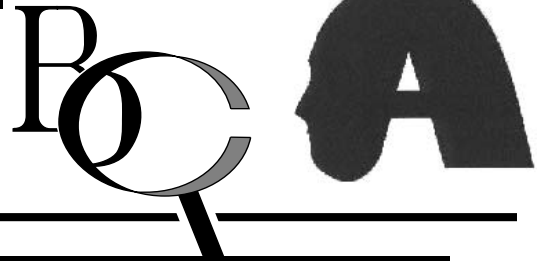


# RATIONAL ENQUIRER

The Skeptics' Newsletter for Western Canada



## Until the Phoenix Rises Again...

*Heidi Lloyd-Price,  
Alberta Skeptics secretary*

**Y**es, it is true — the Alberta Skeptics are folding the tent, after about 17 years of trying to raise the skeptic profile in our neck of the woods east of the Rocky Mountains. That is a fairly long run — time enough to accumulate some history. The reason we are pulling the tent pegs is not really surprising and I'll get to that at the end, but allow me to reminisce a bit first.

It all began in 1989 when a University of Calgary (UC) librarian, Elizabeth Anderson and her husband David, read about a psychic being employed by police to find a missing child. They felt that such efforts were a tragic example of a seemingly escalating trend in the acceptance of irrational thought in our society. Armed with a list of *Skeptical Inquirer* subscribers in Calgary, Elizabeth picked up the phone and began to make some calls. I was one of the dozen or so who subsequently attended a meeting in the Anderson living room. Early on, the decision was made not to incorporate, so we became the informally-organized Alberta Skeptics. David served as our first chairman.

As I recollect there was abundant energy in the beginning. Some of us participated in an Alberta Skeptic tour of the Psychic Fair and this garnered a report in the newspaper. We started to invite some interesting speakers and even talked about giving annual Straight and Bent Spoon Awards to the media for best and worst skeptic journalism. I think at least one Bent Spoon was awarded. For a while, I remember there were also weekly meetings to work on a proposed skeptic TV magazine show. All great ideas, but, as we discovered, dreams require a lot of cooperative dedication to make them reality and to keep them that way.

A few years later, a new member, Rob Day, was instrumental in a number of lively media interviews and escapades, including doing a crop circle demonstration. Rob served as vice-president for a while and he helped forge a link with some local TV journalists. When Rob moved to the United States, we lost a fearless media-savvy member. Be assured, there was discussion about doing fire walks and other pro-active

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debunking events, but without Rob and/or other theatrically-inclined volunteers, we struggled to make it over the 'activation energy barrier' to create the actual event. (Although my son Simon has a touch of Hollywood in him, alas, he didn't get that gene from me.)

The Alberta Skeptics felt that being well-informed was a primary group objective, so to this end, speakers were sought on controversial and timely topics. Although most of these people had academic positions at UC, a significant number came from other parts of the community as well as from within our group and I think this diversity tended to keep things interesting. Thus, we explored the scientific frontiers of brain waves, origin of language research, origin of man, sociobiology, artificial intelligence quantum physics, an evolutionary psychology examination of jealousy, large-scale structure of the universe, global warming, music and the mind, selfish DNA, dark matter and dark energy, quantum computing and climate change. Some topics touched on medicine and health: chiropractic, therapeutic touch, why health professionals believe weird things, the placebo effect, food fads and hypnosis. We also were treated to the analysis of some obvious targets of skeptic scrutiny: UFOs, moon madness, cryptozoology, pseudoarchaeology, Nazca lines, Curse of King Tut, mentalism, science and pseudoscience at university, and the 'so-called' paranormal, occasionally from an unusual point of view! Sometimes, our guest speaker tackled social, or even political, issues: science education, cults, the satanism scare, fluoridation, Teenagers: developmental changes in thinking patterns, terrorism, and political discussion and critical thinking (the latter by an adventurous local MLA, who is now aiming for provincial leadership). A number of other talks illuminated the intersection of religion, science and philosophy: New Age philosophy, religion, future of skepticism, common roots of

## Aims and Executive

**T**he BC and Alberta Skeptics support the aims of CSICOP, the Committee for the Scientific Investigation of Claims of the Paranormal. Stated briefly, these aims are: To provide a reliable source of information to the public and media on claims of the paranormal; To provide public education in areas of scientific method and paranormal claims; To facilitate open-minded testing of paranormal claims; To provide a forum for the exchange of views.

The Alberta and BC Skeptics are open organizations and your involvement and support is encouraged. A subscription to the newsletter is \$15 annually (\$6 for students). The newsletter is published one to four times a year, and public meetings are held on the same schedule. **Your letters, articles or comments are encouraged.**

**Check your mailing label!** The top right hand corner shows your subscription expiration date.

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science and religion, skepticism and humanism, creationism, magnetic fields and revelation, religion and science, intelligent design and natural religion.

True, most of our speakers were 'in our corner' skeptically speaking, but every last one of them seemed to thoroughly enjoy the discussion period - there were always lots of good questions - and genuinely beamed when presented with our token-of-appreciation skeptic mug at the conclusion. When we ran out of our first supply of glass coffee mugs, we ordered some rather classy stainless-steel travel mugs, which were also a big hit. However, I always felt somewhat disheartened that we couldn't get more people out, skeptics or otherwise, for these great talks.

A recurring problem was venue. Repeatedly having to find a new meeting space drained much of our (my) energy. The list of temporary venues included the public library, Health Sciences Centre at UC, Alberta Science Centre boardroom, a law office boardroom, various bookstores, Mount Royal

College, UC Biosciences, Calgary Co-op, and lastly, a community Residents Club.

By 2001, our Calgary founders had long left active membership in the group citing personal issues and no one had leaped in to fill the vacuum of official leadership. We did elect a new chairman around this time, but for whatever reasons, hopes for a skeptic renaissance were never realized. We went back to a strategy of maintaining our minimal program of speakers, with hopes to attract new members. There were moments of encouragement, but in reality, the writing on the wall just kept on getting bigger. A last effort was exploring the possibility of joining forces with the local humanist group; it was a noble effort, but 'no cigars'.

Looking back over our 17 years, there are a number of memorable moments that flash through my mind. I've already mentioned our Alberta Skeptic crop circle demo, which was definitely cool, although I didn't witness it first-hand. Later, as part of a workshop we organized for the public in 1993, I did get some 'first-hand' therapeutic touch (TT) treatment on center stage. Unfortunately, despite all the efforts of the TT practitioner to calm the pulsating multi-coloured auras emanating from my physical being, I couldn't honestly report any special sensations - other than a possible tinge of embarrassment that any grown-up could entertain such ideas as TT (workshop reported in *RE* 1994?).

The Alberta Skeptics have had the pleasure of hosting a number of well-known skeptics from other parts of the world. Thus, as the secretary, I had the privilege of being chauffeur to well-known creationism battler Ian Plimer (of Australia) and, on another occasion, the particle physicist and prominent skeptic author Victor Stenger (then from Hawaii) when they visited Calgary. Quite memorable.

Critical thinking is close to most every skeptic heart and, in the late 1990s, an opportunity came my way to introduce a course at the junior high level. If I had not been a member of the Alberta Skeptics (and the skeptic 'network'), however, I doubt I would have had the impetus to carry through on such a project. Being connected to like-minded people provides a certain amount of inspiration. Shortly after the Alberta Skeptics formed, I had worked with Greg Fouts in the Psychology Department at UC on the idea of doing a survey assessing paranormal belief among undergrads. The survey was done, but unfortunately the results got 'snowed under' and the work never published. But, one thing leads to another, and later, when my sons' school invited parents to teach an extracurricular class, and my proposal for a critical thinking course was approved, I had some ready-made support. My previous UC contact Greg was available to provide some valuable guidance on teaching, including "Make it fun!" So, I taught 'The Z-Files' (a little play on the popular 'X-Files' TV program at the time with the Z standing for 'zetetic'!) for two consecutive years, in 1997 and 1998 - 30 lessons in all. A favourite was having magicians demonstrate how easy it is to fool the human brain. I think both the students and I learned a lot and we also had quite a bit of fun (although it was not a small amount of work to prepare all those lessons). A more detailed description of this undertaking was reported in the *RE* (1998?).

Although not a prerequisite, being a member of a local skeptic group encourages one to attend skeptic conferences. Several members of our local group have attended the occasional conference and I have travelled to a few of them: three CSICOP, two Skeptic Society and one Toolbox. At these events, one is able to chat personally with many of the leading lights of skepticism. For example, at a CSICOP conference in Atlanta in 2002, our webmaster James McCormick and I found ourselves at an Indian restaurant enjoying spicy food and conversation with the likes of Susan Blackmore, Massimo Pigliucci, Vic Stenger and others. Making those kinds of personal connections, as well as taking in the more formal presentations afforded by conferences, was (is) another stimulating dimension of our skeptic experience.

Back in Calgary, a final highlight was our last Alberta Skeptic meeting on May 31 of this year. The guest speaker was Stuart Kauffman, a pioneer of complexity theory, who is currently at UC setting up the Institute of Biocomplexity and Informatics (where my son Jason has a programming job - so now you know how I managed to snag SK!). He spoke on Intelligent Design (ID), but it was no ordinary lecture; Stuart did a surprise 'improv', playing the role of himself and a debate adversary, a certain J.R. Wheeler, Esq., 'a very smart lawyer from Charlotte, North Carolina who believes profoundly in the Bible as the basis for Western civilization, creation science, and ID'. JR spoke with a heavy suthun aaksent, if ya know wad ah mean and referred to Dr. Kauffman as that 'slick, know-it-all scientist-type'. Well, it was a memorable performance in many ways.

In the end, it was simply lack of new blood that spelled the demise of our small Alberta Skeptics group -- a sad, but by no means uncommon, tale for many long-standing organizations. People do have lives. The same people had been doing the necessary administrative jobs of treasury, website, finding speakers and venues for years, and, despite efforts to redistribute responsibilities and recruit new members, we were not fully successful. Lacking a critical mass, we weren't able to do a lot of the exciting things we really wanted to. 'You can't do the impossible' has become one of my frequently uttered mottos. We think that one reason for the difficulty in attracting new members might be that there is so much available on the internet for the skeptically-inclined, that many needs can be met without formally meeting as a group. (And, we know how independent skeptic-types are!) Perhaps. At any rate, the termination of our activities, such as they were, doesn't mean that the skeptic beacon won't shine again in Alberta - but, maybe it will gleam from Edmonton next time.

As secretary, I have played but a modest role in the Alberta Skeptics. These reminiscences, which are necessarily personal and limited, are offered as part of closure and to remind ourselves that we did indeed accomplish something together. More importantly, my last job is to thank all those

*Inspect every piece of pseudoscience and you will find a security blanket, a thumb to suck, a skirt to hold. What have we to offer in exchange? Uncertainty! Insecurity!*

*Isaac Asimov, The Perennial Fringe (Skeptical Inquirer, Spring 1986)*

## Web Sites

**BC Humanists:**  
<http://www.vcn.bc.ca/humanist/>

**BC Skeptics:**  
<http://www.bcskeptics.info>

people who have made significant contributions to the group over the years and who deserve to be properly recognized:

Most recently, Dale Tardiff (tireless Treasurer/Memberships) James McCormick (expert Webmaster) David Spencer (speakers) Mary Leggett (communications)

Other contributors from the past and distant past that must not be forgotten are: James Morison (memberships), Robert McFetridge (newsgroup), Greg Hart (sometimes chairman), Mark Anderson (website launcher), Greg Fouts (important University of Calgary connection and supporter), Larry Thornton (curmudgeon and magician), Larry Mewhort (treasurer), Rob Day (debunker extraordinaire), Jason Gillespie (skeptic book club leader), and David and Elizabeth Anderson (founders). If I have left someone out, I do apologize - skeptics aren't perfect!

Finally, let me say how much the Alberta Skeptics have always appreciated the steadfast support of the BC Skeptics! To both Barry Beyerstein and Lee Moller, especially, we express our thanks - for producing newsletters and including us in them, generously printing up our Alberta Skeptics brochure, sending us literature and in general facilitating skeptic dialogue. Likewise, we want to acknowledge the support of CSICOP, based in the US, as well as that of the relatively recently formed Skeptics Canada, based in Ontario. We wish all continued success in promoting science and reason!

So, thanks for the memories, and until the phoenix rises once again from the skeptic ashes this side of the Rockies, please keep us on the mailing list as individual skeptic spirits . . .

## Skepticism is Back at UBC

UBC Skeptics was started to address the need for a freethinkers club on campus, and to fill a void left by the academic curriculum at UBC. Many students, especially those in Science programs, enter and exit UBC with little to no knowledge of skepticism, the process that gives scientific and critical inquiry its power. The late great science popularizer Carl Sagan suggested that academic institutions should require their science students to take an introductory course on skepticism and the scientific method. Since this is not the case at UBC, we hope our club will serve as the 'next best thing', and introduce the wondrous world of skeptical thought to students from diverse faculties.

The need to start a skeptics club at UBC was also made abundantly clear by the large number of student clubs devoted

to various religions and pseudoscientific practices. Take for example the fact that there are 12 different clubs devoted to Christianity alone, all purporting to be non-denominational! In addition to these are clubs promoting such already scientifically-debunked ideas as Reiki and alternative medicine. Clearly, the stage had been set for some time now for a skeptical club to arrive; but how would students react to such an endeavour?

Our booth at AMS Clubs Days was a success and attracted many students from various backgrounds. In the end about 60 students signed up as bonafide members of UBC Skeptics. As excited as we are with this turn-out, it's also a sign of how much work is ahead of us, as there are over 6000 students in the Faculty of Science alone! There were a wide range of reactions to our club's booth; several passers-by were skeptical of the UBC Skeptics, writing us off as conspiracy theorists or purely Socratic philosophers. But rather than be discouraged, we decided to take this as a sign of the dire need for the publicizing of skepticism as a novel, critical, and usually difficult way of looking at the world. If someone has answers, we have questions.

As a club, our mission is straight-forward: to promote critical thinking amongst the student body. There are many strategies that could be put to use, and to organize ourselves we'll be having weekly meetings (more like social outings) at a local pub near campus. This will also give a chance to skeptics and freethinkers from UBC and the local community to meet one another and socialize. These meetings are open to anyone interested, and times and locations will be posted on our website at <http://www.ams.ubc.ca/clubs/skeptics>. Our website can also be used to download copies of our monthly newsletter, designed to allow students, faculty, and community members to voice their concerns or opinions on matters within the scope of skepticism, both locally and globally. If we can help one person to start thinking critically, it will change a life, and allow him or her to see the beauty in asking questions and searching for evidence. I believe this to be entirely possible, and with a little gentle prodding, we can be the stimulus that makes such changes possible.

Although we are vastly outnumbered by the 21 student clubs that promote religion and pseudoscience at UBC, the enthusiasm and dedication shown by the members of our club indicate that this will be a successful year for the UBC Skeptics, and will hopefully lead to many many more!

*Pseudoscientists delight in irrefutable hypothesis. The reason for this is obvious. If no possible state of affairs is allowed to count against what they say, they need have no fear of the facts ever proving them wrong. But their guarantee against error is purchased at the expense of not saying anything at all about the world. If one cannot be wrong about something, then it makes no sense to speak of being right about it, either.*

*Daisie Radner and Michael Radner, Science and Unreason (1982)*

## The Egregious Art of Butterfly Collecting

Larry Thornton  
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Unknown to the 'real world', the esoteric world of magicians has a number of trade journals. These monthly magazines consist of a lot of shop talk, tricks, advertising for magic, editorials, trick reviews, feature articles on world-class magicians, pedantic lectures on ethical conduct and showmanship, magical history, and up-to-date conjuring news from around the world. One of the more enduring periodicals, Genii magazine (1), was founded more than fifty years ago by the creators of Hollywood's famous mecca for magicians, The Magic Castle. The magazine is now "under new management", as they say.

I recently came upon Genii magazine's web site serendipitously, by entering the phrase into Google, "magicians who like Uri Geller." As a skeptic/magician myself, I was chagrined to see some positive publicity for Geller on Genii Magazine's web site. From Genii's links of sites of possible interest to magicians, there appeared a photo of Geller with the accompanying blurb:

"Uri Geller... is an international celebrity of enormous staying power. His talent for reinventing and re-packaging himself should be watched by every magician. Nobody since Houdini has generated as much interest and publicity for what he has done and for what people (especially the media) think he has done."

Clearly, it seems, Geller has admiring fans at Genii headquarters. The advice that every magician should become cognoscente of Geller's marvelous talent for reinvention and repackaging, tells the tale. Geller, in other words, is a celebrity of the psychic world who's tenacious ability to survive mountains of skeptical criticism and triumph by adapting to changing circumstances, should be a lesson to aspiring magicians and mentalists everywhere. At least that's the impression given.

Rarely ever discussed anywhere, however, are the widespread differences of opinion on Geller throughout the world within the various branches of the magical arts. Like the producers of Genii magazine, there are magicians who deeply admire Uri Geller for his "enormous staying power" and marvelous "talent for reinventing and re-packaging himself"; not to mention his apparent "heroic" battles over the years with the skeptics. This apparent admiration contrasts starkly against the more erudite community of conjurers (exhibiting, dare I add, a somewhat larger measure of scientific acumen and skeptical intelligence) who despise everything Geller stands for. The rift runs deep: Even mentalism's Psychic Entertainers Association (PEA; an offshoot of the magical arts) have members who show some antagonistic division on the matter. Should magicians and/or the skeptics cavalierly dismiss the staff at Genii for their apparent praise of Geller? There is a young magician you probably heard of who has made a name

for himself with a number of television specials and publicity stunts. His name is David Blaine. He started out doing what is called “street magic”, and then went on to perform a number of crazy endurance stunts, among them, being ‘frozen’ into a large block of ice; and then sometime later, spending several weeks locked in a clear plastic box suspended high in the air, in England. Inexplicably, the Genii website elevates the stature of David Blaine with a peculiar kind of logic:

“David Blaine, currently the hottest name in magicdom (regardless of fluctuating pro-and-con voting results) will provide up-to-date poop for fans and foes. There are at least 21 other Websites devoted to Blaine. David Copperfield has 12 sites and Houdini has 11, which puts Blaine on top.”

Now it behooves one to wonder how Blaine could possibly be “on top” (whatever that may mean) just because he seems to have nine or ten more ‘fan sites’ than David Copperfield or Harry Houdini. As for the legendary Houdini, it has been 76 years since his death. Will David Blaine have anything even remotely close to the massive worldwide adulation Houdini has garnered, fully 76 or more years after his death? It is hardly a fair comparison to judge the (short, or long-term) popularity of any entertainer — or charlatan! — simply by counting the number of web sites created by fans on the Internet. (I point out this seeming diversion on the subject of magicians favourable towards Uri Geller, only to illustrate another example of convoluted thinking among some of the cognoscenti of the world of magic.)

Skeptics not into conjuring (it makes a wonderful hobby!) are aware of the strong role that magicians play within the skeptics movement. There are a substantial number of active skeptics who are professional magicians. They are well known among long-time skeptics, so I won’t burden you with a tedious list of the better-known ones here. But the fact that many magicians are highly skeptical of paranormal and pseudoscientific nonsense, and so work diligently for the cause, doesn’t preclude a counter-fact: Magicians come from all walks of life, and so a large percentage of them are as subject to the foibles of errant thinking, as anyone else.

Paranormal adherents with an axe to grind have taken mean advantage of this fact, by doing the research necessary to ferret out lists of historically famous magicians (at least within the art) who were diehard believers in the paranormal and supernatural. One George P. Hansen (2) has tried to undermine the work of magicians in skepticism, through just such an essay. He titles it, “Magicians Who Endorsed Psychic Phenomena” (3). It appears that Hansen is trying to show that many notable magicians lend credence to the paranormal cause by embracing it, and in so doing, make ‘fools’ out of those skeptical magicians who do not. In a like manner, the same tactic has been employed with scientists (a favourite ploy of creationists and Intelligent Design advocates); but it amounts to little more than a kind of egregious “butterfly collecting”, as in: “MY list of famous magicians [or scientists] who embrace the paranormal, overwhelm YOUR list of those who do not!” Comparisons of this sort do nothing to further the argument on either side, but merely serve to emphasize the fact that virtually anyone... of any persuasion... can elect to become magicians or scientists — or both.

Notes:

(1) Genii website (link page): <http://www.geniimagazine.com/links.html>

(2) Mr. George P. Hansen was employed in parapsychology laboratories for eight years. He has published positive findings on the paranormal, as well as a number of stinging critiques. His published work on UFOs has focused on hoaxes and government disinformation efforts.

(3) The article Magicians Who Endorsed Psychic Phenomena: <http://www.tricksterbook.com/ArticlesOnline/MagWhoEndors.htm>.

## The Not So Great Creation Debate

*Lee Moller*

On May 5th, 2006, the BC Skeptics hosted a debate between Richard Peachey, who argued for a special creation of the Earth (i.e.: an Earth about 6,000 years old and that evolution is impossible), and Scott Goodman who argued the opposite. The meeting was held in a lecture hall at Langara College. The meeting was the best attended since we hosted a talk by William B. Davies, the actor who played the famous “smoking man” from the X-Files. In addition to being the best attended meetings we have ever had, they had another quality in common, namely that most attendees had very little interest in what the speakers, or at least half the speakers in the latter case, initially had to say. (For those who were not at the Davis talk, many attendees seemed only interested in asking him about X-File minutia. For me, that meeting invoked images of William Shatner’s famous “Get a Life” comedy skit on Saturday Night Live.)

The results of the debate were, well, debatable.

### A Little History

The meeting was a long time in the making and, in the end, was not what we hoped for. The saga began in mid-2005. At the time the topic of intelligent design, or ID, was hot and we thought a debate would be timely and informative. The arguments for intelligent design are sometimes subtle and shrouded in a patina of scientific jargon. We felt that our membership would be interested in a review of these issues from one in the scientific know, namely Ron Ydenberg, an evolutionary biologist and researcher from SFU. His opponent was to be the aforementioned Richard Peachey, a science teacher (gasp!) in Abbotsford area of BC and Vice President of the Creation Science Association of BC.

After many exchanges of emails and scheduling problems — we originally hoped to have the debate in August 2005 — we arranged a meeting between myself, Barry Beyerstein, Ydenberg and Peachey at a restaurant on the SFU campus on December 13th 2005 to schedule the date and rules. The meeting was cordial and pleasant but we were in for a surprise. Early on in the meeting I, in my usual blunt style, asked, “So

what are you, an ID guy or a straight up creationist?" We were disappointed to learn Peachey was the latter and not in a position to argue ID. Adding to our problems was that Ydenberg had better things to do than debate creationism. Ron Ydenberg, whose interest was in ID issues, had thought that Peachey was a creation *scientist* who could argue ID. But by this time, we felt we had too much invested to just call the whole thing off.

Shortly after our meeting on December 20th, the Pennsylvania federal courts banned the teaching of ID in science classes in one of the most high profile legal clashes of creationism with science since the infamous Scope's Monkey Trial.

So Ydenberg backed out. Enter Scott Goodman who had crossed swords with Peachey in the past on the same issue. Scott Goodman is also a teacher in the same area as Peachey. So after another slew of emails, the date and rules were set and Barry arranged for Ian Mulgrew, a well know columnist for the Vancouver Sun, to moderate the debate. The die was cast.

### **The Debate**

The joint was packed. Ian Mulgrew opened with a quip "that half of Abbotsford must have shown up". It was greeted icily by most of the crowd. He then set up the debate and the rules, and introduced the players. Peachey was first up.

He opened with arguments along the lines that evolution was impossible, and that all mutations are harmful. In addition, he seemed to delight in quoting famous evolutionary scientists, largely out of context, to support his position. I found this a peculiar tactic since the people he quoted (Richard Dawkins, Stephen J. Gould et al) would have disagreed with every word he had to say. Interestingly, he made no attempt to defend "creation science" per se. Why that was would not become apparent until later in the debate.

Next up was Scott Goodman. Despite bending over backwards to be polite, he was initially heckled by the audience as he presented some of the plethora of arguments that justify evolutionary science. The heckling died down fairly quickly as the hecklers started to realize that they were doing more damage than good for their case (for the record, Goodman felt they were beginning to appreciate his arguments, but that was not my impression). I won't bore the reader with the many familiar reasons why evolution is one of the corner stones of modern science and the grand unifying, over-arching theory of all the biological sciences. In the short time available, all Goodman could do was cherry-pick some of the better arguments, such as: "We have tree ring records that go back further than 6,000 years."

It was during the rebuttals that Peachey's true colors appeared. It became obvious that the reason that he believed that the Earth is a mere six thousand years old is because the Bible says so. Period. He wasn't so much a creation scientist, as he had initially said, but simply a biblical fundamentalist. The fact that his position completely invalidated a long list of sciences (a few are: geology, astronomy, cosmology, much of physics, biology, genetics, paleo-you-name-it, archeology, etc) and his implied message that God spent a considerable amount of, dare I say it, time, and effort trying to fool us all, did not bother him in the least.

The biggest irony of the Peachey argument was that, in almost the same breath, he pleaded to the audience to not simply accept evolutionary authority; and that evolution was wrong because God said so in the bible. I think the irony was lost on him.

Next up were questions from the audience. The anti-evolutionists raised many old chestnuts that most of us could have handled easily, such as the "only a theory" argument and the spurious 2nd law of thermodynamics argument. One questioner accused Darwin of being a racist — what that has to do with the evolution debate was unclear. Some had more interesting questions, all designed to support a young Earth, that Scott handled with aplomb.

One question to Peachey from a skeptic was most telling: "What evidence would you accept that might change your mind about a young Earth?" His answer "None." After that revelation, Peachey became preachy, since he had, in my opinion, just reduced the debate to irrelevance, and himself to a fundamentalist.

The same basic question was posed to Goodman who answered quite amusingly with "Oh, I suppose a fossil of a T-Rex with an elephant in its mouth." This, it seems to me, epitomizes the difference between closed and open minds. I would further suggest that the majority of the audience at the debate fell into the former category. Of course, the creationists would level the same accusation at the skeptic, but there is a fundamental (pun intentional) difference, namely that while the skeptic will resist the overturning of a favorite idea, at least he will admit the possibility. The details of evolution are constantly being refined which also stands in contrast to the dogmatic fundamentalist argument. Admittedly, I suspect that it would literally require a personal visit from God himself to cause scientists to abandon evolution in its entirety.

### **The Aftermath**

We got several new enrollees from attendees of the debate. On the other hand, several people wrote to us expressing disappointment in the debate. Herman VanNorden wrote:

*I attended the creationism debate last night and watched painfully how, in front of an obviously pro-creationism audience, Peachey ran circles around Goodman.*

He went on to say that a better opponent to Peachey would have been a biblical scholar.

Charles Marxer wrote:

*When creationists speak to general audiences such as the one that attended the Langara debate, they should be made to understand that science is the context of the discussion, not religion, and that attempts to shift from the scientific/rationalistic perspective to religion will be forcefully exposed and denounced.*

For the full text of his letter, see the Letters section of the newsletter.

The gist of these letters is that we inadvertently supplied a platform for the enemy. In hindsight, I think I agree. In addition to providing an oral platform, Peachey et al set up an information desk outside the room stacked with various religious documents. However, we followed through on our commitment, which Marxer argues Peachey did not, and we

allowed our members and the tiny fraction of undecided attendees to see the true nature of the debate.

ID is thinly veiled creation science and has recently taken a real beating in the US. Creation science is thinly veiled bible thumping, and over time, Duane Gish and his ilk are getting less and less credence. For all his quotations, and pseudo-scientific pontifications, in the end Peachey didn't waste his time with creation science or ID, and just thumped the bible.

I read this recently in *The New Zealand Skeptic*, which is perhaps a good way to wrap my thoughts:

Gravity is only a theory, so should be taught along side the theory of "Intelligent Falling".

## Sound Expectations

*Lee Moller*

**R**ecently the British Columbia Skeptics had a chance to test a paranormal claim. A protocol was agreed to, acceptance criteria established, and a single-blind experiment was performed. While the results of the test were predictable and boring, the reaction of the participants was not.

*A scientific observation is always a committed observation. It confirms or denies one's preconceptions, one's first ideas, one's plan of observation. It shows by demonstration. It structures the phenomenon. It transcends what is close at hand. It reconstructs the real after having reconstructed its representation.*

Gaston Bachelard, *The New Scientific Spirit*, 1934

In December of 2004, I received a small booklet from a friend — I'll call him Tom — on fine-tuning stereo performance. He took his own expertise and combined it with that of a friend of his whom I shall call Dick. Between Tom and Dick, they had years of audiophile experience. The booklet listed ten inexpensive ways of making your sound system sound better. They consisted of things like vibration isolation, cable selection and so on. One in particular caught my eye, namely that demagnetizing your CDs before playing them significantly improves sound quality. I discussed this with Tom. The position of both Tom and Dick is summarized below:

"We know that there are no ferrous materials in a CD and that the digital data consists of a series of pits in plastic and aluminum, none of which respond to magnetic fields. But we know what we hear. The sound difference is significant and we can pick out the de-magged CD every time."

Technical aside: a varying magnetic field can induce a current in any conductor, so if the field was strong enough, it could conceivably fry the disc.

As explained by Dick, the origin of this idea came from a published article by an audio engineer. After discussing it with both Tom and Dick, I explained that I felt that what they heard could simply be a figment of their imagination. I knew from experience how hard it is to listen for subtle differences in

music, especially if you cannot switch back and forth easily. A person's memory of sound is ephemeral at best. They described how they had conducted their casual tests. I noted that the tests were not even single blind. Listeners knew which CD was de-magged and therefore which CD was supposed to sound better. I felt that this would create expectations that can cloud judgment. Needless to say, while they acknowledged this possibility, Tom and Dick insisted that the effect was real. On further discussion, we decided to do a proper test.

I was quite excited about doing this test for several reasons. While this was not exactly a paranormal claim, it had many similarities to the claims we skeptics have heard over the years. It apparently defied physics as there was no obvious mechanism that I, or for that matter Tom and Dick, could see that could explain the effect. This was an easily testable claim being made by two people whom I knew well and who were willing to put their beliefs to the test.

Over the almost 20 years of the British Columbia Skeptics, we have never had the opportunity to conduct a test of a paranormal claim. (Barry Beyerstein has done many at his SFU lab.) We came close on several occasions, most notably with a graphologist and a Qi Gong master. They both bailed out at the last minute. The Qi Gong master actually showed up for the meeting, but refused to do our simple test, explaining that he was "all Qi'ed out" for the day. This has been the pattern over the years: we waste a lot of time hammering out a protocol only to have the claimant bolt when they realize that the protocol was too tight, and that they had everything to lose and nothing to gain. But here at last was a testable claim with willing participants who were really only interested in finding the truth. And it was a chance for me to put my skeptical money where my mouth was!

And, of course, like skeptics everywhere who do these kinds of tests, I had nothing to lose and a world to gain. This is something that deriders of debunkers (if that is what I am) always forget. If the test were positive, and the results stood the test of time, we all get famous! In this example, even if we do not discover new physics, we would still all make a killing selling new hi-fi gear. If the test is negative, well the next best thing to being right is being totally wrong. Of course, I had a strong belief that the effect would disappear when scrutinized closely. For me, the test was going to be a learning experience in psychology, not hi-fi.

During May, I exchanged emails with Dick and we haggled out a test protocol. We agreed on a single-blind test. A double-blind protocol for this first test was thought to be over-kill. Dick burned two copies of each of four CDs. One of each pair was marked so that only I, the test conductor, could see. By mutual agreement, the listeners could ask to listen to any track on any of the four CDs. I would de-mag one of the CD copies in plain view. I would then leave the room with both CDs. Then I would toss a coin and select which CD would be played first (the "A" CD) and which was to be played second (the "B" CD). I made a note of which CD was the de-magged one, "A", or "B". I would then re-enter the room and cue up the "A" CD. Each listener would be able to listen to each CD as many times as they liked. After listening, each would indicate which CD was the de-magged CD on a scorecard. We agreed to ten trials. Despite the fact that Dick

was confident that he, at least, could get 10 out of 10, we all agreed that the criteria for success was 9 out of 10 or better. Chance would give an expected score of 50% or 5 out of 10 correct. I pointed out that a negative correlation (i.e.: getting 0 or 1 out of 10) would also be evidence of their claim, although in the opposite direction of making the music sound worse. They refused this option and stuck to 9 out of 10 or better for a successful test.

We also agreed that the test would not prove anything conclusively. The goal was to establish a prima facie case for the claim. If the test showed evidence of a real effect, follow-up testing would be warranted. If on the other hand the test corresponded to chance, then the case for the claim fails and we can say provisionally that it is wrong. What I asked of each claimant and of myself is what skeptics the world over ask, namely that regardless of the test's outcome, all involved will admit that the test was conducted in a fair manner and report the results.

After agreeing to the protocol, a meeting was scheduled which, unfortunately, I could not attend. Tom and Dick got together with some other friends and did the test anyway. More on this later.

In April '05, a few days after the first test, we got together to do it again. A third listener, Harry, joined the test after the second trial. It should be said that this test, while well designed, was performed in a very informal atmosphere. There was wine and conversation involved. While Tom and Dick did not share their guesses with each other explicitly, we decided that there was no reason why they could not discuss the test as it proceeded. As the test progressed, I felt that their confidence actually grew. For many of the trials, Tom and Dick were absolutely sure they could hear a difference.

After ten trials, which took about 90 minutes to perform, the results were:

Tom: 7 out of 10;

Dick: 5 out of 10;

Harry (who joined late): 5 out of 8

Tom and Dick were really very surprised at the test's outcome, but they had to admit that the test had failed to make a prima facie case for their claim. To my two friends, two thumbs way up for having the courage to test their convictions.

After some weeks had passed, I told Tom and Dick that I had written a short essay on the test and its outcome. I wished to get their thoughts on the test's outcome, which I might add to the piece. While I had made it clear to Dick that I was going to write up the test as part of our protocol discussions, it would appear that this was not made clear to Tom, as you will see shortly.

Tom and Dick's reaction to the test outcome could not have been more different. Dick was not prepared to abandon his claim entirely. I asked him what odds he would have given that the effect was real before the test and now, after it. The answer: 10 to 1 prior to the test, now only even money. Considering the outcome, I was surprised he would still offer even odds after performing no better than chance. Prior to the test, Dick "thought I'd be a hero, discover a new effect..." Now, he feels the effect is so subtle that he is not even sure if it improves the music or makes it worse. Dick wrote:

*Possibly under much more rigorous testing (no party, no wine, more familiar material, etc) the outcome may have been different but then who cares as I often listen in a party to lots of unfamiliar material and definitely always have wine. If I can't make an improvement under normal listening conditions then I don't care.*

So Dick has significantly revised his views on his claim... a rare thing amongst those who present claims to skeptics. Dick agrees that if there is an effect, it appears to lie near the limits of perception.

As for Tom, immediately after the test he stated he had decided to reconsider a significant cable upgrade purchase, now that he was more aware of how strongly expectations can influence perception. Some weeks later, things had changed. Tom wrote a lengthy email to me, the bulk of which was a well thought out protocol for a more complex test of the claim. For the sake of brevity, I have omitted that text.

*I'm surprised that as a "scientist" you feel there is value in publishing what is not even a prima facie case that fails to establish a claim based on the most preliminary of tests, made with little foresight and conducted in a party atmosphere. At this early stage, I fail to see that all of us agreeing to it makes it any more significant or important. My interest is to find out whether demagnetizing CD's and DVD's actually works or is a figment of my imagination. I think the two tests done so far are no different than the learning experience that scientists must go through in designing and executing experiments and I believe there [should be] much more effort involved than what we have done so far.*

*In my opinion, the only thing that would be established by your article is a subtle and pervasive mindset that this subject is quackery, to use the vernacular of skeptics. That seems a far distance from the detached objectivity which would be needed for any follow-up work to really establish the facts. Since we agreed to use the same methods used to de-bunk spoon benders, I now find myself in an awkward situation suggesting that more and/or different tests need to be done - which is just what a cornered con-artist would say, adding fuel to the fire...*

*You were unable to attend the first night of testing. We claimants went ahead on our own, meticulously following the procedure first agreed by you. This resulted in surprisingly poor results (I only got 33% right)... If the two previous tests show anything, one could say that the more one tests, the better results they get...*

*In all fairness, it should be pointed out that we are on new ground here and what is unknown at this point is what is the best treatment in terms of length of demagging a disk, the effect of multiple treatments, how long any treatment lasts and if there is any permanent effect on the disk over time as the device is quite powerful.*

Tom also criticized the test in a number of other aspects, which I have again omitted for brevity and also, in part, because we agreed that criticizing the protocol after the fact was inappropriate.

So Tom is much less inclined to modify his beliefs as yet, and less inclined than Dick to accept the results of the test as persuasive—as agreed. For my part, the test failed and

attempting the much more complex protocol suggested by Tom is exactly what the first test was designed to avoid.

Expectations can color your judgment, both before and after the fact. Expectations are why we skeptics are so picky about blinding experiments. Tom scored 33% (3 out of 9) in the first test, which I did not attend. But according to Tom, the test followed the protocol “meticulously”. He scored 70% in the second. In other words, Tom scored a little below the expected frequency in the first test and a little above in the second. Nevertheless, both results are well within the results we would expect in 95% of experiments such as this if nothing other than chance were involved.

Tom suggests that if we draw a line through those results, they are trending up. To draw a line through just a few points on a graph and announce a trend is dangerous at best. With a sample size of just two, it is not allowed. But more importantly, he is not looking at the data properly. If both tests indeed followed the same protocol, then we are allowed to combine the data. Technically, the first test did not follow the protocol exactly as it only had nine trials. That aside, Tom scored 10 out 19 or 52.6%. In other words, random chance.

If Tom is right that he was “trending up” rather than simply experiencing regression towards the mean, he must be hypothesizing some kind of learning effect. But this is very unlikely, since he claims to have already got quite good at detecting the difference, so a doubling of the ability between two trials isn’t realistic at this stage. And it’s not a matter of “warming up” to get his skills up to speed, since the tests were done on two separate evenings.

Tom points out there are many unknown aspects of the effect, such as how long it lasts. But these questions are moot until such time as one can establish the existence of the effect itself. We hammered out a protocol that we all agreed to before the test. That fact is not in dispute. Dick was virtually certain that he would score 100% and I am sure Tom felt the same. That is why they agreed to the protocol. The test failed, and therefore executing a much more rigorous protocol is not required.

As I expected, this turned out to be an exercise in human nature, not in the physics of hi-fi. Nevertheless, I was still surprised by the reactions of Dick and Tom. Realistically, I did not expect either of them to admit they were wrong, although Dick came close. As for Tom, even though he had agreed to the protocol and its consequences, he was so taken aback by the negative results that he refused to accept them. He then went on to do exactly what he had promised not to do, namely to second-guess the results after the fact. In addition, he suggests that there is no point in publishing the results of a flawed test. That is not how science works. Selective publication of data is a scientific sin.

Ray Hyman has described something he calls “the bottom drawer effect”. What could possibly be more boring than publishing an experiment that shows results no better than chance? That’s easy: a hundred such experiments! But if the hundred and first yields positive results, it gets press and the rest go to the bottom drawer.

My thanks to Dale Beyerstein for his helpful additions to this piece.

# Letters

## UFOs

My name is Todd Daigneault, contributing writer to UFO BC since 1999 (you may back-order my published articles from their web site). In a sense, I’m glad you guys exist. There are misidentifications, misinterpretations and outright frauds in the UFO and paranormal fields. But, you have a tendency to say that it is all the above because some current scientific paradigms are violated. The terminology ‘..Skeptics Society..’ says it all.

You’re just as bad as the people who misidentify. You close your minds, well, in a sense, providing a good service. We researchers are also skeptical, but we keep an open-mind--because we know that there are more out there. Quantum physics, by mainstream scientists, are stating that there are other dimensions of time and space. Haven’t some of the UFO abductee’s and contactee’s been saying that for years? If there is scientific proof of other dimensions, then there must be life that can come back and forth between realities. Are we so arrogant and conceited as a race to state that we were here before any other life form in the universe? Considering the billions upon billions of inhabitable worlds that exist — you state that none of them have mastered hyper-light speed drive, or other means, to come to earth in 4.5 billion years of existence. Come on. There are etchings, drawings and ancient stories riddled throughout the world of flights and beings descending from the star. Many of these accounts mirror what is going on today — according to your paradigms, humanity didn’t have powered, non-balloon flight thousands of years ago. Explain that. I am all for you guys existing — but you should really have more of an open mind. After all, isn’t that what science is about? Instead of having these little committee’s that persecute believers of unusual phenomena — like the Inquisition did — why don’t you fairly and objectively evaluate them? We don’t ask for science to be destroyed — we just want fair and objective scientific analysis. Come on, you’ll never persuade people that things that go bump in the mind do not exist.

### Lee Moller replies...

I will not get into the debate between open and closed minds and skeptical paranormal researchers other than to say that every one I have ever talked to says that they too are skeptical and that we skeptics often have closed minds. There is a difference between us, however. I can be convinced you are right. I cannot conceive of how the reverse might happen.

Now to the meat.

Quantum physics makes no claims about additional dimensions. Those claims come from various grand unification theories such m-theory and string theory. No one claims there are other dimension in time. The additional dimensions that are proposed are curled up on themselves and only react with the world in the sense of implementing the laws of physics. What UFO people have been saying is a result of too much Star Trek and too little real science. Daigneault then goes on to say “then there must be life that can come back

and forth between realities". This is a frankly ridiculous leap of illogic.

You state that we state that no other planets "have mastered hyper-light travel". According the laws of physics, there is no such thing. You would no doubt now argue that there "are more things under heaven and Earth than are dreamt of in your philosophy". This is known philisophically as "the argument from ignorance" and it is a door that swings both ways.

As for etching/stories etc, there are plenty of non-Von Danekin explanations for them that do not require little green men. Travel between the stars is not impossible, it is just uneconomical. One trip the nearest star would cost the equivalent of the US's power consumption for the next 250,000 years! Radio waves and projects like SETI make much more sense.

We examine UFO claims all the time. In most cases, there is a dearth of evidence and an abundance of imagination.

See my article on light later in this document.

## Creation Debate

A few weeks ago I was in the audience for the debate between Richard Peachey and Scott Goodman. Thank you for sponsoring the occasion. It was well-attended, well-presented and m.c.'ed, with lots of audience participation. After reflecting on the debate for a while, I have come to entertain serious misgivings about the nature of such gatherings.

My problem is primarily with Mr. Peachey's part of the program. Having never heard a creationist in person before, I was curious to see what his approach would be. At first, I was pleased to see that he appeared to be well-read on his topic, well-organized with printed copies of his talk and other hand-outs, and careful about referencing his sources. He was also upfront with his intentions in the talk: to show that evolution is a mistake whereas creation is obviously true; topics and sub-topics presented logically and clearly. On the first point, the first three-quarters of the talk, I felt at home listening to Mr. Peachey evaluating various aspects of evolutionary theory - this was the expected realm of scientific discourse. However, early into the last section - "creation is obviously true," I was jolted with the realization that the frame of reference had changed. Peachey was no longer speaking from the rational/scientific standpoint but from that of theology and in particular Christian literalist biblical theology. This is troublesome.

Debates must take place within mutually acceptable frameworks or realms of discourse. A critique of evolution has to be conducted from what might be called the scientific/rational point of view. The basic principle of the S/RPV is that all claims about the world must be based on evidence as defined by the scientific/philosophical community. The first part of Mr. Peachey's talk, although unconvincing in several particulars, met this criterion. The second part, however, departed from the original frame of reference and shifted to the realm of faith. Nothing he said about God, creation, and Christianity from then on could be a subject for comment by a scientist.

Now Mr. Peachey made no attempt to hide his shift from rational to faith-based discourse. The problem is that everyone

else let him get away with it. No one called him on it, and someone should have. The contemporary ferment around this issue, after all, is not because evolutionists have a beef with religion. It is the religious literalists and fundamentalists who have demanded the confrontation, dressing an old complaint in new language ("creation science," "intelligent design," etc.) for their various political and proselytizing purposes. They should not get to define the terms of discussion. A critique of a scientific theory must be scientific or philosophical. It's bad faith to bring religious beliefs into such a discussion - they do not bear upon the subject, they come from a radically different point of view. Therefore, a good-faith attack on evolution would be restricted to questioning the fossil-record, objectiive vestigial organ arguments, and other science or logic-based criticisms. When creationists speak to general audiences such as the one that attended the Langara debate, they should be made to understand that science is the context of the discussion, not religion, and that attempts to shift from the S/RPV to religion will be forcefully exposed and denounced.

Scott Goodman (whose talk was excellent), like many of us in ultra-tolerant, postmodern Canada, was overly deferential in this respect. Frankly, I am rather inclined to agree with Richard Dawkins and Stephen Gould that evolutionists should not agree to public debates with creationists. The latter are far too prone to bad-faith tactics, and merely to appear on stage with a scientist is a victory for them. By accepting such invitations, evolutionists provide validation to the creationist cause. The message to the public is that there really is a controversy about evolution and that creationists have something important to contribute to the understanding and teaching of science. Which they do not.

*Charles Marxer*

*Retired teacher and philosopher White Rock, B.C.*

### Dale Beyerstein Replies:

Charles:

I agree with you as well. But this just shows the paucity of creationism: Creationists always refuse to be pinned down to one narrow topic, and especially won't confine themselves to a scientific question. They know that they will lose, even when, as was our case, they are the majority of the audience. I pushed at the beginning for a proper Oxford style debate, with Peachey taking the affirmative, defending Creationism/ID; since he is the one trying to make the case to the skeptics. And we wanted to frame the question in terms of the scientific evidence for creationism. But Peachey kept dodging. For this reason, the person Barry first asked to debate our side, Ron Ydenberg of Biology at SFU, dropped out -- he could see that he was just wasting his time with Peachey. That's when Scott Goodman stepped in. Scott has a lot of experience with dealing with these guys.

I think it was worthwhile, though, to show people who haven't encountered Creationism first hand that there really is no scientific debate over creationism.

One caveat, though: Of course you are right that the S/RPV is the only method we have that works for answering empirical questions. But it is not necessary that this is so. It is not

irrelevant or self contradictory to answer the question, "Could there be a substance identical to water in all respects even though it is not made of H<sub>2</sub>O?" with "No. My God assures me that He has never made water from anything else, and promises that He never will." This is indeed a bad answer to the question; but showing why it is so bad could make for an interesting debate; though amongst philosophers, and certainly not with Richard Peachey

## In my Opinion

Lee Moller

*There is no democracy in physics. We can't say that some second-rate guy has as much right to an opinion as Fermi.*

Luis Walter Alvarez, in *The Politics of Pure Science* by D. S. Greenberg, 1967

"Everyone is entitled to their own opinion."

"Hey, I've got a right to an opinion!"

How many times have you heard these classic argument enders? This is the last resort of the truly desperate. People say the most outlandish things and, when challenged, retreat into this ultimate cop out. The fact that most people seem to think they have a right to an opinion devalues opinions everywhere.

Webster defines "entitlement" as:

1: a) The state or condition of being entitled: RIGHT; b) the right to benefits esp. by law or contract 2: a government program providing benefits to a specified group.

Webster's definition of the many meanings of "right" is too long and boring to quote in full, but the meaning used here is "something to which one has a just claim."

Rights and entitlements are clearly things that come from the outside. They represent a consensus among people. One cannot unilaterally obtain rights and entitlements.

Does anyone have a right or entitlement to their opinion? The US Constitution and Bill of Rights does not mention opinions. However, here is what the Canadian Charter of Rights and Freedoms has to say about opinions:

Everyone has the following fundamental freedoms:

a) freedom of conscience and religion; b) freedom of thought, belief, opinion and expression, including freedom of the press and other media of communication; c) freedom of peaceful assembly; and d) freedom of association.

The Charter goes on to describe at length the various rights of Canadians. Opinions are mentioned no further. So if Canada is to decide, no one has a *right* to an opinion.

Having an opinion is not a right, but a freedom. All Canadians of age have a right to vote — more's the pity — but they do not have a right to an opinion. Of course, if we were not free to have opinions, I am not sure what the thought police would be able to do about it.

So what about entitlements to opinions?

I once had a UFO buff state the following opinion to me:

*"Aliens must have visited Earth. Even with modern equipment, we could not build the pyramids."*

There are a number of synonyms for "entitled", but the one I think is most appropriate here is "earned". Has this person earned this opinion, or is he just parroting crazy UFO party lines? Surely the latter, for had he looked into it, he would have found the opposite to be true. I once heard an engineer describe how he had calculated that the great pyramid at Giza could have been built using the technology of the time by 20,000 men working 4 months out of the year for 20 years.

I would describe myself as a minor Egyptology buff. I have a dozen or so books on the subject. My assertion is not just my opinion, but also those of many others. So do I have an entitlement to my opinion? Technically, I cannot say, because as I said before, entitlements come from consensus. If I have convinced you, the reader, that my opinion is both informed and reasonable, then perhaps I do have some entitlement to this opinion at least.

Of course, the world is rarely black and white, but shades of gray. The phrases "I value your opinion." and "That is just your opinion." tell us this. If opinions have value, then some opinions are more valuable than others. Einstein certainly earned his opinion on relativity. If he had an opinion on the dietary habits of New Guinea bush men, I would be surprised, but knowing how intelligent he was, I suspect he could convince me that he had earned that opinion too. But I would value it less than his opinions on relativity.

Unfortunately, like my UFO buff, people often form opinions based on little or no research or reflection. It is human nature to do so. I am certainly guilty of it as well. The trick is to keep your unearned opinions to yourself, or if you must give them voice, indicate the degree to which you have gained your entitlement. My UFO buff should surely have kept that opinion to himself.

One of the direct implications of the right to vote for all is the tacit statement by the government that all opinions are created equal — an absurd notion. Personally, I believe voting should not be a right, but a privilege that is earned by showing that you have earned your political opinions, whatever they might be. References to absolute authority would not qualify. This is impractical for lots of reasons, of course, but I can dream. I wonder if I would be allowed to vote?

The next time someone says to you "I've a right to my opinion." you can reply "No you don't!" and you will be able to back it up with the Canadian Charter of Rights and Freedoms. If someone claims entitlement to an opinion, you have every right to say, "Show me that you have earned your entitlement to your opinion."

*Mystical physics is a grossly misapplied version of ancient Hindu and Buddhist philosophy, which were based on the notion that only by the complete rejection of self can one find inner peace in this world of suffering and hopelessness. Capra and his colleagues say they are putting a modern face on ancient Eastern philosophy. I say they are covering a noble edifice with graffiti.*

*Victor J. Stenger, "New Age Physics: Has Science Found the Path to the Ultimate?"*

# On Firmer Ground

Lee Moller

Skeptics are often challenged by believers with “how do you know...” questions. I know I do not have to explain to our readers that it is generally not up to the skeptic to answer such questions, but to pose them. However, of all such questions I think one of the most common is: How do you know that aliens (or whomever) cannot go faster than the speed of light, and therefore could have visited us?

One answer is that I know that the speed of light cannot be exceeded the same way I know that the Pythagorean theorem is correct. It simply must be so! This answer is, of course, a bit terse, so I am going to take a shot at explaining why the speed of light is not just some Einstein-imposed arbitrary limit, but is indeed the nature-imposed cosmic speed limit.

$$a^2 + b^2 = c^2$$

Pythagoras’ famous equation is now approaching its 2,500th anniversary. It is the core of modern geometry, and I have never heard anyone be skeptical of its truth. I suppose that many people take it on faith that it is so; many others vaguely recall seeing the proof in grade school; and some can reproduce that proof fairly easily. The proof is not difficult, but the one observation and the insight that lead to it were both brilliant and inevitable. The basic empirical fact that a triangle’s angles sum to 180 degrees, combined with an agreement on how to calculate area as length times width, and one can derive the great equation from first principles.

I say the insight was inevitable because had Pythagoras not derived the equation, someone else soon would have. It is just too useful to have remained hidden for long, and once discovered, no one could deny its truth.

There are strong analogies between the cosmic speed limit, or rather the Special Theory of Relativity, and the Pythagorean Theorem.

$$e = mc^2$$

If any equation can make a bigger claim to fame than that of Pythagoras, it is surely that of Einstein. In 1905, the unknown Einstein presented a short paper-completely lacking in references, for it needed none-that took a simple observation, and in a brief series of steps, derived this most famous equation (actually, this equation was derived in a brief paper presented shortly after his Special Relativity paper) and established the infamous speed limit of “c”, about 186,350 miles per second in a vacuum. I raise this equation, not because it has much to say about the speed of light, but because it is a direct consequence of this limiting speed, and because we all recognize it.

But, complains the Einstein-skeptic, why can’t I go faster than c? If I push a thing hard it will move so fast, and if I push it more, it will move faster, so I need only push hard enough and long enough and I can go any speed I want. It is obvious!

It is obvious, but it is wrong. I could explain that as one goes faster, one’s mass increases, preventing further acceleration, but this just leads to another question as to why that happens,

and the Einstein-skeptic would be justifiably correct to toss this explanation as circular reasoning, namely: You can’t go faster than light because your mass increases. Why does your mass increase? To prevent you from going faster than the speed of light!

But this reasoning is not the source of the limiting speed of light.

Just like the ancient Greeks, the theory required an initial observation. For Pythagoras, it was the fairly straightforward observation that all triangles have angles that sum to 180 degrees. For Einstein it was a remarkable and far from straightforward observation about light, namely that no matter how you are moving, the observed speed of light is always the same. This observation was not made directly by Einstein, but by many others, most notably Michelson and Morley in their famous experiment to find the so-called aether. The failure to find it became, quoting William Cropper, “probably the most famous negative result in the history of physics.” This was a remarkable observation, and one that the scientific community came to with great reluctance. In fact, scientists bent over backwards to deny the observation until it became undeniable.

You should pause to think just how weird this observation is. How can it be true? When we speak of velocity, we always speak of relative velocity. This observation is like finding a train that always goes at the same speed “T”, regardless of whether you measure it standing at the station or speeding along in a car trying to catch the train. No matter how fast you try to drive your car, you will always clock the train as speeding away from you at speed T.

This is so weird that some very strange and obvious conclusions can be drawn about our train. First, it can never stop, for if it did, it would not be moving at speed T and our empirical observation is that the train always moves at speed T and no other.

The second thing we can say about our train is that there is no train faster. Why is this so? Imagine we had a super train that could go at some multiple of the speed T. We could then set off in our super train and pass the slower train. But this would mean that we can arrange to measure any relative speed to us of the slower train that we want, which again contradicts our empirical observation that when we measure the slower train’s speed, we always get T. So not only is our slow train the fastest train possible, we can extend our logic and say it is the fastest anything possible.

And third, similar logic can be used to deduce that if we were to find any other train that also displayed the same quality of always moving at one, and only one, speed, then it too must move at speed T.

Of course, our train is a photon of light (or an electro-magnetic wave, if you prefer) and that is the real reason why the speed of light is insurmountable, namely because the combination of one simple fact, and logic, dictate that it must be so. From this one mind-blowing observation, Einstein gave us Special Relativity and all its weird implications. And like Pythagoras, had Einstein not discovered it, another would have discovered it very shortly. The result is just too profound and useful to remain hidden for long.

Ironically, what Einstein-skeptics fail to realize is that Special Relativity actually opens the universe to exploration in ways that a no-speed-limit universe would deny. Due to time dilation, another weird and inevitable consequence of the limiting speed of light, it is actually conceivable that you could travel to the other side of our galaxy and back inside a single lifetime. Of course, when you return to the Earth, several hundred thousand years would have passed locally and, most likely, your car will need a boost.

It is also ironic that, of the two theories, Einstein's is on firmer ground, and he gave us reason to believe that Pythagoras was only partially correct. Saying that a triangle's angles sum to 180 degrees is equivalent to saying that space is flat. But according to Einstein and General Relativity, space is not flat — at least not everywhere — and while Pythagoras couldn't know it at the time, he was tacitly making the assumption that it was.

Paradoxes arise in physics all the time, but they are only apparent. For example, for many years there was conflicting evidence on the age of the universe. But physicists and astronomers knew that the apparent paradox would resolve itself when more data was gathered. However, if we were to observe an object moving faster than the speed of light, we would be facing a tremendous logical paradox, and logical paradoxes just do not happen.

## Sylvia Browne on Montel

*Lee Moller*

**R**ay Hymen preaches civility and understanding when dealing with claimants of paranormal ability or phenomena. I certainly agree with this. If I were to meet a claimant of, say, precognition, I would certainly not be prejudiced and assume they are frauds. However, if you see the same circus act again and again, it is permissible to start to place people and phenomena into cubby holes.

I place Montel and Larry King in the "willfully blind" and "giant sucker" holes. And I place Sylvia Brown, their favorite hobby horse, in many boxes, including, but not limited to the shameless exploiter, actor, and greedy boxes. I would say more, but I don't want to get sued. If by some miracle Sylvia Browne is not a con artist, she is indistinguishable from one.

On June 6, 04, she appeared on Montel and I channel surfed through it. I had to stop. I could only take a few minutes of her nastiness. Here is a profile of what I heard and saw.

A husband and wife, obviously distraught, ask about their kidnapped daughter. It was tough to watch their desperation. Here is an approximate version of part of their conversation:

Wife: Do you know if our daughter is alive?

SB: No answer.

Wife: Do you know where she is?

SB: She is near where you are at (sic). Is there a field or open pasture land near you?

Wife/Husband look at each other: No. Nothing but houses in every direction.

Sylvia looks hard at them. The husband squirms for a moment.

Husband: There is a small wooded area close to us.

SB: That's what I meant.

Wife: Who took her?

SB: He is Hispanic and his name is Juan.

Wife (on verge of tears): Do you know what kind of car he had?

SB (without hesitation): Green.

Wife: How about a license plate?

SB (without hesitation): It had an F, a 7, a 1 and a 4 in it.

This woman is an evil menace. She shamefully exploited the grief of these two people. She made what would normally be a pretty reliable guess about a "field or open pasture" being nearby. It was dead wrong. But when the couple mentioned a wooded area, she claimed that that was what she was talking about! Tada: A miss becomes a hit. How much further from "open pasture" can you get than "forest"? One imagines that if they said there was a lake nearby, it too would have qualified.

And worst of all, at the end of the reading, she told the couple that they should "ask around her school". An open-ended instruction that now puts the onus for finding their daughter on the couple. If they don't follow her instructions sufficiently (and what is that?), it is their failure. Reprehensible.

From another questioner:

Audience Member: Can you tell me about Jim.

SB: Jim is with you, and he brings Susan. Who is Susan?

AM: I don't know.

SB (dismissing the questioner): Find out who Susan is.

Another bit of psychic evil. If you don't know what the psychic is talking about, it is your fault. Transparent to you and I, but the audience ate it up.

Audience Member: My family recently decided to get rid of our dog, who was causing problems. The next day, several photos turned up of the dog on our entertainment center. We don't know how they got there. Can you explain it?

SB: It's the dog's spirit. Animals have spirits and angels just like us.

AM: But the dog wasn't dead then.

SB: Well, animals do have spirits...

So, here the great psychic has accidentally fallen into a trap, assuming the dog had been put down. You would have thought she might have seen it coming.

What makes people like Montel and Larry King so damn gullible? If I walked into a radio station and said I was from Mars, they would demand proof of some sort. But if I walk in and say I can talk to the dead, they ask when I have time to be interviewed. The world is crazy.

# Fooling the Public in Book Stores

Larry Thornton

Perhaps you've run into this situation:

At a major bookstore ("Chapters"), under the category of 'science', I saw a book by a woman writing about the 'race to build a time machine'. It consisted of a lot of silly hooey about the Russians and Americans getting close to having a working device for time travel. The author glibly states that a genuine time machine will be "the next great revolution in physics." Another book I saw a few weeks ago among the legitimate science books, was about the theological implications of sentient machines. The author was described thusly: "She is the worlds first and only theist for robots". I'm not making this up! Sometimes I'll see a crappy book under 'science' on New Age spiritualistic humbug, a book trying to legitimize itself by turning quantum mechanics into "quantum metaphysics". There are literally dozens of such books that try to connect quantum science with New Age hokum. (Go into your best eastern-guru accent as you read, "The quantum world tells us that all of reality is a subjective fantasy determined solely by our consciousness.").

In almost any major bookstore in any North American city, you'll find all kinds of ridiculous pseudoscientific books written by authors with little or no formal scientific credentials. What's worse, there are even some people with formal scientific training authoring books that, quite frankly, aren't worth the paper they're written on. The general public, many with a scant scientific education themselves, see this garbage sitting among the legitimate science books. So what are they to believe? How are they able to separate the real science from the phony variety, when both kinds of books are placed under the same category, namely, mainstream science?

The hapless public, so often poorly educated in technology and science, will see, for example, intelligent mainstream science books by paleontologist Stephen Jay Gould; cosmologist Paul Davies; theoretical physicist Dr. Michio Kaku; Richard Dawkins; and one of the most famous popularizers of hard science, Carl Sagan. But among such authors will be the best-selling book, "The Tao of Physics" by Fritjof Capra, and similar books on quantum metaphysics by high-profile pop-culture gurus like Cheepak Chopra, and others. Here is what Nobel Laureate physicist Leon Lederman said about such nonsense: "There has been a spate of books over the past several years - *The Tao of Physics* is another example [along with *The Dancing Wu Li Masters*] — that attempt to explain modern physics in terms of Eastern religion and mysticism. The authors are apt to conclude rapturously that we are all part of the cosmos and the cosmos is part of us. We are all one! (Though, inexplicably, American Express bills us separately.)" — from: *The God Particle: If the Universe is the Answer, What is the Question?* - by L. Lederman, with Dick Teresi, 1993. And skeptic/magician James Randi once called Cheepak Chopra, now appearing

semi-regularly on CNN [quote] "The most dangerous man in America today."

So you might well ask, just why do retail book stores insist on putting pseudoscientific and New Age charlatanism in with the legitimate science books? Is it because booksellers are poorly educated in general science? Perhaps the store's employees are under some managerial "mandate from on high" to follow the blind rules of putting all books of a "vaguely similar nature" under one particular heading. It's a mystery to me!

When true science books are intermixed willy-nilly with pseudoscientific nonsense in the major bookstores — books that clearly shouldn't be together on the same shelves (and I dare add, most public libraries are guilty of the same crime) it becomes just one more example of a society that seems out to confuse and misinform the general public. The next time you go into a major bookstore or library, take a moment to browse through the science section and take note of the growing numbers of books that masquerade as legitimate science books. This is a problem that needs to be seriously addressed. But the question it begs is this: Just who would have the authority to decide what books are true science books, and what are not? Therein lies the central problem. I for one, would like to see a whole new category: "The Borderlands of Science" might be a good start. Any other suggestions?

## A CFI for Vancouver

Barry Beyerstein

I see from an article in the *Globe and Mail* that a new Center for Inquiry is in the works for Vancouver. Ordinarily, as a member of the Executive Council of CSICOP (re-named at our last meeting the Committee for Skeptical Inquiry, or CSI, by the way), I would have probably known this before reading it in the paper. But therein lies a tale.

As most readers will know, CSICOP was founded thirty-some years ago by Paul Kurtz, who has deep roots in the American humanist movement. Paul thought at the time that there was a need for a group of scientifically-trained experts to specifically counter the claims of ESP researchers, UFO buffs, astrologers, faith healers and the like. The Skeptical Inquirer became its journal and groups like the BC Skeptics sprang up around the world to support its aims-i.e., to provide scientific critiques of empirically testable occult and pseudoscientific claims. All the while, Paul continued to head a parallel organization, the Council for Secular Humanism (CSH), which has broader aims such as maintaining separation of church and state, promoting non-religious based ethical behavior, and disputing religious claims that were not of a strictly testable nature. CSICOP/CSI has avoided battling religionists, except when they stray into scientific territory-such as opposing "creation science" and Joe Nickell's brilliant debunking of the Shroud of Turin, the James Ossuary, and numerous other religious relics. Those of

us on the skeptics side had no beef with the beliefs and agenda of the humanists (most of us, myself included, shared them ourselves in our personal lives). It was just that we wished to keep our activities separate, for a number of reasons. We also felt that our money was better spent in direct pursuit of our skeptical mandate-investigation and education- rather than in acquiring property and opening what Paul called "Centers for Inquiry" in major cities around the world. These centers were to have paid staff, organize meetings, maintain libraries, lobby media and politicians, etc. When the CSICOP executive council voted to stay our original course instead of pushing for more and more CFIs, Paul turned to the CSH instead to pursue his vision. CSICOP was invited to tag along as sort of a junior partner, and where we saw our aims coinciding, we have been happy to do so. Paul has been astonishingly successful in fulfilling his organizational goals, all the while hoping for an eventual marriage between the CSI and CSH.

When I saw the piece in the Globe, it was *deja vu* all over again. This has been going on for a long time with those of us who have no quarrel whatever with the humanists' outlook, or the CFIs for that matter (we fully accepted their secular politics, naturalistic philosophy, scientific bent and humanist ethics, but still wished to keep CSICOP's mandate separate). CSICOP/CSI-types, like Ray Hyman, James Alcock, Phil Klass (until his recent death), and yours truly, wanted to restrict our group's purview to empirically testable claims. We felt that, in purely tactical terms, it actually hampers our mission to be too closely associated, officially that is, with the humanist organizations. That is because, time and again, we were being dismissed, effectively but quite unfairly, by opponents who can't counter our scientific critiques. They were able avoid having to answer us by saying, "Oh, they're just a bunch of stalking horses for the atheists who can't stand anything that is even vaguely spiritual. That's why they're really picking on us; they claim that it's a scientific dispute, but it's not." This ploy gets them off the hook by slight of hand--they avoid having to debate substantive criticisms by attributing ulterior motives to us.

That said, the realities of day-to-day operations are rather more complex. Organizationally, for better or for worse, the skeptics and the humanists are joined at the financial hip. We share office space, meeting space, facilities, and staff at "headquarters" in Amherst, NY, and in many of the CFIs around the US. CSI/CSICOP is dependent on the CFI-International because of the overall structure of donations to the greater cause. The skeptics outnumber the secular humanists by a large margin (as judged by the circulation figures for the various CFI-published journals and other indices), but the latter contribute by far the lion's share of the operating and endowment funds. It's just a fact of life that, though the skeptics are overwhelmingly atheists and secularists as well, this simply isn't such a big deal for them. As a group, the skeptics are less likely to be joiners--and, more to the present point, financial contributors. A lot of humanists have been wounded by religion (or are simply offended by its irrationalisms and/or intrusions into government, schools, etc.) and are, as a result, much more willing to join organizations and contribute money to the cause.

Another major aspect of all this has to do with important human needs for affiliation and ceremony. You've probably

heard Mort Saul's definition of a Unitarian: "An atheist with a hang-up about what to do on Sunday." Many of those who support the burgeoning number of CFIs sprouting up around the world miss the fellowship and community they lost when they abandoned conventional church life. These mutual-support networks are, after all, important parts of our lives as socially evolved creatures. CFI proponents like the idea of humanist weddings, funerals (and whatever the secular equivalent of a christening would be), and they seek discussion groups in lieu of devotional services. They miss these positive aspects of church membership, even though they can't stomach the Old-Time Religion any more. They resent the religionists' canard that without God, you can't possibly be a moral person. They are also looking for a sort of community centre to be with like-minded people--and that is a large part of what the CFIs are intended to be. It's not my bag (perhaps because I'm privileged to be in a university environment where these needs are amply satisfied), but I can see why many would find it attractive. This need for mutual support in an increasingly religion-ated society is brought home to me every summer by attendees at Ray Hyman's workshop at the University of Oregon. They tell those of us on Ray's faculty, "It's such a relief to be able to let my hair down and say what I really mean for a change. At work or in my neighbourhood, I'd be excoriated and ostracized if they know what I really thought. I'd never get another promotion at work and our kids would be picked on by the rest of the soccer team if the other parents knew." From our more comfortable Canadian perspective, it is sometimes easy to forget how intrusive and restrictive the forces of the Christian right have become in the day-to-day affairs of the Great Republic and why our American colleagues may see the need to counter this with more formal organizations as a higher priority than we do. Check out the aims and activities of the CFI for yourself: <http://www.centerforinquiry.net>

Paul Kurtz knows how Ray Hyman, Jim Alcock and I (and Phil Klass when he was still alive) feel about the proliferation of CFIs. We have had some heated discussions about it over the years and have agreed to disagree. This in no way diminishes our admiration for Paul and our sense of marvel at what he's achieved. Without his vision, his drive, and his unceasing effort, none of this, including CSICOP/CSI would have happened. When the old CSICOP board didn't go along with the plans for a world-wide network of Centers for Inquiry, Paul raised the money on his own and CSICOP became a sort of junior partner as a result. It's difficult for me because I have such a high opinion of and personal affection for Paul, even though I have these reservations about cozy-ing up too closely, for tactical reasons, with the CFIs.

As an important aside, I'd like the BC Skeptics to know that Paul recently underwent major heart surgery. The word from Paul's son and from Barry Karr at CFI-International in Amherst, NY, is that the surgery was successful and that otherwise Paul is in good health for his age--he's expected to make a full, if somewhat slow, recovery. If you have a moment, I know a card or e-mail expressing support and wishes for a swift recovery would be most appreciated. E-mails can go via Matt Cravatta at the CFI-International ([mcravatta@centerforinquiry.net](mailto:mcravatta@centerforinquiry.net)). Cards can go to the Center for Inquiry (P.O. Box 703, Amherst, NY 14226-0703).

## Next Meeting

Friday the 13th of April, 7:30 PM

SFU,  
Main Concourse, Academic Quadrangle  
Room 3154

**Peter McKnight, Vancouver Sun Columnist, will speak  
on:**

***“Both Sides Now: How Science Reporting Sacrifices  
Truth in Pursuit of Fairness”***

## Last Hardcopy Issue of *The Rational Enquirer*

**T**his is it. The last one; number 40, after 20 years. But we are not throwing in the towel. Future issues will be distributed via our web site and email as PDFs, which you can print yourself, of course. We have just enough money, I hope, to print the last issue.

Since the only thing we spend money on is the printing cost of the newsletter, this implies some changes in our organization. We will no longer be asking for money. For all of you who have supported us, donated to the BC Skeptics and/or subscribed to the newsletter, we thank you.

And thanks to all who wrote for the *RE* over the years. Here you are (in roughly chronological order):

*Jim Henry, Barry Beyerstein (many, many times), Ken Phelps, Dale Beyerstein (many, many times), Lindsay Beyerstein, Randall Lockwood, George Lawrence, Ray Hyman, Peter Stetson, Bill Henry, Kirsten Emmott, Lon Mandrake, Leonard Angel, Elizabeth Anderson, W. M. Sears, Pat Kehoe, Leslie Ballentine, David Anderson, Harvey Richer, John Toews, Theo Meijer, A. Thorn, Richard DeArmond, Wyn Roberts, Don Burbidge, David Vogt, Art Nauman, Elliott Marchant, Vito Modigliani, James Ogloff, Zen Faulkes, Robert Day, John Cramer, Rick Mathias, Tim Kosub, Robert Scheaffer, Phill Klass, Eric Eich, Barbara-Anne Eddy, Heidi LLoyd-Price, Yixi Zhang, Jeff Walker, Ted Powell, Timothy Moore, Martin Connors, Tanya West, Sean O’Connell, Alan Hale, Hilton Smith, Thomas Ku, Joe Nickell, James McCormick, Roisin O’Connell, Greg Hart, and Larry Thornton.* If I missed anyone, my apologies.

A noble list. Some I have never met, some I see regularly, and some I shall never see again. All were great to know.

Lee Moller, Editor