticize. Yet, would anyone, but an already believing Jew be convinced by these arguments?

Brand's argument is more traditional and Christian fundamentalist. He also is a competent scientist with a doctorate in zoology from Cornell. He understands and acknowledges the extensive confidence of the scientific community in the theory of evolution, "and the extent to which it has been successful in organizing and explaining a broad range of biological data." (p. 1)

Brand devotes the first six chapters of his book to an extensive explanation of the scientific method, naturalism, and paradigms of knowledge, i.e. to the philosophy of science. In the process he explains a great deal about how we find out and know, and know that we know. His emphasis is on the difference between present observation and experiment on the one hand, and the incomplete or partial inferences we draw about the past from remnants of reality. I would say he sees the past as always incomplete and insight about it subject to revision.

Most of the rest of the book is devoted to a recounting and explication of earth history as it is understood by science. In addition, he points out and records aspects of the evidence which seem to him incomplete or less than conclusive. At the same time he interjects alternative hypotheses, based on the Bible, and the kinds of evidence needed to confirm a creationist alternative. He does not so much propound a creationist earth history, as argue that the case is still open, and describes where and how it remains open. "If we open our minds to new ideas and testable hypotheses suggested by biblical stories of origins, this approach ultimately will lead to an even more successful explanation of the history of life on earth." (p. 315). Again, I have to ask, would anyone but a faithful Christian give a damn?

— Wolf Roder

### *Early America Revisited*

by Ivan Van Sertima

(New Brunswick, NJ: Transaction Publishers, 1998)

Let me explain the background of this volume. In 1976 this author published a book, *They Came Before Columbus: The African Presence in Early America* (Random House), in which he presented the

thesis that Africans from the ancient trans Saharan kingdom of Mali had made voyages to and visited parts of Mexico and South America in the 13<sup>th</sup> and 14<sup>th</sup> centuries. Other African visitors to the New World were Black Egyptians from the age of Ramses II. Van Sertima is a professor of African Studies at Rutgers University, who holds degrees from that institution and from London University. For all his Dutch-Russian name he hails from Guyana. He is one of the two leading lights of Afrocentric thought and history. The other is Molefi Kete Asante, a professor at Temple University.

*They Came Before Columbus* was of course criticized and attacked by more than one scholar, and is regarded by most as the purest pseudo-science. This volume is essentially a collection of his miscellaneous writings, nothing more than a reply to these critics.

On the face of it the proposition is not impossible. Thor Heyerdahl has shown that an Egyptian style papyrus raft could make it across the Atlantic to the Caribbean. Africans have built formidable plank boats to brave the West African surf and breakers. They could have crossed the tropical Atlantic to South America at its narrowest point using the stepping stone islands of Fernando Noronha and Peter Paul Rocks and/or aided by the Canary current. But, did they. What is the evidence.

Perhaps the most striking materials of van Sertima are the Olmec heads. These are room sized carvings of very realistic human features, which strike most observers as Black African visages. They were excavated in eastern Mexico, and dated to an early civilization about 900 BCE. Van Sertima cites many more examples of large and small carvings from many American cultures, which show African features. The present volume carries numerous photographs of such. Other observers will have it that these are faces of American Indians.

Both Americans and Egyptians built pyramids. Never mind the Egyptian were royal tombs, while the American were sacrificial altars, and millennia of time passed between the times of their construction. Van Sertima cites numerological correspondences. "*The measures of the monuments in both the New World and the Old World share common features which are currently missed by investigators.*" (p. 173) The Great Pyramid of Giza is based on the synodical revolution of Venus, and so are the Anasazi remains in Chaco Canyon. Never mind Chaco Canyon is hundreds of

miles north of the nearest Maya or Toltec pyramid.

Other evidence comes from linguistics. Van Sertima claims the word for gold in several west African languages is related to the same concept in Central American languages. He has many further correspondences for plant names, e.g. the banana, which he claims must have come to America from West Africa. He says the Portuguese found cotton and maize in pre-Columbian Africa, which must have diffused from the Americas. Van Sertima reports that both tobacco and cocaine have been found in Egyptian mummies, which indicates these plants must have migrated to Africa long before Columbus.

So why does it seem like screaming nonsense to me? It is a mish-mash of bits and pieces of evidence, it relies on pyramidology, traces single word linguistics, points to an African type artifact here and there, and claims difficult to date plant evidence. If Africans had regular trading contact with the New World from the time of Khufu (2638-2613 BCE) to the Mali Empire (13<sup>th</sup> and 14<sup>th</sup> Century) I would expect extensive archaeological finds, and a fairly definite time line from earliest contact to last meeting. Instead van Sertima's correspondences are all over the map and from widely divergent time periods.

Why have no other investigators found these correspondences? Well, because they are "frozen in negrophobic orthodoxies," and believe "only Europeans could have initiated the passage across the world's waters." (p. 193) In fact, some of his images are so strikingly African the white establishment refused to allow it to see the light of day. "The one with the seven-braided hair style is particularly worth noting since neither Bernal nor Coe nor the National Geographic have dared to publish it." (p. 193).

— Wolf Roder

#### **Invitation: Science Book Club**

The Science Book Club meets regularly on the fourth Sunday of the month at the library, third floor, Room 6A, downtown Public Library, 8th and Vine.

Visitors and new members are welcome. We are now reading Richard Feynman's *Q.E.D.: The Strange Theory of Light and Matter*. This is short, only about 150 pages. When we finish one book, we select another to read. For more information, e-mail Bob Riehemann, brieheema@cinternet.net. Or, for the current book, call the library at 369-6944.

### February Meeting from page 1....

The personal status of the individual making the claim is important, since the more respected the claimant is, the more likely his claims are to be accepted. For example, the ideas of Pons and Fleischman of cold fusion fame were more readily accepted because both men were recognized and well-known scientists at respected universities.

There are other important social dimensions. One of the most important is the status of the claimant's discipline. The sciences are arranged by human custom in a clear, if arbitrary, pecking order. Theoretical physics is king of the mountain, followed by experimental physics, chemistry, biology, psychology, and at the bottom of the heap, unlucky sociology. If chemists make doubtful claims about biology, the biologists must attend, because chemistry has a higher status than biology. Similarly, in the cold fusion flap, since the original claims were made by chemists, representatives from the loftier field of physics were able to criticize them and be heard by the scientific community.

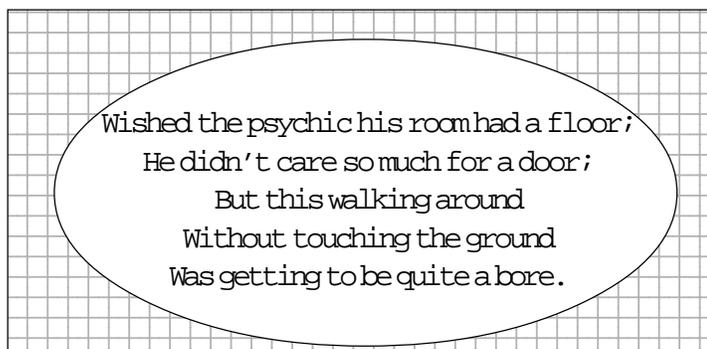
The nationality of the claimant is also a determining factor in how well new claims are received. Wildly unlikely claims issuing from scientists in low status countries are ignored by scientists from high status countries. If someone from Mexico or South America had made the cold fusion claim, no one would have noticed. But coming from respected scientists working in the United States, the country at the top of the scientific totem pole, the same claims were taken quite seriously. As scientists around the world evaluated cold fusion, almost all of the results supporting Pons and Fleischman came from third world countries looking respectfully up the status ladder. Most of the non-confirming ones came from high status countries looking down.

Bill's target at the February meeting was the Baron Karl von Reichenbach, a well-respected and productive scientist who nonetheless persuaded himself of the existence of an allegedly all pervasive but actually nonexistent force that he called Od.

Reichenbach was born February 12, 1788, in

Stuttgart. He lived to the age of 80, dying in 1869. As a mature man of 57, in 1845, Reichenbach announced that he had discovered the hitherto unrecognized force, Od (also translated as Odyle, Odic, or Odylic). He published at least eight books, some over 1000 pages long, and several pamphlets in support of his claims.

At the time he began to promote the idea of the Odic force, Reichenbach was a respected scientist and wealthy industrialist. He had a university degree and owned four landed estates, including a castle outside Vienna. He had built and operated ironworks, a charcoal furnace, a sugar beet factory, steel works, and blast furnaces. He was a recognized expert in products formed by the destructive distillation of wood and other organic materials. He discovered and named several products that are still used, including paraffin and creosote, as well as many that are now long forgotten. Many of his papers were published in the premier chemistry journal of the day.



He believed that Od permeated the entire universe and was characterized by polarity like magnetism and electricity. The force was characterized by colors, odors, tastes, temperatures and emotions, depending on which pole was present.

The positive pole he believed to be reddish yellow, warm, uncomfortable, mawkish, and bitter. The negative pole he wrote was bluish in color, cool, comfortable, and refreshing and acidic in taste.

He also believed that various materials differ in their ability to conduct and store Od, and that all magnetic and electrical phenomena are accompanied by changes in the Od force. Od, he believed, left no trace on any physical material. Photographic film could not capture it. It could not be detected by normal healthy individuals. Reichenbach himself never saw, smelled, or tasted the Odic force. The only people able to detect this universal force were "sensitives," people with severe physical or psychological health problems.

There was one exception to the general rule that Od was not visible to normal human beings. Reichenbach believed that the northern lights were a manifestation of Od so powerful that even normal,

healthy people could see it. It is thought that he named the force after Odin, the Norse god, because of the power of the northern lights.

All physical changes were accompanied by changes in the Odic force. When things warmed, or cooled, or changed chemically, Od could be seen by sensitives. So crystal polarity, effervescence, dissolution, fermentation, and putrefaction provided opportunities for sensitives to observe, smell, or taste Od. Reichenbach explained ghosts seen around graveyards as evidence of Od that sensitives could see when the chemical changes in recently buried bodies produced Od which rose through the earth and produced visible energy that sensitives interpreted as specters.

He believed that Od was polarized left and right in all living organisms. One odic pole flowed out of the left side of the body, and the other Odic pole out of the right side. Crossing the two polarities produced unpleasant sensations. When a sensitive touched the left side of his or her body with his or her left hand, the result was pleasant feelings. But touching the right side of the body with the left hand produced uncomfortable feelings. Reichenbach believed that this polarity gave a scientific explanation for the effects of mesmerism (hypnotism) and the laying on of hands.

Like the left side of a living organism, the south pole of the earth, the negative electrical pole and the base of crystals were positive Od poles, revealing the color red. The right side of living organisms, the positive electrical pole, the north of the earth, and the tops of crystals were negative Od poles, emanating the color blue.

Reichenbach applied to his new found force the same empirical approach he had used earlier in his scientific career. He tested hundreds of sensitives in attempts to detect Od wherever a physical change or

polarity occurred: crystals, electromagnetic fields, vibrating bells, and so on. He seems to have prided himself on having found a natural, observable force that would explain how mesmerizing and phenomena like table turning associated with spiritualism worked. Everyone of the characteristics he claimed for the Odic force he confirmed in experiments in which sensitives saw, smelled, or felt the force.

Reichenbach never claimed that the Od force was supernatural, or that the ability to detect it was extrasensory. Instead he believed that Od could be detected by acute sensitivity of the existing senses. He believed that his sensitives were neurotic because of

their heightened sensitivity, but went around in circles and also claimed that their heightened sensitivity caused their neuroses.

He was convinced of the authenticity of the Od force and the sensitives' ability to detect it by dozens of experiments involving hundreds of sensitives. He found that sensitives were able to see red color emanating from the base of crystals in the dark, and blue wafting from their tops. Sensitives could see Od rippling off a bell vibrating in a transpar-

ent but sound proof box.

Most of the evidence suggests that once he had discovered his first sensitive, Reichenbach himself served as the agent propagating the idea to new sensitives. In the course of experiments designed to detect Od force, Reichenbach said things to his sensitives like, "Do you see the crystal on the table? Do you see the blue color coming out of the tip of the crystal?"

In 1846, a contemporary showed that Reichenbach was able to train new sensitives inadvertently by suggesting to them what he expected

### The Astrologer

by Agathias of Myrina on the coast of Aeolos (532-582)

(translated by Guy Davenport)

Farmer Kalligenes sowed his wheat,  
Went off to the astrologer Aristophanes  
And asked if the summer were auspicious,  
If his wheat ears would be full, unstunted.  
The astrologer cast his stones across the board,  
Studied them, wiggled his fingers, and said  
"If, Kalligenes, there is rain enough  
On enough of your land, and if the weeds  
Don't take over, nor frost wreck the lot,  
If a hail storm doesn't knock it all flat,  
If the deer don't nibble, if no calamity  
Up from the earth nor down from the sky  
Occurs, the signs show a good harvest.  
Unless there's a plague of grasshoppers."

them to see. This investigator discovered that he could make a subject see anything he wanted him to see. With suggestions given before the experiment started, the subject could see tables and crystals not even in the darkened room. Other critics pointed out that no one except the sensitives could detect the Od force and that alone among known forces, it left no recognizable trace anywhere in the physical world.

Eventually his papers on the Odic force were published as a special supplement to a prominent chemistry journal, outraging one of the two editors of the journal. The other editor, when confronted with evidence that the Odic force existed solely in Reichenbach's imagination, was embarrassed, but evasive, claiming that he had been pressured to publish the much criticized articles. While it is true the Reichenbach was wealthy, had substantial political and economic clout, and had recommended this editor for a professorship at Vienna in 1841, there is no documentary evidence that Reichenbach pressured him.

The editor was not the only chemist to be sucked into this affair. Other prominent chemists of the day also supported Reichenbach. The initial criticism of the Od research came from individual physiologists and materials scientists. This criticism had little effect, because these groups were below chemistry in the pecking order. Eventually Reichenbach had to face a panel of five physicists, a chemist, a botanist, a mineralogist, and a physiologist in Berlin. Under close scrutiny, his results evaporated into thin air.

But Od and similar ideas have not retreated. In the decades since, similar forces have been proposed and similarly disproved. Even the Odic force itself is still in circulation: all of Reichenbach's books were reissued from 1968 to 1978. Bill Jensen concluded by noting that historical examples of pseudoscience are easier to go after than current pseudoscience. When dealing with today's issues, our emotional commitments may cloud our judgment. Current issues present other problems: The first anti-cold fusion books to be published were the weakest, stunted by the race to be published. Later books are much stronger. The best is Gary Taubes' *Bad Science: The Short Life and Weird Times of Cold Fusion*, published in 1993. (This thorough (503 pages) book is out of print, but the Public Library of Cincinnati and Hamilton County has a copy.)

-- Reported by Virginia Jergens.

## From the March Meeting...page 1

Her plastic surgeon doubted her choice of pain relief so much that he had a conventional anesthesiologist standing by the first time she used hypnosis during surgery. After several sessions with a hypnotist she successfully weathered surgery while hypnotized. She continues to use hypnosis during surgery.

The discussion wandered from the effect of anesthesia on short term memory to the controversies over the extinction of the dinosaurs, whether higher oxygen levels would permit insects to grow larger, the USDA's new rules for organic farming, fad diets, and what caused the extinction 12,000 years ago in North America of large mammals like the mammoth.

Bob Streifthau announced the March meeting of the Science Book Club at the Public Library of Cincinnati and Hamilton County, Eighth and Vine downtown. Meetings are held on the fourth Sunday of the month, 2:30 until 5:00 on the third floor in Room 3A. The group, which has doubled from two to four members, is now reading Richard Feynman's *Q.E.D.: The Strange Theory of Light and Matter*. New members are welcome. For more information, e-mail Bob Riehemann, [briehema@cinternet.net](mailto:briehema@cinternet.net). For the current book, call the library at 369-6944.

The meeting produced half a dozen ideas for future programs and demonstrated members' breadth of knowledge and ability to fill other members in on various topics. Response to the impromptu open memory was highly positive.

-- Reported by Virginia Jergens.



## Harnessing the Laws of Physics for Politics.

While the Democratic, Republican and Reform parties engage in destructive internal squabbles over the selection of their presidential candidates, the Natural Law Party has peacefully united behind John Hagelin. A string theorist with a PhD in physics from Harvard, Hagelin is the author of *Manual for a Perfect Government*. The book describes how a superstring field generated by many minds meditating in unison would radiate throughout society reducing stress and spreading tranquility.

-- *What's News* by Robert L. Park, 26 November 1999

**Superstition: Step on a crack, you'll break your mother's back.** Send us your favorites to our P.O. Box.....

## Truly, Minimum Knowledge: Some Science and Math Questions for the Candidates.

"Put the presidential candidates on a quiz show and maybe then we could really find out what they know." (Amanda Shepherd)

© Copyright by John Allen Paulos — The candidates have been questioned by countless talking heads on economics, and law, but seldom by anyone knowledgeable in mathematics or science. This is odd given the importance the candidates themselves ascribe to education, particularly in science and mathematics. Reasonable answers to a few elementary questions would nevertheless be reassuring. I thus propose a *Who Wants to Be a Scientifically Literate President* quiz.

### The Numbers Game

I would like to start with five simple questions on arithmetic and statistics. The purpose of the questions is not to test how fast you can compute, but rather to probe your understanding of some basic facts and notions."

1. A crucial number to know is the population of the country you want to be president of. What is the approximate population of the United States? The world? What percentage of the latter is the former?

2. You read a news story that claims 42 percent of all heart attacks occur on Friday, Saturday, and Sunday, apparently because of increased celebrating on the weekends. Do you alert the surgeon general? Quit campaigning on weekends? What's your reaction to this statistic?

3. You're campaigning in a Midwestern community where the mean price of a house is \$400,000 and the median price is \$50,000. What does this say about the distribution of house prices here? If the founder of a hi-tech company builds a \$10 million dollar mansion in the community, which goes up more, the mean or the median value of the houses?

4. Bigger numbers now. Given the scale of government expenditures, the following question should not be hard. If one spends \$1 per second, it will take approximately 11.5 days to spend \$1 million. Roughly how long will it take to spend \$1 billion? How about \$1 trillion?

5. Polls, polls, polls. Is a carefully conducted poll of 1,500 randomly selected American adults sufficient to determine the percentage (plus or minus 3 percentage points) favoring a certain policy? Is such a poll more or less accurate than one surveying only the residents of a small town of 5,000 people from which 100 people have been randomly selected?

### How Hard Was That?

The scientific questions that follow are not inappropriate. Although deferring to science advisers is often the wisest course in policy discussions, some modicum of knowledge is necessary to even understand the recommendations and choose among them.

6. What is the second law of thermodynamics? Would you support the development of a perpetual motion machine if you knew the Russians or the Chinese were attempting to develop one?

7. A basic question about our celestial neighborhood: How far away is the sun? the moon? Light travels even faster than

scandalous rumors, but how fast?

8. Uncertainty is part of political life, but what is the Uncertainty Principle in quantum mechanics? Would you take your new Lexus to a quantum mechanic? "You seem a little uncertain yourself," I observe as he gives his views on quantum mechanics. "Is that your final answer?"

9. The California primary is coming up, so the next questions are not entirely ungermane, either. What is plate tectonics? What percentage of Earth is covered by oceans?

10. Biotechnology breakthroughs are much in the news recently. What is the shape of the DNA molecule. Very roughly how does it function as a code?

### Knowledge, Not Trivia.

More important than facts and formulas for a potential president is a familiarity with the scientific process. With this in mind, I pose the last five questions.

11. What are falsifiable statements? Why is science especially concerned with them?

12. Is there any scientific evidence for the claims of astrologers? For the therapeutic powers of pyramids or crystals? I won't ask about crystal balls and the scientific status of political forecasting.

13. What strikes you as wrong about a claim that a block weighing approximately 310 pounds and having a volume of roughly 73 cubic feet has therefore a density of 4.246575342 pounds per cubic foot?

14. People speak of Newtonian theory, Darwinian theory, or Einsteinian theory, and they also sometimes talk about Fred's theory, Martha's theory, or Waldo's theory about this, that, or the other thing. Is the word "theory" being used in the same way in these two sets of cases? If not, how do the two ways differ?

15. What is a double-blind study? A placebo? Would you be interested in a photo opportunity with the latter at the San Diego Zoo?

### And How Did You Do?

How would the four major candidates do were they to take the above quiz sight unseen? My guess — and it's certainly nothing more than that — is that Gore and McCain would get 11 or 12 questions right, Bradley nine or 10, and Bush seven or eight. What, if anything, would this test tell us? My opinion: All other things being equal, greater scientific literacy (which includes being realistic about what one doesn't know and being open to the scientific advice of others) makes for a better candidate and a better president. The combination of ignorance and power is frightening.

*Editor's comment:* Several of the questions require multiple answers, e.g. no. 7 asks for three distances. Careful counting gives me a total of 30 required answers. Any scoring of your own should take this into consideration.

**Superstitions: Walking under a ladder is bad luck if you bump the one with the painter on top!!!** Send us your favorite superstitions to our P.O. Box.

Professor of Mathematics at Temple University, John Allen Paulos is the author of several books, including *A Mathematician Reads the Newspaper* and, most recently, *I Think, Therefore I Laugh*. His *Who's Counting?* column on ABCNEWS.com appears on the first day of every month.

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**JREF**: the James Randi Educational Foundation publishes the *Swift Newsletter*. 201 SE Davie Blvd. Fort Lauderdale, FL 33316-1815. phone: (954) 467-1112, fax: (954)467-1660, [www.randi.org](http://www.randi.org)

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For more information call: President Roy Auerbach (513)731-2774 or Nurit Bowman, (513) 731-0642 or visit our website. **Address Changes and Corrections, Membership Questions:** Roy Auerbach (513) 731-2774 E-mail: [raa@cinci.rr.com](mailto:raa@cinci.rr.com)

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Request subjects for future meetings \_\_\_\_\_

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### *Skepticism and ART on the Electronic Media*

For the latest in skeptical news via e-mail, join SANE, the Skeptical Area Network Effort. You will find cheerful, rational messages from CSICOP, James "The Amazing" Randi, your fellow local skeptics and ART in your e-mail box every week. This is our means of staying in touch between issues of the *Cincinnati Skeptic*.

Be sure to check out our skeptical website at <http://www.cincinnati-skeptics.org> --- It contains: our BLURBS on various subjects; lots of nifty links to skeptical thinking around the world; the information for joining SANE; the basic definition of who we are, what we do, and our bylaws. In addition, you'll find such things as how to get to our meetings held at James Tavern; other ways to reach us; and how to send sample copies of the newsletter to potential members.

—David Wall, Web Site Manager

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## **Preview Of Coming Attractions....**

**Place:** James Tavern at Cooper Road and Reed Hartman Highway. It is a great place to gather and then have the lunch/social portion of each meeting. This location is very accessible for folks wielding walkers, wheel-chairs and the like. Coffee is available with a small donation during the meeting.

**Time:** 10:00 AM - 12:00 PM -- program -->12:00PM - 2:00 PM -- lunch

**Please mark your calendar and plan to attend!..See you there!**

### **Eighth Meeting of the 1999-2000 Season! Date and Day: 8 April 2000**

**Topic:** UFOs: Soft Evidence / Hard Science

**Speaker:** Terry Endres, Anomaly Research Center. Website: <http://home.fuse.net/arcsite>

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### **Ninth Meeting of the 1999-2000 Season! Date and Day: 13 May 2000**

**Topic:** Tarotism: The Founders & Their Blunders

**Speaker:** Ronald Decker, Curator, U.S. Playing-Card Co.

**\*\*\*\*\*NOTE: This program will be held at US Playing-Card at 4590 Beech in Norwood, allowing us to view the company's card collection. Lunch at the Rookwood Pavilion???**  
**( Longhorns, Fuddruckers or Don Pablos to name a few.)**

***Watch Your Mail For a postcard with more on these meetings!***

***Join us....to find out what's real and what's not!***