



The Newsletter of The North Texas Skeptics

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The Third Eye

News and Commentary from the Weird World of the Media
by Pat Reeder

This column is being written in late January, a month which has brought enough rain to turn my back yard into 900 square feet of pure mud. Yet even my soggy yard cannot begin to match the depressing sea of sludge that has been pumped out this month by professional psychic prognosticators in the form of "predictions for 1992."

January is "Psychic Season," just as surely as fall is deer season (except, unfortunately, you don't get to shoot them). Every year at this time, these non-credentialed soothsayers clog the media with their predictions for the coming year ... predictions that are alternately outrageous ("Burt and Loni will adopt a baby from Neptune!") and obvious ("I see unrest in the Middle East"). It is natural when a New Year arrives to speculate on what it has in store, and since there is no real way of knowing, self-proclaimed psychics gladly fill the void. Of course, they fill it with another void, but what the heck, it's a living.

Aside from the usual tabloids, a few more reputable media outlets also gave exposure to psychics this month. On January 6, the usually respectable Montel Williams Show (syndicated, shown locally on KDFW-TV) featured a psychic prognosticator offering her predictions for 1992. Since the show was taped in advance, it was obvious that her first prediction, involving Mikhail Gorbachev, had already been proved wrong before the show even aired.

One man in the audience was skeptical ... he noted that the psychic spoke only in vague generalities. She offered to prove her powers by giving him specific advice and information about his career. As she offered up her pronouncements about his life, he began to shake his head, indicating that everything she was saying was incorrect. At this point, the alleged psychic flared and shouted, "Don't shake your head at me! You don't know Future! I know Future! If you knew Future, you'd be on this stage instead of me!" There was scattered applause. Widely scattered, thank goodness. A few more public appearances like that one could help put psychics out of business for good.

Also this month, five local psychics, including homegrown psychic-hotline huckster John Catchings, offered their predictions for the local area in a feature story by WFAATV News reporter Gerry Oher. At the end of this tongue-in-cheek feature, Oher's head appeared inside a crystal ball, as he promised to do another report in six months and see how accurate some of the predictions turned out to be. It was a good chuckle for most viewers, but Oher's wrap-up must have

chilled the psychics to the bone.

The last thing in the world any of these guys want is for people to start digging up their old predictions to see how they panned out in reality. Unfortunately for them, technology is making this easier and easier. For centuries, they were relatively safe ... after all, who keeps last year's newspapers lying around the house? But now, more and more psychics are finding their predictions for 1992 being drowned out by cries of "Let's go to the videotape!", for an embarrassing reminder of their incorrect predictions for 1991.

Leading this cruel conspiracy are our old friends in the San Francisco Bay Area Skeptics. The Associated Press carried a story earlier this month about the release of that group's eighth annual list of failed psychic predictions. Surely you'll remember some of these big news stories from 1991: California fell into the ocean (probably the Pacific, although the psychic wasn't specific on this point). Tom Cruise went bald. The Pope was attacked by a crazed camel. Tammy Bakker and Imelda Marcos opened a boutique together. Princess Diana and Prince Charles announced their separation. And a former U.S. president died. (Psychics have been predicting the death of Ronald Reagan every year since he became the oldest man ever elected president, in a cursed year ending with "0," then got cancer and was shot. They'll probably keep predicting his death until he finally does die, sometime late in the next century, then say, "See! I told you so!" I wonder how many psychics Reagan has outlived so far?)

Somehow the seers overlooked such minor items as the Persian Gulf War, the coup against Gorbachev, the fall of Soviet Communism, the Clarence Thomas and William Kennedy Smith scandals, and virtually everything else that actually made headlines in 1992. (Editor's note: The Bay Area Skeptics have graciously granted The Skeptic permission to reprint the 1991 psychic's scorecard story. It will appear in the March issue of The Skeptic.)

Reading over these old predictions, several questions immediately spring to mind. For example, "Whoever told these people they were psychic? Did they pass some kind of Psychic Test down at the Department of Motor Vehicles?" And most obviously, "Does anybody actually PAY for advice from these people?!"

In her defense, psychic Terri Brill claimed she never really predicted that California would fall into the ocean ... just that "the coastline would change." Apparently, she was predicting the rearrangement of grains of sand by the action of the tides. Brill complained that "The skeptics just don't like psychics." Once again, she's incorrect. I don't hate psychics. Some of them may be wonderful people, charming conversationalists, and kind to their mothers. A handful may genuinely believe they're helping someone.

I don't dislike the people ... I just hate cheating, dishonesty, and the propagation of superstition. But I would love to meet someone with genuine, verifiable psychic powers. In fact, if there's anyone like that out there, give me a call. My number's unlisted, but that certainly shouldn't stop you.

Apparently, our increased access to previous predictions is making it harder to gull the suckers. In early January, the Startext computer information service asked subscribers, "Do you believe in psychic predictions?" The poll results were overwhelmingly negative. Still, technology and rational thought have yet to triumph: in the Comments section, several people said they did believe in psychic predictions but would not listen to them because they were "satanic or demonic" ... as opposed to idiotic. Seems to me if Satan were trying to convince us of his supremacy over God, Man and all the Earth, he might at least occasionally send one of his minions a correct prediction.

Oh well, as Satan himself would say, "What the hell?" ... since this is the month for psychic predictions, why not get in on the racket myself?

Like Kreskin, I make no claims to having any supernatural powers. I'm just going to hazard a few random guesses about 1992. I'll put them down in print ... you keep this issue of The Skeptic under your pillow for eleven months ... then, pull it out and see if my sheer, dumb guesswork turned out to be any less accurate than the professional soothsayers, trance channelers, and goat entrails readers. Here goes ...

My Predictions For 1992:

Despite pledges from both sides to keep the presidential campaign on a high level, it will degenerate into a mud-

slinging free-for-all, complete with misleading, attack-style TV ads from both sides. The Democrats will whine a lot more about the Republicans' ads than the Republicans will about the Democrats' ads. Allegations of personal misconduct and economic incompetence will be lodged against the Democratic candidate, and allegations of racism and a lack of compassion will be lodged against the Republican. George Bush will be narrowly reelected, but nobody will be very happy about it ... not even the Republicans.

Southern California will experience at least one earthquake. Possibly more. I cannot predict the magnitude of the quake or quakes at this time, but once they hit, it will be easier to feel the vibrations.

Efforts at achieving a lasting peace accord between the Israelis and the Palestinians will be hampered by religious differences. Ethnic violence, food riots, and demands for a return to Communism will all occur in the former Soviet republics. Once the crops and foreign aid hit the shelves, the demands for more Communism will slack off considerably. Russia will solve some of its economic problems by selling its excess land to the Japanese, who will load it onto big barges, tow it to Tokyo, and build golf courses on it.

In 1992, the government will not give us national health insurance nor any major new national health care programs. And if it does, they won't work.

The sealed records from the JFK assassination will be released to the public, and will contain nothing that is not already known. Conspiracy theorists will claim that conspirators have removed all the incriminating evidence from the files before they were released, and the lack of proof of a conspiracy is, therefore, just further proof of the conspiracy.

Finally, from the world of showbiz: Oliver Stone will make a controversial, technically dazzling, and factually goofy movie about some national tragedy that he believes is connected in some vague way to the Vietnam War ... Violence will mar a concert by a big name rap group ... Madonna will display her breasts in public somewhere ... And Liz Taylor will get divorced again. You may quote me.

Science on Trial

BOOK REVIEW

Reviewed by John Thomas

Galileo's Revenge: Junk Science in the Courtroom, By Peter W. Huber, Basic Books (1991)

Peter W. Huber is a lawyer and an MIT-trained engineer who has studied and written on the American law of tort liability for the last decade. In this book he examines the use of scientific testimony by the courts as they attempt to determine the element of causation in tort litigation. Huber paints a grisly picture of a system that has not only failed to meet its objectives of compensating the injured and deterring reckless or negligent behavior, but which has probably caused more economic damage than it ever attempted to redress.

You may recall that the Audi 5000 sedan was subject to a sudden and mysterious acceleration while terrified drivers stood on the brakes. It wasn't. What about the morning-sickness drug Benedictin, which caused an epidemic of birth defects? It didn't. But then there was the cerebral palsy epidemic which raged until courageous lawyers brought massive damage suits and forced incompetent obstetricians to change their practices. No "epidemic" raged, no one yet knows what causes cerebral palsy, and doctors as a legal practicality routinely use expensive and possibly harmful fetal monitoring devices that medical science knows are mostly useless.

Mainstream scientists are astonished to learn that mavericks and outright charlatans are given as much, and often more, credence in courtrooms than respectable scientists; that the pursuit of truth is reduced to fearful speculations, unsupported conjecture, and bamboozlement of judge and jury by an avalanche of meaningless "data." Huber calls this stewing pot of scientific fantasy "junk science," and sets out to show why it is allowed to determine the outcome of

lawsuits that will force major changes in health-care practices, product safety, and land use, as well as increasing the costs of insurance and of products generally.

Huber is a colorful writer, and he misses few opportunities for appropriate invective. But this is not a work of ignorant lawyer-bashing. The author is realistic and knows that the question is one of incentives and money. If the courts have rules of evidence that let anything pretending to be science speak, and if the prevailing legal philosophy is that tort law should function primarily as an accident-insurance system, then trial lawyers will naturally pursue the most fantastic claims if the odds favor a fat verdict. Huber explains the origins of the present tort system, then gives us several case studies of junk science in action. He explains the difference between pseudoscience and the real thing, and offers some practical solutions for the problem.

The law of torts is one of the grand divisions of Anglo-American law, along with property, contracts and recently, constitutional interpretation. A tort is a wrongful act which injures another. Through the centuries, the common law developed by trial and error a vast body of rules to determine who caused the injury, who should compensate the victim, and what the victim should recover. The rules covered every conceivable human mishap from intentional assaults to biting dogs, tainted food, highway collisions and slippery floors. In the middle ages, the law required strict liability: if you injured another, you had to pay.

As the Industrial Revolution advanced, the courts began to require some intentional act, or at least negligence, to impose liability. But to prove negligence, the plaintiff had to show that the law imposed a duty on the defendant to act carefully in the circumstances, and that the defendant failed to use reasonable care. By the legal requirement of duty (often folded into the concept of "proximate cause") the courts set "stopping points" in the law. The commonlaw judges recognized that imposing liability could not benefit society unless it had limits; they also knew that litigation itself could do damage and should be limited. This limitation was made with the language of rights and duties.

Expert Testimony

As technology advanced, the courts came to rely more on witnesses who had no personal knowledge of the events at issue, but who had some specialized knowledge that could help the court or jury determine a disputed fact. Experts were not given freedom to speculate; rules of evidence developed to restrain their opinions within the consensus of their profession.

The rules were organized and laid down in *Frye v. United States* in 1923. *Frye* quickly became the general rule in both state and federal courts. It allowed experts to testify only if their theories and opinions were "generally accepted" as valid by other scientists in their field. *Frye* was a sensible compromise between the rejection of all expert testimony, and the equally bad, but soon-to-arrive view, that experts are everywhere, and there's no choosing between them. The *Frye* rule was eroded and then swept away in the 1970's, replaced by a new legal philosophy.

Frye had not worked perfectly, nor had it been intelligently applied in every case, but at least it set some limits on what the courts would accept as scientific evidence, and on how far they would follow a trail of cause-and-effect to find the "controlling cause" of an injury.

In 1970, Yale law professor Guido Calabresi summarized the new trends of liability law in his influential book, *The Costs of Accidents*. Calabresi argued that the primary purpose of liability law should be to control the costs of accidents. Courts existed not just to settle private controversies peacefully, but to engineer a safer society.

The best way to do this, Calabresi and his followers reasoned, was to charge the costs of accidents to the person who could have most cheaply avoided them. This ambitious task implied that courts would have to search through the chain of causation of every accident (which logically could be infinite) until they found the "cheapest cost avoider."

Science Lost Inside Deep Pockets

This theory was enthusiastically adopted by the law schools and then the appellate courts, but it had several malignant side effects. It necessarily called for more scientific evidence to follow the chain of causation to the cheapest cost avoider. Coupled with the erosion of the *Frye* rule, this created powerful incentives to allow the loosest sort of junk-science testimony to do the job. Why? Because the cheapest cost avoider always turned out to be the entity with the largest insurance policy or the deepest pockets. Surprise, surprise.

In 1975 the Federal Rules of Evidence were codified; Frye wasn't mentioned. Expert testimony would be admitted, said the drafters, if "... it will assist the trier of fact to understand the evidence or to determine a fact." Scientific consensus wasn't mentioned. Most states soon codified their rules of evidence to follow the federal practice.

What was the diligent tort lawyer to do? Would lawyers settle for a respected epidemiologist who would say that PCBs might affect health in some circumstances, though no one could say how or in what concentrations? Or would our diligent lawyer find an "expert" who would swear that PCBs were the most deadly and injurious force since the nine plagues on Egypt, and that they were clearly responsible for the plaintiff's migraines or miscarriage? Given the incentives and the opportunities, the answer is obvious.

Huber uses several case histories of junk science in action to develop his thesis. He begins with an historical example, to show that bad science coupled with inadequate cause-and-effect reasoning was sometimes a problem even for the older, tradition-bound tort law.

This was the epidemic of "traumatic cancer" which began to appear in the courts in the late nineteenth century. At the time, medical opinion was divided on whether or not blows and bumps could cause cancer. By the early decades of this century, medical science knew that trauma does not cause cancer, but by then a wave of cases claiming traumatic cancer was sweeping through the courts.

The author shows that the rise in these claims correlated closely with the introduction of worker's compensation insurance. The pseudo-experts soon followed. Many courts rejected expert testimony "... wholly in the realm of conjecture, speculation, and surmise," but other sympathetic judges used spurious cause-and-effect reasoning to rationalize awards to cancer victims who showed some trauma just before the cancer was discovered. By 1935, epidemiological studies showed that trauma could not cause cancer. The last such suits appeared in the 1960s.

Benedictin Done-In by Done Deal

Another of Huber's examples is the litigation over the morning-sickness drug Benedictin, used by millions of women from 1956 until the 1970s. Major epidemiological studies showed no significant correlation of Benedictin use with birth defects. The plaintiff's bar began an assault on the drug, based largely on the theories of two self-styled scientists. One of them, Alan Done, admitted that the individual pieces of scientific evidence didn't implicate Benedictin in birth defects, but his "mosaic" theory did. By mixing a few poorly-done animal studies, some scattered laboratory studies, and his own analysis of Benedictin's chemical structure, Done concluded that the drug did indeed cause birth defects.

The lawyers set out to find the plaintiffs and began the attack. This wasn't hard to do, since about 100,000 children are born with birth defects each year in this country, and 98% of the defects are medical mysteries. The intersection of this set with the set of Benedictin users was large. Huber shows how the plaintiff's lawyers carefully selected their clients and tried cases until they got a few favorable verdicts using Done's theories.

The next step was to use the news media, ever gullible about scientific issues, to generate more hysteria and attract more plaintiffs. The Benedictin cases illustrate Huber's complaint that the current rules of evidence allow the same scientific issues to be litigated again and again. The tort litigators win some and lose some, but if the odds are favorable, the game continues. Benedictin's manufacturer eventually defeated most of the claims, but its defense may have cost it more than \$100 million. It withdrew the drug from the market in 1983. In the eight years since, there has been no change in the incidence of birth defects.

Huber's other illustrations include the Audi 5000 "sudden acceleration" problem; the controversy over "chemically-induced AIDS" and similar dangerous chemical claims; the cerebral palsy victims supposedly injured by obstetrical bungling, and the latest pseudo-science of "clinical ecology," where the symptoms and complaints are as vague and fluctuating as the theories used to explain them. Science can't deal with stimuli which are vanishingly small or which take an indefinite time to work, but the clinical ecologists certainly can.

We also learn about the problem of compensation for fear. The common law recognized fear as a compensable injury, but set a stopping point for liability by requiring that the fear be reasonable and grounded in fact. The courts did this with the "impact rule," which required some objectively verifiable event, trauma or lesion.

When the courts began to abandon the impact rule in the 1950s, any claim of fear became compensable. If one expert says that HIV-infected children can't spread AIDS, and another says they just might, the jury is allowed to split the difference. Halfway between nothing and something is often a lot of money.

The author shows how junk science brushes away the details of scientific evidence just enough to reach the desired conclusion, while retaining enough to maintain an aura of credibility. The cases here are those where the product really did cause harm, but not in the way or to the extent claimed.

The Dalkon Shield Intra-Uterine Device for example, had a defect allowing bacterial growth, which increased the likelihood of pelvic inflammatory disease (PID). But not all IUDs shared this problem, and further, most cases of PID are known to be caused by sexually-transmitted organisms. Thus, the most likely cause of PID in sexually-active women who had used the Dalkon Shield was not the device but their own life style.

The Litigation Casino

Heavy exposure to asbestos increases the risk of lung cancer from five to seven times. Asbestos exposure plus heavy smoking increases the risk about 96 times. Why is not the sexually-promiscuous woman or the smoking asbestos worker the cheapest cost avoider? Lawyers use our natural reluctance to blame the victim to transfer responsibility away from important causes that are difficult to control to trivial causes under the control of solvent defendants. If we really want to compensate sick or injured persons, why use the rationalization of "cause" at all? Why not avoid the uncertainty, delay, aggravation and outrageous transaction costs of the litigation casino?

The lawyers would answer the last question by asserting that they have advanced scientific research into the causes of accidents and that litigation has made life safer. Neither is true.

The record shows that scientific and engineering studies disclosed real risks long before the lawsuits were filed: the Ford Pinto, asbestos, the Dalkon Shield, DES implants, thalidomide. Lawyers sometimes lead the charge when the scientists are holding back -- with good reason.

A look at comparative evidence is always good when we evaluate a claim. Are we safer now through litigation? We are not; applied to anything but the most obviously dangerous activities, lawsuits have not made accident control more efficient.

After traumatic cancer suits, the rate of cancer is the same. The incidence of PID is the same after IUDs have left the market. Birth defects still occur at the same rate now that Benedictin is gone. After obstetricians were thoroughly sued and reformed, the rate of cerebral palsy is just the same. Further, our accident rates are not better than those of Europe and Japan, with different liability systems.

Huber concludes with two chapters devoted to an explanation of the scientific method and suggestions for reform. The two are related, because the author believes that the essence of identifying good science is the concept of consensus. What one scientist says is not science, but what the community says is. Science by definition is the community that concerns itself with objectively verifiable claims, and it is to this community that the courts must look if they intend to make decisions based on fact.

Science has changed radically since Galileo. The growth of the first scientific societies helped change the enterprise from one of lone wolves to one of the group. The new science of statistics showed how we could systematically improve observations, establish the regularity of experimental results and reveal hidden irregularities. The journal system further enhanced the group nature of science by encouraging peer review and careful checking before publication of claims.

Huber's review of the history of pseudoscience and the demarcation problem will be familiar to most of the readers of *The Skeptic*. His metaphor of the tort lawyers and liability scientists as practitioners of cargo-cult science is too funny -- and too serious -- to condense here. The lawyers have an interest in exploiting the tentative and qualified nature of scientific conclusions. They assert that science (particularly that opposing their case) is unreliable, that nothing is really known for sure. Litigators love uncertainty. The more tightly the law is bound to good science, the more predictable litigation will become, and the less of it there will be.

So what are the courts to do? Huber suggests that the reform of the rules of evidence begin by returning to the Frye rule. Essentially, courts must determine if a proposed expert witness is offering opinions generally accepted by the consensus of the applicable scientific community. The rules of evidence should be aligned with the collegiality of modern science.

How do we determine that the experts are members of the community? One way is to rely on scientific institutions established and funded for the very purpose of making evaluations of current scientific knowledge, such as the Food and Drug Administration or the National Institutes of Health. Judges often do rely on these sources when they support liability. The next best place to look is the peer-reviewed journal, especially for review articles. Do the expert's opinions fit reasonably well into that consensus?

A final test of expert competence is to ask if it relies on systematic observation and controlled trials, as opposed to impressions developed in clinical treatment. This requires some familiarity with scientific methodology, but it is not beyond the capacity of most judges. Huber has other specific recommendations that may seem trivial to non-lawyers, but which could make a substantial improvement in the quality of expert testimony. One of them is reviving the power of the trial judge to call his own experts.

Huber makes an eloquent argument for good science in the courtroom. He shows that liability science cannot fulfill its promises. Lies don't become truth just because they advance social purposes. We really expect our courts to make judgments based on fact and to get the facts right. It is hard to say what the rule of law means, if the facts are so plastic that anything can be proved in a courtroom.

If judges really believe there is no difference between facts and falsehood, one wonders why they are in the business of judging at all. Junk science is bad for the courts and bad for the law. It has done nothing but enrich the trial bar and randomly reward a few lucky plaintiffs.

This dismal picture is not the end of the story. Next month I intend to discuss the growing reaction in the legal and scientific communities against junk science. We will look at some recent cases demanding a return to the Frye standard, and learn how a house can be haunted as a matter of law in New York state.

EDITORS NOTE: (John Thomas is the former President of the North Texas Skeptics and serves as an NTS technical advisor. He has an undergraduate degree in physics from the University of Texas at Austin. He has a law practice in Grand Prairie, Texas.)

1992 Annual Meeting & Election of Officers

By Mike Sullivan

Dallas -- The North Texas Skeptics held their annual meeting on January 25 for the purpose of electing the Board of Directors and the appointment of officers for 1992. Eight NTS members were present for the meeting and business was conducted according to the NTS bylaws. As announced in last month's issue of *The Skeptic*, all NTS members were welcome to attend, nominate members and cast their votes for the Board. Your fellow members voted as follows:

Elected by the NTS members to the Board of Directors for 1992: Laura Ainsworth, John Blanton, Ron Hastings, Mark Meyer, Mary O'Grady, Mike Sullivan, Joe Voelkering.

NTS Officers appointed by the new Board of Directors: President Joe Voelkering; Vice President Laura Ainsworth; Treasurer Mark Meyer; Secretary John Blanton; Newsletter Editor Mike Sullivan; Associate Newsletter Editor Keith Blanton.

John Blanton declined re-election as NTS President, citing his work and class schedule. Mark Meyer asked not to be re-elected as NTS Secretary, and John Blanton accepted that post.

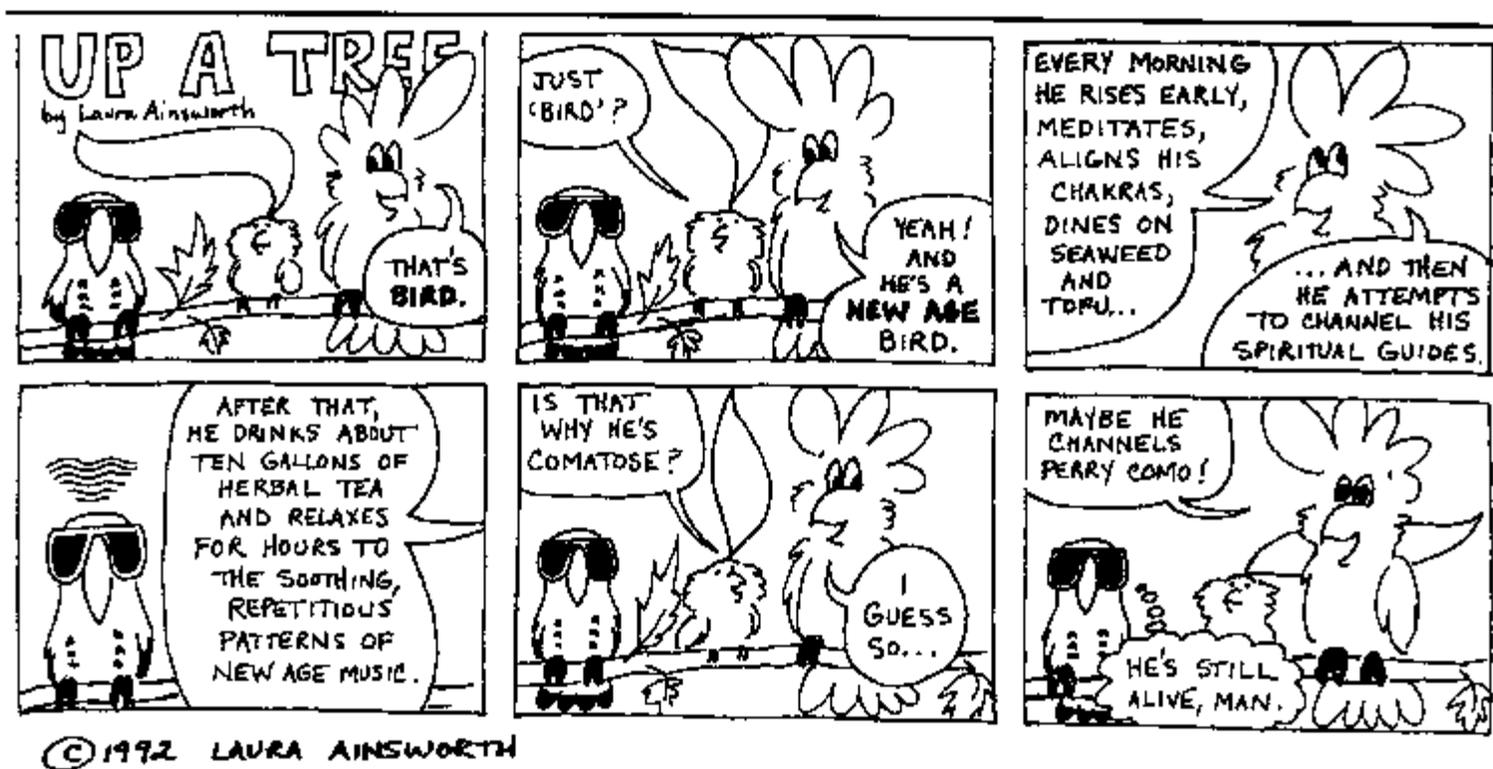
Members discussed several other topics at the meeting, including program format ideas, a plan for providing official NTS spokespersons to the media, and received a brief report on the organization's finances from treasurer Mark Meyer. Plans were made to conduct the next Board Meeting on February 15, 1992.

1992 will likely be the biggest year in NTS history, as the group assists CSICOP in hosting the annual conference in Dallas, October 16-18. The CSICOP meeting will bring the potential for national media coverage of skeptical topics to Texas for the first time, and NTS members will be an important part of making the meeting a success.

At the February 15 Board Meeting, we plan to discuss action items for some of the CSICOP preparations. We need the help of every NTS member. See the coupon on the back page of this issue for information on how you can volunteer to help at the CSICOP conference.

Up a tree: a skeptical cartoon

By Laura Ainsworth



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