

“The lie can be maintained only for such time as the State can shield the people from the political, economic and/or military consequences of the lie. It thus becomes vitally important for the State to use all of its powers to repress dissent, for the truth is the mortal enemy of the lie, and thus by extension, the truth becomes the greatest enemy of the State.” – Dr. Joseph Goebbels (1897 - 1945), Nazi Minister of Propaganda

Phactum



The Newsletter of the
Philadelphia Association for Critical Thinking
March 2009

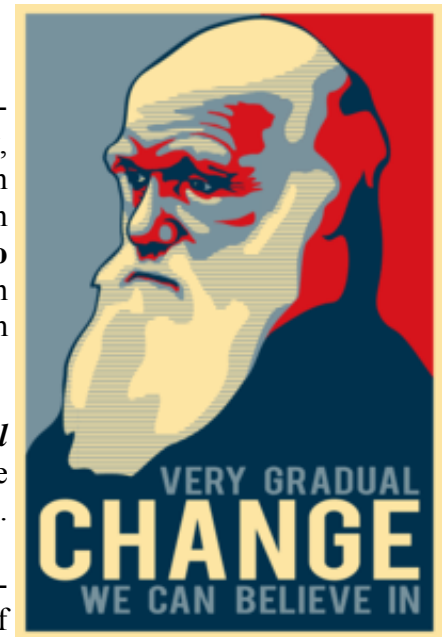
editor: Ray Haupt email: phactpublicity@aol.com
Webmaster: Wes Powers www.phact.org

The Devil in Dover

Dr. David Cattell, Chairman of the Physics Department at Philadelphia Community College will host PhACT and journalist **Lauri Lebo** at 2:00 PM on Saturday, March 21, 2009 at Community College of Philadelphia, 17th and Spring Garden Streets, in room S2-03 of the Winnet Student Life Building, the round building on 17th Street just south of Spring Garden Street. This **Meeting is free and open to the public. Parking is free.** Enter the college parking lot on 17th Street which is one way south bound. At the meeting be sure to get a free parking voucher from Dr. Cattell. This meeting site is handicap accessible.

The topic of the March 21 meeting will be the *Kitzmiller v. Dover Area School District* trial which took place from September 26 to November 4, 2005 in the United States District Court for the Middle District of Pennsylvania, Judge John E. Jones, III presiding.

Lauri Lebo was a newspaper reporter covering the Dover trial, and also a long-time resident of the Dover area. She knows most of the participants on both sides of the dispute in the trial personally, and experienced first hand what some of the people on both sides of the issue suffered as a result of the political process that led up to the events leading up to the trial. Her account in *The Devil in Dover* is less focused on the legal issues, and more concerned with the effects of the trial on the personal lives of the people involved. It becomes clear from her account that there were no “winners” in this dispute, at least not insofar as individuals on one side or the other emerged from the trial unscathed. In her opinion science was the winner in the Dover trial but at a significant cost to the participants on both sides of the dispute.



Cartoon by Mike Rosulek
mikero.com/darwin
Used by permission

(Continued on page 4)



See page 3

Evolution is a bankrupt speculative philosophy, not a scientific fact. Only a spiritually bankrupt society could ever believe it.... Only atheists could accept this Satanic theory. - Jimmy Swaggart

PHACT CALENDAR

Dr. David Cattell, Chairman of the Physics Department of Community College of Philadelphia hosts meetings of **PhACT** - at 2:00 PM on the third Saturday of most months at Community College of Philadelphia, 17th and Spring Garden Streets, in room S2-03 of the Winnet Student Life Building, the round building on 17th Street just south of Spring Garden Street. **Meetings are free and open to the public unless otherwise noted. Parking is free** at all PhACT events at CCP. Enter the college parking lot on 17th Street which is one way south bound. At the meeting be sure to get a free parking voucher from Dr. Cattell. This meeting site is handicap accessible.



Saturday, March 21, 2009 - The Dover Evolution/Intelligent Design Trial. We will have journalist **Lauri Lebo**, who wrote the book, *The Devil in Dover*, about the Dover evolution trial. She has some amazing stories on the Dover school district legal debacle and their attempt to undermine the teaching of evolution. This is a good look at one more legal victory for science. For more information, visit her web site at <http://laurilebo.com/dp>.

Saturday, April 18, 2009 - Teaching critical thinking. Speakers **Sharon Schwarze** and **Harvey Lape** of Cabrini college are the authors of *Thinking Socratically*, a textbook on critical thinking that has been very well received. Pearson Publishing is currently considering supporting a third edition. The book emphasizes open rational dialogue as the basis of critical thinking. Philosophically, the authors are much indebted to the writing of Richard Rorty and consider their text to be a reduction to practice of Rorty's pragmatic viewpoint. They are currently working on a companion ethical theory, a theory which they call Harm Theory.

Saturday, May 30, 2009 - Annual luncheon meeting. Our speaker will be Philadelphia Inquirer Science Writer Fay Flamm. More Details TBA.

Friday, March 13, 2009 at 8 PM. Delaware Valley Mensa General Membership Meeting. Program TBA. The General Membership Meeting will be held at the Police Administration Building, 750 Race Street, Philadelphia, PA. This meeting is DVM's only activity specifically open to the public, so feel free to invite your friends and relatives. Free. <http://dvm.us.mensa.org/>

Tuesday, March 31, 2009 at University of Pennsylvania Museum, 6:00 pm to 7:30 pm. The Art of Kabuki. Isaburoh Hanayagi, world-renowned performer and Professor of Performing

Arts at Tamagawa University, Tokyo, Japan, and Ayako Kano, Associate Professor, Department of Asian and Middle Eastern Studies, University of Pennsylvania, discuss the history of Kabuki and its place in current Japanese society and the world. Elaborate Kabuki makeup demonstration follows. Co-sponsored by International Classroom program of the Penn Museum's Education Department, the Center for East Asian Studies of the University of Pennsylvania, the Japan America Society of Greater Philadelphia, and Camden County College. \$5 General Admission; Free for Members.

The Big Questions in Science and Religion

Dr. Keith Ward, Metanexus Institute Senior Fellow 2008-2009, will present a series of lectures on the depth, difficulty, and importance of the greatest intellectual and existential questions of the modern scientific age. Ward, an ordained priest in the Church of England, will be speaking in the Philadelphia area March 16 -21, 2009. The presentations are free and open to the public.

LECTURES - DATES - LOCATIONS

Does Science Allow for Revelation and Divine Action? Monday, March 16, 2009 • 7:30 PM
Lecture + book signing St. Thomas Church
Whitemarsh - Fort Washington, Bethlehem Pike
& Camp Hill Road

Why There Almost Certainly Is a God: Doubting Dawkins Tuesday, March 17, 2009 • 7:00 PM
Lecture, book signing, + reception Eastern University - Harold C. Howard Center Bldg. - 1300 Eagle Road, St. Davids, PA Building #16

How Did the Universe Begin? Wednesday March 18, 2009 • 7:00 PM
Lecture + book signing West Chester University - Phillips Memorial Hall Autograph Library, S. High Street + University Avenue, West Chester, PA

Is Science the Only Sure Path to Truth? Thursday, March 19, 2009 • 7:30 PM
Lecture + book signing (co-sponsored event) Lutheran Theological Seminary Philadelphia + the Reconstructionist Rabbinical College 7301 Germantown Avenue, Philadelphia, PA

Considering God 200 Years After Darwin Friday, March 20, 2009 • 1:00 PM
Lecture + book signing Academy of Lifelong Learning - Univ. of DE- Arsht Hall 2800 Pennsylvania Avenue, Wilmington, DE

Do the Laws of Nature Exclude Miracles? Saturday, March 21, 2009 • 2:00 PM
Tea, lecture, + book signing St. Mary's Episcopal Church 104 Louella Avenue + Lancaster Avenue, Wayne, PA
Note: The closest available parking for this lecture is located in the Radnor Middle School parking lot, on Midland Avenue, or in the public parking lot located near the Wayne train station.

All lectures are free and open to the public. For more information, please visit www.metanexus.net. Email: info@metanexus.net. (484) 592-0304.

PHACT CALENDAR

Saturday, March 28, 2009 at 1:00 PM, Westbrook Lecture 2009, at the **Wagner Free Institute of Science**, 1700 West Montgomery Avenue, Philadelphia, PA 19121
Dr. May R. Berenbaum will discuss:

"BSI" -- The Case of the Disappearing Bees.

The "pollinator crisis" -- the widespread decline in the viability of animals that transport pollen and allow most of the planet's flowering plants to reproduce -- may lack marquee appeal as a form of global change, but it has real potential for profoundly altering the terrestrial world. In the U.S. nearly 100 plants rely on a single pollinator, the honey bee, to survive and reproduce.



Over the past year, the mysterious disappearance of one-third of America's honey bees, due to what has become known as colony collapse disorder, has focused attention on how little is known about U.S. pollinators and how dependent we are upon them. On March 28th, Dr. May Berenbaum, Professor and Head of the Department of Entomology at the University of Illinois at Urbana-Champaign will discuss the pollinator crisis, the plight of the honey bees, and advances in entomology that provide hope for the future of America's bees.

Dr. May Berenbaum has served as the head of the Department of Entomology at the University of Illinois at Urbana-Champaign since 1992. Her research interests are in the area of insect ecology and for over three decades she has studied the ways in which both naturally occurring and synthetic chemicals affect the distribution and abundance of plant-feeding insects. She is also devoted to fostering scientific literacy and has authored numerous magazine articles, as well as four books about insects for the general public. In recognition of her work, she has been elected to the National Academy of Sciences and the American Philosophical Society.

The Museum will be open from 12:00 - 4:00 PM. Talk begins at 1:00 PM



PhACT President **Eric Krieg** and **Dr. Robert Park**, former chairman of the American Physical Society, will appear on

Dateline in a segment about Free Energy huckster

Dennis Lee's latest scam and lunatic physics. Mr. Lee claims to have learned all he knows about physics in prison. We believe him. Look for promos on TV. This is supposed to happen on **March 29**.

The **PhACT Calendar** is open to members and non-members who wish to announce meetings and events of other groups of which they are interested or affiliated. These events should be of some general interest to the Skeptical or Scientific community and should be within a reasonable radius of Philadelphia. Send submissions to the editor at phactpublicity@aol.com. Keep the announcements brief. Space is limited and insertions will be made on a first come-first served basis after the needs of PhACT are accomplished.

Wagner Free Institute of Science

1700 West Montgomery Avenue
Philadelphia, PA 19121
ph 215-763-6529 www.wagnerfreeinstitute.org

Spring 2009 Courses

Courses sponsored by the Wagner Free Institute of Science are free and open to the general public. They are taught at the introductory college level.

Park, Cemetery, and Garden: The Landscapes of Philadelphia, Professor Michael J. Lewis. Monday, March 23, 2009, beginning at 6:30 PM. 6 Mondays. Pennsylvania Horticultural Society, 100 N. 20th Street. This course will examine the landscape tradition in Philadelphia, covering such topics as Quaker attitudes toward the useful and practical arts, the role of parks in promoting public health and safe drinking water, and the development of the modern public cemetery. **This course requires preregistration. To preregister, call 215-763-6529, ext. 23, beginning Monday, November 17, 2008.**

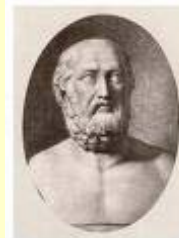
Spring Flora of Fairmount Park, Professor Alfred E. Schuyler. 4 Saturdays, April 18 to May 9, 2009, from 10:00 AM to 1:00 PM. This is a field class. We will visit four sites in different areas of the city, all part of Fairmount Park, and identify the plants we encounter. **This course requires preregistration and is limited to 25 students. To preregister, call 215-763-6529, ext. 23, beginning Monday, November 17, 2008.**

To order a copy of the catalog and a full description of courses, please email info@wagnerfreeinstitute.org or call 215-763-6529, ext. 21.

The Institute's free public education courses in science are in their 153rd year, making them the oldest program devoted to free adult education in the United States. The Institute also has a strong commitment to children's education. It offers a range of programs for visiting school groups, and cultivates special partnerships with neighboring inner-city schools.

These courses are all free but donations to The Wagner Free Institute of Science are appreciated.

Every Monday, except holidays, at 7:00 PM . **Socrates Cafe** is moderated by PhACT member Sam Frederick at the Springfield Township Library at 1600 Paper Mill Road, Wyndmoor, PA 19038. This discussion group is free and open to the public. Bring an open mind and positive attitude.



(Continued from page 1)

Join us on March 21, 2009 to learn about this fascinating and expensive legal debacle, ultimately a victory for science in the matter of teaching evolution, but also a lingering divisive force in the community.

There will be a Q & A session and afterwards a book signing.

For more information about this book and Lauri Lebo visit her website: <http://laurilebo.com/dp>.

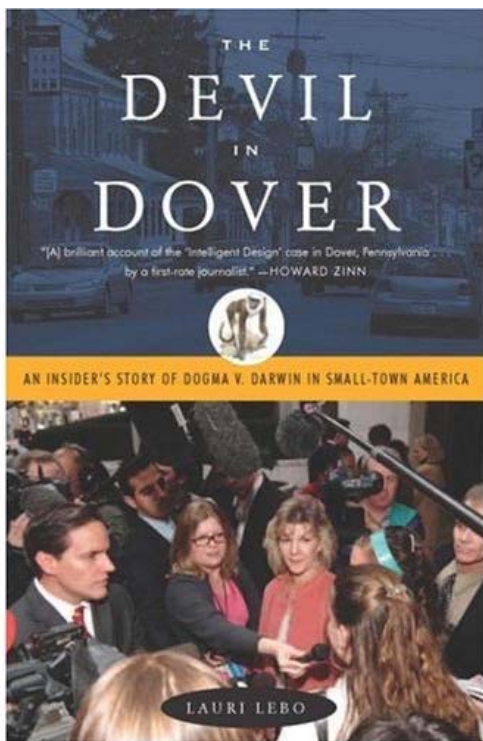
The Devil in Dover:

An Insider's Story of Dogma v. Darwin in Small-town America

Hardcover: 256 pages Publisher: New Press (May 2008) \$24.95

ISBN-10: 1595582088 ISBN-13: 978-1595582089

"What happened in Dover is a tiny sliver, a broken shard of glass mirroring what plays out across the country. A war of fundamentalist Christian values versus secularism. A battle between evangelical fanaticism and tolerance."—from *The Devil in Dover*



In December 2004, following the Dover area school board's decision to teach intelligent design in ninth-grade biology classrooms, eleven parents sued, sparking a federal constitutional challenge. Lauri Lebo, a small-town reporter who covered the trial, knows not just the legal case and science, but the people on all sides of the divisive battle.

In *The Devil in Dover*, Lebo traces the compelling backstory of this pivotal case described by some as a perfect storm of religious intolerance, First Amendment violations, and an assault on American science education. In a community divided across unexpected lines, the so-called activist judge, a George Bush-appointed Republican, eventually condemned the school board's decision as one of "breathtaking inanity."

Lebo follows the story through its surprising twists, pondering whether this was a national war playing out in a small town or a small-town political battle playing out on the national stage. As a "local girl" with a fundamentalist Christian father, Lebo provides an account that is both fascinating and moving, as she thoughtfully probes one of America's most divisive cultural conflicts—and the responsibility journalists have when covering such a controversial story.

Lauri Lebo has been a journalist for twenty years. As part of an investigative reporting team, she helped solve two civil rights-era murders. As the *York Daily Record's* education reporter, she covered intelligent design's First Amendment battle. The winner of numerous state and national awards, she lives in Harris-

For it is the natural tendency of the ignorant to believe what is not true. In order to overcome that tendency it is not sufficient to exhibit the true; it is also necessary to expose and denounce the false.

H.L. Mencken (1880 - 1956)

Letters

Phactum readers are encouraged to write letters to the editor. Don't be shy. Make your views known. Send email to phactpublicity@aol.com

Last month Phactum published a letter about Stephen Barrett, M.D., the retired psychiatrist who operates quackwatch.org and other consumer protection Web sites. Dr. Barrett notified us that the letter contained false, misleading, and defamatory statements that are part of a libel campaign he has described at :

<http://www.quackwatch.org/11Ind/bolen.html>

We removed the letter from our online archive and regret having published it.

Editor: This morning the channel 10 local news had a story about a group of lottery winners from out West. It seems they have been playing the same number for years and finally won. the local newscaster said "any math teacher will tell you that's beating the odds"!! Well, maybe some math teachers would say that but a statistician wouldn't!!

Becky Strickland
Turnersville, NJ

Editor: Re: February 2009 *Phactum*: Tom Napier's article "Force, work and dimensions" (pages 16-17) and Joel M. Kauffman's letter to the editor about time distortion (page 5):

In the *Système International* (SI) the meter is now defined in terms of the second and the speed of light, which speed is now fixed at exactly 299,792,458 m/s. So the speed of light in kilometers per second is, to the nearest whole number, 299,792, not 299,793. But wait there's more. This means that there can no longer be any measured discrepancies in the speed of light, but maybe can be in the length of the meter. But I'm being pedantic.

Howard J. Wilk
Philadelphia, PA

Editor: Re: Alfred Erpel's "Some thoughts on Morality" (February 2009 *Phactum*, p. 10): Jeremy Bentham wrote, "The greatest happiness of the greatest number is the foundation of morals and legislation." Bentham also wrote (of animals) "The question is not, Can they *reason*? nor Can they

talk? but, Can they *suffer*?" Erpel takes the moral measure of actions ultimately by their effects on people alone. This is not self-evident (unless one so defines the word "morality"-- Erpel is entitled to his opinions but not to his definitions) and not everyone agrees.

Howard J. Wilk
Philadelphia, PA

Editor: What a unique, erudite, fascinating newsletter. Have you thought about morphing this into a Blog site?

Janet Gillease
Philadelphia, PA

Editor: While the paragraphs about naval vessels that have adorned recent Phacta lack pertinence to the group's aims, they're innocuous enough. The same cannot be said for the latest issue's apparent endorsement of Ayn Rand.

Rand exemplified that peculiar species, still extant, that uses "reason" and "objectivity" (or, in this case, "Objectivism") as code words not for critical thinking but, rather, another brand of dogma.

I learned some interesting things about her several years ago when my book group met with Matt Ruff, who used her as a character in his science fiction novel *Sewer, Gas & Electric*. For one, she refused ever to debate those holding an opposing view. For another, her coterie constituted a cult of personality that actually practiced Maoist-style "criticism and self-criticism." These facts reinforced the impression I'd previously formed from my own reading of her. In some essays she offers the most ridiculous caricature of "primitive" communist societies -- a portrayal devoid of any actual ethnographic knowledge but faithfully reflecting her ideological prejudice that private property is the prerequisite to "civilization."

A government is the most dangerous threat to man's rights: it holds a legal monopoly on the use of physical force against legally disarmed victims.
Ayn Rand (1905 - 1982)

Another telling moment was an internal monologue in her novel *Atlas Shrugged*, describing wilderness as "without cause or purpose." Now there's an odd conflation. Wilderness generally is without purpose, but that hardly means it's without cause. Things in the wild are just as much "caused," i.e., deterministic, as are things in the human world.

The flip side of this confusion is expressed elsewhere in the same passage, where the protagonist reflects on her preference for "the clean, rational world of the [train] tunnels." Taken together, these phrases betray a visceral revulsion toward wilderness, and a rejection of anything not immediately reducible to conscious human purpose as "irrational."

If you know something about her personal history, you can guess this all stems from her family's dispossession by

the Bolsheviks when she was a child, which appears to have given her an obsession with order and "legality" at any cost. She defined "freedom" not in terms of democracy at all, but as the untrammelled supremacy of private property -- while conveniently ignoring the role of force in that institution's creation.

I understand that many skeptics are very individualistic and may find Rand's individualism, as well as her atheism, appealing. But an exemplar of critical thinking, she was not.
Eric Hamell
Philadelphia, PA

Editor: In the January 2009 Phactum I wrote, "I'm sure he [Milton Rothman] could explain the failure of cold fusion in a couple of sentences." I had totally forgotten Milt's article "Cold Fusion: A Case History in 'Wishful Science?'" which appeared in the *Skeptical Inquirer* (Vol. 14, 2, Winter 1990). He presented essentially the same theoretical misgivings as I did in more detail in Phactum.

Tom Napier
North Wales, PA

Ω Ω Ω

Various Ruminations

Collected/written by Ray Haupt
(with help from others)

Snake Charming

Folks, I am not clever enough to make this up.

The Telegraph, a UK publication, has reported that 1,000 snake charmers demonstrated in Calcutta on February 17th protesting a wildlife protection bill that infringes upon their right to charm snakes. The ban prohibits 800,000 members of Bengal's Bedia community, who have worked as snake-charmers for generations, of their only source of income, while an estimated 20,000 are serving jail terms for defying



the ban.

Charmers have set up a trade union and campaign group to lobby for an exemption from the ban and state support for retraining. They demand that if the state continues to ban snake charming it should fund them to set up snake farms where they could use their expertise to develop anti-venoms.

It remains to be seen if the Union will demand improved safety standards and fully paid hospitalization benefits.

Conservapedia??

Skeptics might get a kick out of a website called **Conservapedia: The Trustworthy Encyclopedia**. This website is very similar in form and function to the Wikipedia website, but has somewhat of a fundamental religious viewpoint as you might gather from this particular entry: "*There is no reliable evidence of man existing before 3500 B.C.*" and this one about Ben Steins's movie *Expelled*: "*The film attempts to describe how the current status quo of the educational system is a de facto endorsement of atheism as a state religion.*"

The website is quite extensive and from the little I have perused leads me to conclude that this facility is a smorgasbord for skeptics, a Horn of Plenty for the pyrrhonist. You be the judge, and have fun.

http://www.conservapedia.com/Main_Page

Scientific Progress

Becky Strickland contributed this relevant and local item.

"One of the strengths of the scientific process is the continuing review, revision and growth of knowledge. Darwin's foundational ideas have stood the test of time - with countless observations and empirical studies confirming the fact of biological evolution - while constantly opening up new frontiers." - Dr. Ted Daeschler, curator of paleontology, Academy of Natural Sciences, *Philadelphia Inquirer*, February 15, 2009.

Dr. Daeschler was PhACT's speaker April 2007.

Antioxidant use is associated with increased cancer risk.

Dr. Stephen Barrett reports in the March 5, 2009 edition of *Consumer Health Digest*:

Researchers who analyzed data from 77,126 people who answered detailed questions about their supplement use over a ten-year period have found that longer duration of use of individual beta-carotene, retinol, and lutein supplements was associated with significantly higher risk of lung cancer. The authors concluded: Long-term use of individual beta-carotene, retinol, and lutein supplements should not be recommended for lung cancer prevention, particularly among smokers. [Satia JA and others. Long-term Use of (beta)-carotene, retinol, lycopene, and lutein supplements and lung cancer risk: Results from the VITamins And Lifestyle (VITAL) Study. *American Journal of Epidemiology*, Feb 10, 2009]

<http://www.ncbi.nlm.nih.gov/pubmed/19208726>

Titanoboa cerrejonensis

Scientists announced early in February that they had uncovered 60 million year old fossils of giant snakes in an open pit coal mine in Cerrejon, Columbia. These creatures are estimated to be 42 - 45 feet in length and weigh about 2,500 pounds. The name Titanoboa cerrejonensis translates to "titanic boa from Cerrejon".

Research indicated that the average temperature in that region of the world was likely in the 86 - 93 degree range in order to sustain such a creature. Today the average tempera-



ture in Columbia is around 83 degrees. The world was much hotter then and scientists speculate that it got hotter still, likely causing the demise of titanoboa and many other creatures. Atmospheric CO2 was much higher during that epoch at about 2,000 ppm.

Titanoboa lived several million years after dinosaurs disappeared from the earth. They may have been the largest land animals during their two million years of existence. Other fossilized creatures such as turtles and crocodiles were found with the titanoboa remains and were likely their main diet.

Big Snake in Borneo

Not to be outdone by Titanoboa, a photographer in Borneo took this picture from a helicopter shortly after the scientific announcement of Titanoboa.



Villagers in Borneo have long believed that a legendary 100-foot-long snake called the **Nabau** trolls the Baleh River, **The Daily Mail** reports.

Some have said the image appears to be altered with photo-editing software while others have suggested that the snake-like image is really a log or a wake left behind by a speedboat.

People who have studied the aerial photograph dismiss the latter allegations, saying that a log could not take that clear winding shape and that boats do not leave a twisting wake. Villagers believe the Nabau, has a dragon's head, seven nostrils and can change its shape.

With this legend and the Titanoboa finding expect more snake entertainment at your local movie theatre.

More Big snakes!!

King Kong routinely has a big fight with a giant snake, always wins, and always rescues the maiden. Fortunately for Kong he always manages to save girls who like muscular boy friends.



And here is actor Jon Voight being eaten by a giant snake in the movie "Anaconda". Oh, well. Anything for show biz.

Outrageous!!!

Saudi sentences 75-year-old woman to 40 lashes for "mingling" with unrelated men

A Saudi Arabian court has sentenced a 75-year-old Syrian woman to 40 lashes, four months imprisonment and deportation from the kingdom. Her crime? She had two unrelated 24 year old men in her house, one the nephew of her deceased husband. They were delivering bread to the old woman. The two men were also punished. One received 4 months in prison and 40 lashes; the other 6 months in prison and 60 lashes.

Why must our country maintain a dependence upon such a regime? Does outrage like this not reinforce the notion that energy independence should be a very major national priority and to reach that end to strongly embrace civilian nuclear power generation? I think it is an eloquent argument that will be ignored by feckless politicians.

<http://muslimsagainstsharia.blogspot.com/2009/03/saudi-court-sentences-75-year-old-woman.html>

And You Think Your Job Stinks Department

High unemployment has hit Scotland as well as the United States and folks are hanging onto whatever job they might have, even if unpleasant with down sides.



Cartoon by Dave Lowe
<http://www.paraabnormalthecomix.com/>
 Used by Permission

“The Origin of Humanness”

On Thursday, February 26 I attended a fascinating lecture at the Wagner Free Institute of Science. **Dr. Alan Mann**, an anthropologist at Princeton University, discussed those behaviors of our ancestors that were uniquely human and set us apart from other animals. Dr. Mann discussed primitive art, primarily that found in various caves in Spain and France.

Portrait of a Bison circa 15,000 BC. Altamira, Spain
 A wine and cheese reception followed the unveiling.

Only one other PhACT member was in attendance. Too bad. The Wagner is a gem.

.Ω Ω Ω

Response to Erpel’s “Morality”

By Paul Schlueter III

In the February 2009 Phactum, Alfred Erpel presented an essay on morality. I very much appreciated his out-front statement of his ultimate quality, namely that “There is nothing more important than people.” The rest of his essay seemed to follow pretty well from that basic premise, and at least he has no hidden agenda behind his statement.

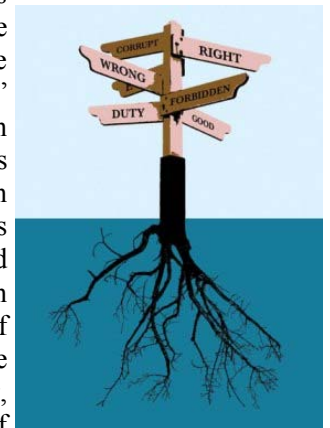
One of the first thoughts to come to my mind was, What about the whole environment / ecosystem, on which humanity relies? As I read, Mr. Erpel actually addressed that specific question and tied it in with his basic premise.

I also like that Erpel addressed the uncertainty of our best efforts to predict the eventual outcome of our moral decisions in a world where we are not omniscient.

For such a short essay, Erpel did a marvelous job of stating his premise, justifying it, and discussing its most-likely consequences and considerations. What I’m about to say is NOT criticism, but solely intended to inspire deeper thought and development; such essential topics can hardly be exhausted in a mere few hundred words.

Query: If “Those outcomes which are most moral are those that have the outcome of the most good for the most people,” then is the following, which meets those stated conditions also moral? There are six billion people (give or take) on this overpopulated planet. It would most benefit the four billion with the lowest overall standard of living if the two billion who have the highest standard of living, and who consume far more of the planet’s resources per capita than those of more modest means, were simply and painlessly exterminated. Note: Most of this slated for the axe would, rather obviously, be Americans. If I apply Erpel’s statements, that seems to be consistent with his premise. I must say I’m rather uncomfortable with the idea that I have a moral duty to off myself for the greater benefit for those not as lucky as I am.

I might also suggest that one consider social minorities of practically any classification. Should all those below the mean intelligence level be eliminated from public discussion, simply because they are outnumbered by smarter folks? One supposes that smarter people would make more moral decisions, which would benefit the smarter majority. Are the minority who are agnostic/atheistic less moral than the vast majority who believe in supernatural deities?



Editors note: see Dr. Libby’s article on page 17 for more on this topic.

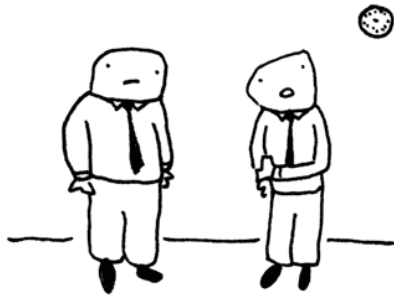
January 2009 Meeting Report

By Eric Krieg

On Jan 17th, **Dan Falk** came to speak to us Jan 17th on the subject "*In Search of Time*". Dan is a Toronto science journalist and on tour promoting his new book, "*In Search of Time*". On behalf of my company, Sapling - who makes clocks and time synchronization control systems, I was proud to present him with a company clock.



Dan's book and talk start with the history and science of time measurement from thousands of years ago, and winds up discussing the physics of time, relativity and current thinking on time travel. He traveled the world to research this book to not just visit archeology sites, but to talk with anthropologists, historians, clock builders, physicists, mathematicians and philosophers. He talks about how our ancestors had a



it's funny you should ask... we pulled the hands off all the clocks last year. but don't worry... we'll send you an email every day to let you know when to leave

tors had a "celestial dream" - they noticed not just the periodicity of our days, seasons and years - but also in the stars and appeared to hold time as marked by astronomical events as sacred. Dan related his first hand visits to sites like Stonehenge that appear to mark the Spring and Winter Solstice. Dan traces the from the Chinese invention of the clock through details about sun dials to clocks today accurate to better than a trillionth of a second. We learned much of the not just the mechanical problems of an accurate clock, but even the difficulty of defining units of time. For example, from one year to another, the astronomically defined length of the year can change - this is the reason a few months back, we had a "leap second" added. In addition, over long stretches of time, the day, the lunar month and the year are all slowly getting longer from forces that include tidal forces and the vacuum of space not being complete. The current definition of a sec-

ond is based on atomic oscillations. But confounding really accurate tracking of time are relativistic effects: Some in our audience were skeptical of this, but time runs slower in a strong gravitational field and time runs slower in a faster reference frame than in a slower reference frame. Dan showed his true core interest to be physics in some of the deeper questions of time. He also discussed the hypothetical problems with "retrodiction" - extrapolating from the present to "predict" the past - suffice it to say, there are great limitations on this.

We got on the subject of "could time run backwards?" - Dan went into the whole question of causality and the paradox that would exist if time could run backwards - though for many physics equations, it would not matter if time were positive or negative. Exploring the more esoteric aspects of time, we got into the old question of "can you travel backwards in time?" - Although a yes answer makes for some of the best science fiction stories ever - there is no proof of it.

Theoretically, you could have a wormhole in space that allows you to duck into another section of the universe - if you could pop back in time - there would be the question of essentially creating mass because you would coexist with the atoms later to form you and of course you could have the paradox of potentially preventing your eventual existence. Some say you could go back just to observe but not to change - and others speculate that maybe there are actually an infinite number of branes* of universes - with each other one representing different possibilities and time travel would just be popping into a parallel universe. Of course such speculation underscores a problem with new "Theories of everything" in physics that are neither provable or disprovable and therefore of questionable value.

As always, we had a very spirited Q&A session and we closed up with Dan doing a book signing.



As always, we had a very spirited Q&A session and we closed up with Dan doing a book signing.

* brane (physics) - A hypothetical object extending across a number of (often specified) spatial dimensions, with strings in string theory seen as one-dimensional examples.

Ω Ω Ω

Questionable Science Quotations

"I think there's a world market for about five computers." - Thomas Watson, (Founder of IBM)

"Space travel is utter bilge." - Richard Woolley, (U.K. Astronomer Royal) in 1956, one year before Sputnik.

Cartoon by TFD.

<http://toothpastefordinner.com>

Used by permission.

February 2009 Meeting Report

By Becky Strickland

Dr. Barrie Cassileth, Chief of Integrative Medicine at Memorial Sloan-Kettering Cancer Center, spoke about integrative medicine at our February meeting. She began by explaining what it is not. Integrative medicine is not pharmacologic in nature and is not CAM, or 'complementary and alternative medicine' which is promoted instead of mainstream medicine. Dr. Cassileth stated unequivocally, "there are no viable alternatives to mainstream cancer care". Only a small percentage of patients turn to CAM exclusively and they tend to be younger, better educated and female. "And it's a death sentence" she stated. CAM treatments often reflect some aspect of science but maintain a strong anti-science establishment rhetoric.

Dr. Cassileth discussed a variety of alternative treatments available and explained scientifically why they are ineffective. Many have been studied and rejected by medical researchers.

After explaining what integrative medicine is not, she moved on to what it is. Integrative medicine is available in more than a third of hospitals and treats the physical and emotional symptoms caused by effective cancer treatments. It includes massage, meditation, music therapy, acupuncture, relaxation therapy, nutrition and various forms of exercise (yoga, qi gong, tai chi, even walking).

Memorial Sloan Kettering is actively involved in research on integrative therapies. Dr. Cassileth discussed the research on massage and on acupuncture. Yes, it is possible to have a placebo group using acupuncture, by using needles that just touch the skin, then retract up into the handle. When subjects in such experiments were asked after the procedures which group they thought they were in, the guesses were no more accurate than would be expected by chance. Researchers still don't understand the mechanism by which acupuncture works but it has been proven to release endorphins. And when research subjects are unknowingly given endorphin blockers, acupuncture doesn't work. It has been shown to be effective in relieving shortness of breath, hot flashes, pain and dry mouth.

The massage treatments didn't include a placebo group, after all, we all know if we've had a massage. But, this research showed scores for pain, fatigue, stress, nausea, and depression dropped by 50% for up to 48 hours after a massage. Research on nutritional (vitamin) supplements show they don't prevent or cure cancer but can strengthen cancer as well as healthy cells. Dr. Cassileth's advice on healthy eating? "Don't eat anything your grandmother wouldn't recognize as food". She also cautioned against using herbal supplements - they are biologically active, can cause harm and interfere with chemotherapy. MSK is currently involved in research on herbs, currently medicinal mushrooms and astragalus.

For additional information see: www.integrativeonc.org and www.MSKCC.org

The **Memorial Sloan Kettering** website www.MSKCC.org is a huge repository of information about cancer and cancer treatment. In this example I looked for **Arnica Montana**, a very popular homeopathic herbal remedy. We shall be using this facility in future Phactum.

Common Name - Mountain tobacco, leopard's bane, wolf's bane, mountain arnica



Clinical Summary - Derived from the flowers and rhizome. The raw herb and the homeopathic arnica have been used in the treatment of bruises. In vitro studies showed that *Arnica montana* has antimicrobial

activities. Conclusions from a systematic review point to insufficient evidence to support use of arnica. But clinical trials conducted since then suggest benefits of arnica for osteoarthritis and reduction in postoperative swelling and pain. Side effects following oral administration of the herb (but not the homeopathic preparation) include gastrointestinal distress, hypotension, tachycardia,

shortness of breath, coma, and death. Topical administration is benign, but can cause contact dermatitis, irritation, and burning.

Purported uses: Inflammation, Sprains

Constituents -

Amines: Betaine, choline, trimethylamine
Carbohydrates: Mucilage, polysaccharides including inulin

Coumarins: Scopoletin, umbelliferone
Flavonoids: Betuletol, eupafolin, flavonol, glucuronides, kaempferol, luteolin, quercetin, spinacetin, tricin

Terpenoids: Sesquiterpenes, arnifolin, helenalin

Volatile Oils: Thymol

Other constituents: Arnicin, caffeic acid, carotenoids, phytosterols, resin, tannin

Mechanism of Action - Experimental studies on the effects of arnica preparations have demonstrated antimicrobial, anti-inflammatory, respiratory-stimulant, positive inotropic, and tonus increasing actions. The anti-inflammatory effects are attributed to helenalin, whose actions include a marked antiedemic effect that has been confirmed in experimental models. The external use of

arnica preparations can cause dermatitis in individuals sensitized by sesquiterpenes of the helenalin type.

Warnings - Internal use of arnica is not advised. The effects of arnica on the lungs, heart, and uterus have not been sufficiently tested to justify the risks associated with oral use. A fatal case of poisoning has been reported following ingestion of 70 g of arnica tincture. The FDA considers oral Arnica an unsafe herb. External use appears to pose no risk.

Adverse Reactions

Common (oral): GI distress, tachycardia, shortness of breath, coma and death

Infrequent (topical): Contact dermatitis, irritation, burning

Herb-Drug Interactions

Antihypertensives: Arnica may reduce hypotensive effects.

Anticoagulants / Antiplatelets: Arnica may potentiate the anticoagulant effect due to the coumarin constituents. This effect has not been documented in humans. Use with caution.

Quack

The Good, The Bad, The Ugly

The Good: Quacks of good character can abundantly be found at the **Edwin B. Forsythe National Wildlife Refuge** located about 60 miles from Philadelphia, across the bay from Atlantic City, NJ. It is made up of over 43,000 acres of southern New Jersey coastal land. Here, habitats are actively protected and managed for migratory birds as administered by the U.S. Fish and Wildlife Service. The Refuge's location is in one of the Atlantic Flyway's most active flight paths for migratory birds.

Most of Forsythe Refuge is tidal salt marsh with shallow coves and bays that provide an important resting and feeding habitat for water birds. The quiet tidal waters serve as nurseries, spawning and feeding grounds for fish and shellfish, important in the diets of many wildlife species. An assortment of marsh vegetation also provides important food and cover for wildlife.

The refuge is located at Oceanville, New Jersey. From Route 9 in Oceanville, visitors may enter the refuge via Great Creek Road. The Wildlife Drive and trails are open seven days a week from sunrise to sunset.



The Bad: Major quack device marketer jailed.

A federal jury has convicted James Folsom of 26 felony counts relating to his sale of quack medical devices. Evidence presented at his trial indicated that for more than ten years, he conspired with others to ship Rife-type biofrequency devices in interstate commerce. Royal Raymond Rife (1888-1971) claimed that cancer was caused by bacteria and that his devices could emit vibrations that would shatter them. Folsom is a former business associate of Kimberly Bailey, a Fallbrook, California woman who sold similar devices until she was sentenced to life in prison in 2002 for plotting the kidnapping, torture, and murder of a business partner. John Bryon Krueger, who operated the "Royal Rife Research Society," was sentenced to 12 years in prison for his role in the crime and, in a separate case, received a concurrent 30-month sentence for illegally selling devices.

For additional details and links to court documents, see <http://www.devicewatch.org/reports/rife/folsom.shtml> This item was reported in Dr. Stephen Barrett's *Consumer Health Digest* February 26, 2009.



Dr. Royal Raymond Rife born 1888 - invented a cancer curing "frequency beam ray" machine. Died of alcohol/valium intoxication 1970.

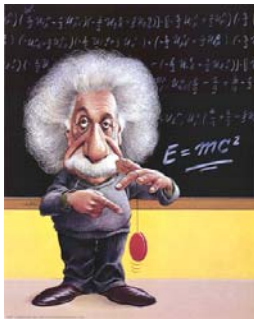
Quackwatch and Dr. Barrett need your help. If you haven't already done so, please read <http://www.ncahf.org/digest07/07-48.html> and send a contribution to support this valuable work.



The Ugly: In August 1944 **Dr. Karl Brandt (1904 - 1948)**, Hitler's personal physician, was appointed Reich Commissioner for Sanitation and Health, ranked as the highest Reich authority. He was authorized to issue instructions to the medical organizations of the government, to the party, and the armed forces, in the field of health.

Brandt participated in the euthanasia program, which involved the systematic execution of the aged, insane, incurably ill, or deformed children by gas or lethal injections in nursing homes, hospitals and asylums. They were regarded as 'useless eaters' and a burden to the German war machine.

Karl Brandt was one of the 15 defendants found guilty of war crimes at the Doctors Trial. He was executed by hanging June 2, 1948 at Landsberg prison in Bavaria.

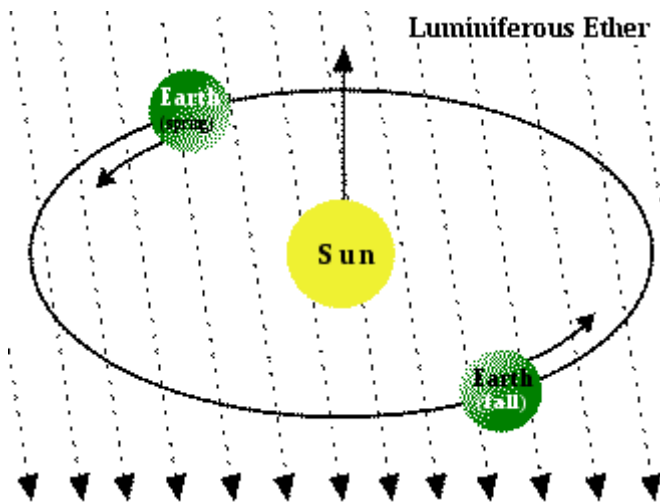


**Marriage is rarely bliss
 But, surely it would be worse
 As particles to pelt
 At thousands of miles per sec
 About a universe
 In which a lover's kiss
 Would either not be felt
 Or break the loved one's neck.**

— *W. H. Auden, After Reading a Child's
 Guide to Modern Physics*

It's all relative, isn't it? By Tom Napier

The history of physics is generally divided into into Classical Physics, from Isaac Newton to Max Planck, and Modern Physics from Max Planck to the present day. The dividing line is taken to be 1900 when Max Planck proposed that light energy is quantized. The death knell of Classical Physics came in 1905 when Albert Einstein not only confirmed Planck's theory but introduced his Theory of Special Relativity which abolished the Newtonian concept of absolute velocity. Naturally, not everyone immediately em-



braced these new paradigms but within a few decades the majority of working physicists were using and teaching the new methods. Today only a dwindling number of physics amateurs still cling to the old notions. Yet, in the February Phactum, Joel Kauffman gives a misleading account of various "Ether Drift" experiments that suggests that Special Relativity is invalid.

The "classical" experiment

Albert Michelson and Edward Morley were working in the 1880s and were, by definition, classical physicists. At that time most physicists believed that space was permeated by a medium, the "luminiferous ether," which transmitted light vibrations from place to place. This ether had contradictory properties. To transmit the very rapid vibrations of light waves it had to be incredibly stiff yet the planets moved

through it without detectable resistance. One thing was clear: light moved at a constant velocity with respect to the ether.

If the ether formed a velocity reference for the whole of space it was very unlikely that the Earth was at rest in it. Even if it were merely a local reference, the Sun is moving around the center of the galaxy and the Earth is moving around the Sun. The net velocity of the Earth would be tens of kilometers per second at the very least.

In principle this velocity could be measured by comparing the transit time of two light rays, one going "upstream" and back "downstream," the other going across the stream and back again. Long before Einstein, Michelson and Morley performed this classical experiment to measure the rate at which the Earth was traveling through the ether. If this speed were of the order of the Earth's orbital velocity it would have shown up as 40 times the minimum detectable effect yet no sign of the Earth's motion was observed. (A detailed discussion of this experiment can be found in the November 1964 Scientific American.)

To allow for the remote possibility that the Earth's orbital motion had cancelled out the ether drift they intended to repeat the experiment six months later when the Earth would be moving in the opposite direction. The results for these two experiments should differ by about 60 kilometers per second. Unfortunately, they ran out of time. The definitive two-part experiment was not carried out until later. More recent experiments have confirmed the absence of a detectable ether drift to accuracies of a few meters per second.

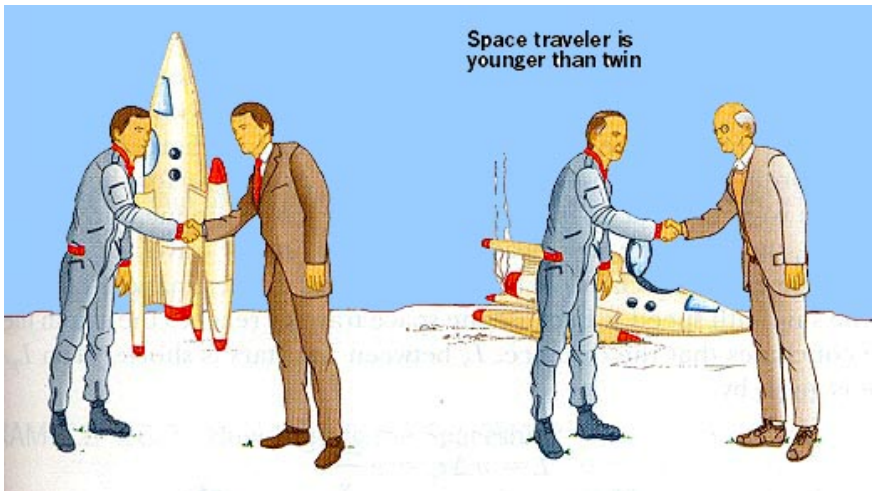
Honey, I shrank the apparatus

The only explanation Michelson and Morley could find for their null result was that their apparatus was shrinking in the direction of motion. Years later, Einstein showed that this effect arose from his principles of Special Relativity, that there is no absolute reference for velocity and that light travels at a constant speed relative to the observer.

"Discovering the Natural Laws," the 1972 book by late PhACT member, Milton Rothman, is a wonderful introduction to what we know about physics and how we know it. It devotes an entire chapter to the experimental proofs of Spe-

cial Relativity. This Dover paperback costs only \$7 and should be in every PhACT member's library.

As Rothman points out, the Michelson and Morley experiment is not sufficient of itself to prove that the speed of light is a constant. It's also unclear whether Einstein knew of it although his 1905 paper does mention, "[U]nsuccessful attempts to discover any motion of the earth relatively to the 'light medium'." Rothman lists the three conditions that have to be met and explains the experiments that confirmed them. By 1948 there was no longer any reason to doubt Einstein.



By the way, the Luminiferous Ether is a case study in "proving a negative." Its existence required that the Earth's motion be measurable. Finding a null result required that lengths shrink. Einstein showed that this effect was a natural consequence of the speed of light being constant. No phenomenon remains whose explanation requires an ether. Per Occam's Razor, we can justifiably suppose that the ether does not exist.

Just a matter of time

Time dilation, the slowing of moving clocks, is so well confirmed as to be beyond dispute. Special Relativity only considers relative motion at a constant speed in a straight line. Clocks can be compared only by sending light-speed signals from one clock to the other. When this is done the observers of both clocks find that the other observer's clock is running slower. Any relativity textbook explains exactly why. As in Kauffman's example, one clock can be stationary on the Earth while the other flashes past. It makes no difference which is regarded as moving. In Special Relativity there is no question of returning to the starting point and comparing two stationary clocks.

What may be confusing Kauffman is the famous Twin Paradox in which one twin takes a fast trip into space and back while the other remains on Earth. At the end of the trip the second twin can be decades younger than the stay-at-home, that is, his "clock" has been running slower.

It might be argued that, as motion is relative, both twins

should be younger than the other. This overlooks that the twins have had very different experiences. The space-faring twin has been subjected to accelerations that the other has not. Such return-to-the-start thought experiments require accelerated motion. Their exact computation requires familiarity with General Relativity which is way beyond my pay grade.

As evidence against relativistic time dilation, Dr. Kauffman quotes the rather crude experiment done with flying clocks in the late 1960s. He overlooks the confirming experiment being done every day with far more accurate clocks flying both faster and higher. Every GPS satellite contains an extremely precise clock. In order for the GPS system to function, the satellite clocks must agree with clocks on the ground. Software corrections are made in the satellites to compensate for the time dilation due to their motion and for the speed up due to their greater distance from the center of the Earth. That this software is necessary demonstrates the correctness of both Special and General Relativity.

Tom Napier has been a stalwart skeptic and member of PhACT for many years and delights in exposing the outlandish claims of pseudo-scientists and charlatans. Tom made his living as a physicist, writer, and scientific consultant. After coming to Pennsylvania he worked mainly in electronic design and management. He is now retired although still doing occasional consulting jobs.

Ω Ω Ω

There is nothing more difficult to take in hand, more perilous to conduct or more uncertain in its success than to take the lead in the introduction of a new order of things.

Niccolo Machiavelli
(1469 - 1527), *The Prince* (1532)



Of Lightning, and the Method (Now Used in America) of Securing Buildings and Persons from Its Mischievous Effects

Experiments made in electricity first gave philosophers a suspicion that the matter of lightning was the same with the electric matter. Experiments afterwards made on lightning obtained from the clouds by pointed rods, received into bottles, and subjected to every trial, have since proved this suspicion to be perfectly well founded; and that whatever properties we find in electricity, are also the properties of lightning.

This matter of lightning, or of electricity, is an extream subtile fluid, penetrating other bodies, and subsisting in them, equally diffused.

When by any operation of art or nature, there happens to be a greater proportion of this fluid in one body than in another, the body which has most, will communicate to that which has least, till the proportion becomes equal; provided the distance between them be not too great; or, if it is too great, till there be proper conductors to convey it from one to the other.

If the communication be through the air without any conductor, a bright light is seen between the bodies, and a sound is heard. In our small experiments we call this light and sound the electric spark and snap; but in the great operations of nature, the light is what we call *lightning*, and the sound (produced at the same time, tho' generally arriving later at our ears than the light does to our eyes) is, with its echoes, called *thunder*.

If the communication of this fluid is by a conductor, it may be without either light or sound, the subtile fluid passing in the substance of the conductor.

If the conductor be good and of sufficient bigness, the fluid passes through it without hurting it. If otherwise, it is damaged or destroyed.

All metals, and water, are good conductors. -- Other bodies may become conductors by having some quantity of water in them, as wood, and other materials used in building, but not having much water in them, they are not good conductors, and therefore are often damaged in the operation.

Glass, wax, silk, wool, hair, feathers, and even wood, perfectly dry are non-conductors: that is, they resist instead of facilitating the passage of this subtile fluid.

When this fluid has an opportunity of passing through two conductors, one good, and sufficient, as of metal, the other not so good, it passes in the best, and will follow it in any direction.

The distance at which a body charged with this fluid will discharge itself suddenly, striking through the air into another body that is not charged, or not so highly charg'd, is different according to the quantity of the fluid, the dimensions and form of the bodies themselves, and the state of the air between them. -- This distance, whatever it happens to be between any two bodies, is called their *striking distance*, as till they come within that distance of each other, no stroke will be made.

The clouds have often more of this fluid in proportion than the earth; in which case as soon as they come near enough (that is, within the striking distance) or meet with a conductor, the fluid quits them and strikes into the earth. A cloud fully charged with this fluid, if so high as to be beyond the striking distance from the earth, passes quietly without making noise or giving light; unless it meets with other clouds that have less.

Tall trees, and lofty buildings, as the towers and spires of churches, become sometimes conductors between the clouds and the earth; but not being good ones, that is, not conveying the fluid freely, they are often damaged.

Buildings that have their roofs covered with lead, or other metal, and spouts of metal continued from the roof into the ground to carry off the water, are never hurt by lightning, as whenever it falls on such a building, it passes in the metals and not in the walls.

When other buildings happen to be within the striking distance from such clouds, the fluid passes in the walls whether of wood, brick or stone, quitting the walls only when it can find better conductors near them, as metal rods, bolts, and hinges of windows or doors, gilding on wainscot, or frames of pic-

tures; the silvering on the backs of looking-glasses; the wires for bells; and the bodies of animals, as containing watry fluids. And in passing thro' the house it follows the direction of these conductors, taking as many in it's way as can assist it in its passage, whether in a strait or crooked line, leaping from one to the other, if not far distant from each other, only rending the wall in the spaces where these partial good conductors are too distant from each other.

An iron rod being placed on the outside of a building, from the highest part continued down into the moist earth, in any direction strait or crooked, following the form of the roof or other parts of the building, will receive the lightning at its upper end, attracting it so as to prevent its striking any other part; and, affording it a good conveyance into the earth, will prevent its damaging any part of the building.

A small quantity of metal is found able to conduct a great quantity of this fluid. A wire no bigger than a goose quill, has been known to conduct (with safety to the building as far as the wire was continued) a quantity of lightning that did prodigious damage both above and below it; and probably larger rods are not necessary, tho' it is common in America, to make them of half an inch, some of three quarters, or an inch diameter.

The rod may be fastened to the wall, chimney, &c. with staples of iron. -- The lightning will not leave the rod (a good conductor) to pass into the wall (a bad conductor), through those staples. -- It would rather, if any were in the wall, pass out of it into the rod to get more readily by that conductor into the earth.

If the building be very large and extensive, two or more rods may be placed at different parts, for greater security.

Small ragged parts of clouds suspended in the air between the great body of clouds and the earth (like leaf gold in electrical experiments), often serve as partial conductors for the lightning, which proceeds from one of them to another, and by their help comes within the striking distance to the earth or a building. It therefore strikes through those conductors a building that would otherwise be out of the striking distance.

Long sharp points communicating with the earth, and presented to such parts of clouds, drawing silently from them the fluid they are charged with, they are then attracted to the cloud, and may leave the distance so great as to be beyond the reach of striking.

It is therefore that we elevate the upper end of the rod six or eight feet above the highest part of the building, tapering it gradually to a fine sharp point, which is gilt to prevent its rusting.

Thus the pointed rod either prevents a stroke from the cloud, or, if a stroke is made, conducts it to the earth with safety to the building.

The lower end of the rod should enter the earth so deep as to come at the moist part, perhaps two or three feet; and if bent when under the surface so as to go in a horizontal line six or eight feet from the wall, and then bent again downwards three or four feet, it will prevent damage to any of the stones of the foundation.

A person apprehensive of danger from lightning, happening during the time of thunder to be in a house not so secured, will do well to avoid sitting near the chimney, near a looking glass, or any gilt pictures or wainscot; the safest place is in the middle of the room, (so it be not under a metal lustre suspended by a chain) sitting in one chair and laying the feet up in another. It is still safer to bring two or three mattresses or beds into the middle of the room, and folding them up double, place the chair upon them; for they not being so good conductors as the walls, the lightning will not chuse an interrupted course through the air of the room and the bedding, when it can go thro' a continued better conductor the wall. But where it can be had, a hammock or swinging bed, suspended by silk cords equally distant from the walls on every side, and from the cieling and floor above and below, affords the safest situation a person can have in any room whatever; and what indeed may be deemed quite free from danger of any stroke by lightning.

Paris, Sept. 1767 B. F.

A handwritten signature in cursive script, reading "B. Franklin". The signature is written in dark ink on a light background.

Luminous Birds and the Paranormal

Some mysterious nocturnal lights thought to be angels or fairies might actually be luminous birds.

By Don Nigrone

From December 1, 1907 to May 3, 1908, there were numerous sightings of moving glowing lights in Norfolk, England. Sir Thomas Digby Piggot, a naturalist, at the time attributed the moving lights to barn owls who might have had a bioluminescent fungal infection or who might have come into contact with touchwood containing bioluminescent organisms. Barn owls nest and roost in tree cavities. Throughout history, people have seen mysterious lights at night moving hither and yon and have attributed them to



Luminous Blue Bird

various causes depending upon their frame of reference, such as: classical deities surrounded by nimbi, angels with halos, fire-breathing dragons, fairy lights, will-o'-the-wisps, ghosts or UFOs. However, since at least the time of Pliny the Elder (*Natural History*, 77 AD),

naturalists have known about luminous birds, although they didn't understand their cause and still aren't sure.

Nonetheless, there is no lack of theories for what could cause the luminosity of birds, such as:

1.) birds might come into contact with bioluminescent fungi, as alluded to by: a.) Digby Piggot during the 1907/8 Norfolk flap as told by David W. Clarke, *The Luminous Owls of Norfolk*, in *Fortean Studies, Volume 1* (1994), and b.) W. L. McAtee in *Luminosity in Birds*, *American Midland Naturalist*, July 1947 also for luminous barn owls.

2.) birds might become infected with bioluminescent fungi according to: a.) T. Digby Piggot for luminous barn owls, and b.) a February 21, 1911 newspaper article entitled *Luminous Birds* in *The Cedar Rapids Evening Gazette*, Cedar Rapids, Iowa, with a *Scientific American* byline, for luminous herons and owls.

3.) birds might become secondarily bioluminescent due to bioluminescent organisms in the sea as stated by J. Y. Christmas in *An Observation of Luminosity in Marine Birds* for luminous Royal and Least Terns spotted flying over the Mississippi Sound on September 26, 1957.

4.) birds might become luminous because someone applied luminous paint to them such as to owls so that their owners could track them at night in the dark according to: a.) a 1908 syndicated newspaper article entitled *That Luminous Owl Again* referring to an allegedly painted barred owl purportedly seen during the 1907/8 Norfolk flap, and b.) an April 16, 1947 newspaper article entitled *25 Years Ago* in the *Oakland Tribune*, Oakland, California, involving a painted owl seen locally in April 1922.

5.) luminosity in birds is mainly reported for herons and owls and some have speculated that herons might become luminous because their powder down patches are bioluminescent such as in: a.) the 1896 syndicated *Philadelphia Times* newspaper article entitled *They Carry Lights*, and b.) the November 10, 1898 article, *Luminous Birds*, in *The Syracuse Standard*, Syracuse, New York, with a *New York Commercial Advertiser* byline. However, since no birds are bioluminescent, this can't be the correct explanation for luminosity in birds.

However, if there are luminous birds, for whatever reasons, they would rarely be seen since: 1.) the phenomena itself would rarely occur, and 2.) even when it did occur it would be observable at night when most people are asleep, and 3.) it would be more likely to occur in lonely, isolated places where few people frequent. In addition, the phenomena would be elusive since luminous birds, like non-luminous birds, would tend to avoid humans. Nonetheless, when seen, the sight of a moving glowing light at night could easily startle and frighten someone. In the nineteenth century, someone might have thought he'd just seen a ghost whereas today someone might swear he saw an alien spaceship.



Angel hair is an alleged substance of unknown origin, said to be dispersed from UFOs as they fly overhead.

Don Nigrone received a BS in economics from St. Joseph's University in 1971 and a MA in philosophy from Notre Dame in 1973. He retired in 2007 after working for 32 years as an economist for the US Bureau of Labor Statistics and now has much more time for hiking, mountain biking, kayaking and bird watching.

Ω Ω Ω

Does Science Make Belief in God Obsolete?



By Dr. E. Robert Libby
Temple University Senior Scholars
Humanities Forum Lecture
Friday, February 13th, 2009



There is arguably no more important topic than the relation of science to religion in the modern world. Science is clearly one of the most powerful methods that humans have yet devised for discovering truth, while religion remains the single greatest force for generating meaning. Truth and meaning, science and religion, but we still cannot figure out how to get the two of them together in a fashion that both find acceptable.

To quote Ken Wilber, “The reconciliation of science and religion is not merely a passing academic curiosity. These two enormous forces-truth and meaning-are at odds in today’s world. Modern science and pre modern religion which is thousands of year old aggressively inhabit the same globe, each vying, in its own way, for world domination..

Wilber further states, “Science and technology have created a global framework of industrial, economic, medical, scientific, and informational systems. As its own supporters constantly point out, science tells us what is, not what it should be. Science tells us about electrons, atoms, molecules, galaxies, digital data bits; it tells us what a thing is, not whether it is good or bad - or what it should be - or could it be - or ought to be.”

Pre-modern religions, Christianity, Judaism and Islam, have created value and meaning for billions of people in every part of the world. These same pre-modern religions often deny validity to the scientific framework within which they live, a framework that provides most of their medicine, economics, information networks, and communications. Within the scientific skeleton of truth, religious meaning attempts to grow, often by de-

nying the scientific framework itself.

The distrust is mutual, because modern science gleefully denies virtually all of the basic tenets of religion in general. According to the typical view of modern science, religion is not much more than a hold over from the childhood of humanity with about as much reality as say Santa Claus. Whether the religious claims are more literal (Moses parting of the Red Sea) or more mystical (religion involves direct spiritual experience), modern science denies them all, simply because there is no credible evidence for any of them.

As Steven Pinker states, “Traditionally, a belief in God was attractive because it promised to explain the deepest secrets about origins- Where did the world come from?- What is the basis of life? -How can the mind arise from the body?- Why should anyone be moral? Yet, over the millennia, there has been an inexorable trend; the deeper we probe these questions, and the more we learn about the world in which we live, the less reason there is to believe in God.”



1953 James Watson and Francis Crick discover the molecular structure of DNA.

Start with the origin of the world. Today, no honest and informed person can maintain that the universe came into being a few thousand years ago and assumes its current form in six days, to say of nothing of absurdities like day and night existing before the sun was created. Nor is there a more abstract role for God to play as the ultimate first cause. This trick simply replaces the puzzle of “Where did the universe come from?”, with the equivalent puzzle of Where did God come from?” and “Who created God?”

What about the incredible diversity of life and its ubiqui-

tous signs of design? At one time it was understandable to appeal to a divine designer to explain it all. No longer. Charles Darwin showed us how the complexity of life could arise from the physical process of natural selection, and then Watson and Crick showed overwhelming evidence for evolution in their discovery of DNA. The fossil record, the distribution of life on earth and our anatomy and physiology was more evidence for disbelief in God.”

The universe we see with our most powerful telescopes is but a grain of sand in the Sahara. Yet, we are supposed to think that a supreme being exists who follows the path of every particle, while listening to every human thought and guiding its favorite football teams to victory. Science has not only made belief in God obsolete, it is made it incoherent.

To paraphrase Carl Sagan, the date of creation in the old testament is 3114 BCE., but modern science tells us two that two billion years ago our ancestors were microbes; a half a billion years ago-fish; a hundred million years ago- something like mice; ten million years ago- apes swinging from tree to tree; and a million years ago-something like humans puzzling out the taming of fire. Our evolutionary lineage is marked by mastery of change. Lucy, the first Hominid fossil, dates back four million years ago. The cave paintings in Lascaux and Altimiri- ten to fifteen thousand years ago.

But on the other hand, the earth has 6.7 billion people. At least five billion are believers in religion. It gives billions support, joy, happiness, and above all meaning. The cornerstone of most religions is belief in the Golden Rule. The Rule that asks the rhetorical question, “How would you like it if that happened to you?” The Rule demands that we can consider others’ interests, rights, and feelings- as they were our own. The best known expression of it in the Western tradition is “Jesus’s admonitions.” (in Matthew 712 and Luke 631) commonly paraphrased as “Do unto others as you would have them do unto you.” But the precept stated in different ways, transcends traditions and culture. Indeed, it has been called the universal moral injunction and the basic of all Ethics.

To quote Chris Rohmann, “The earliest articulation of the Golden Rule may be Confucius’s statement of it. “What you do not want done to yourself, do not do to others.” Both Plato and Aristotle enunciated versions of the Rule. In the first century BCE, Rabbi Hillel summed up the Torah in similar terms, “What is hateful to you, do not do to your neighbor.”

All the rest is commentary. The basis of Kant’s ethical theory; The Categorical Imperative, is a restatement and extension of the Golden Rule. “Act as if the principle of your actions were to become by your will a universal law of nature.”

Tolerance is actually a tenet of my tradition. The Hebrew bible asserts more than thirty times that we should respect the stranger and treat him with dignity, because we were strangers in the land of Egypt. The stranger represents “the other” - what is foreign and different and at times threatening to our beliefs. There is no need to conquer or erase differences in culture or perspective. The same tolerance should be found among atheists. They should not belittle or ridicules those as fools to find meaning in life, to confront mystery, based on a belief in the divine. Science does not threaten faith, and faith need not reject science. Neither will ever be obsolete. I think science and religion will be with us forever.

I used the following references freely:

References:

Carl Sagan-“This Demon Infested World.”

Steven Pinker- “Then Blank Slate.”

Stuart Kaufman- “Reinventing the Sacred.”

Ken Wilber- “The Marriage of Sense and Soul”

Craig Eisendrath- “A War with Time.”

Chris Rohmann- “A World of Ideas.”

E. Robert “Cy” Libby is a long-time hearing industry educator, dispenser, entrepreneur, and inventor. Among his many inventions are the Libby Horn for BTEs (hearing aide devices), the first BTE electronic metronome for speech therapy, as well as programs for tinnitus relief. Dr. Libby is a lecturer at Temple University Humanities Forum, and is an opera enthusiast.

Confucius (551—479 BC)



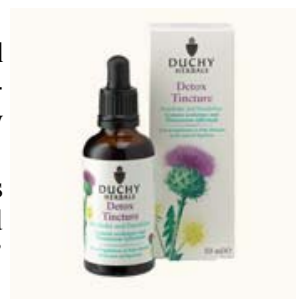
The idea that right to govern is not absolute but dependent on the moral qualities of the ruler (the Mandate of Heaven) was introduced during the Zhou Dynasty. This was the time of Confucius (551-479). During the Han Dynasty Confucius' teachings gained preeminence. State examinations were introduced, fulfilling Confucius' dictum that only superior, educated persons are fit for office.

Sense About Science reported this deliciously absurd but serious item on March 11, 2009.

Detox

Detox has hit the headlines again with **Edzard Ernst** raising concerns about **Duchy Original Detox Tincture**. Following on from VoYS (Voice of Young Scientists) recent investigation into detox products, Professor Edzard Ernst has criticised the Prince of Wales and his company Duchy Originals for selling a herbal detox tincture made with globe artichoke and dandelion.

Tom Wells, VoYS: "It seems outrageous for companies to be making money selling meaningless products but for the heir to the throne to be doing so, at £10 a pop, is even more inappropriate. We'd like to see an end to detox products on the British high street, starting with Prince Charles' detox' tincture."



The BBC reported on March 10, 2009: *Edzard Ernst, the UK's first professor of complementary medicine, said the Duchy Originals detox tincture was based on "outright quackery".*

There was no scientific evidence to show that detox products work, he said.



Duchy Originals says the product is a "natural aid to digestion and supports the body's elimination processes".

But Professor Ernst of Peninsula Medical School said Prince Charles and his advisers appeared to be deliberately ignoring science, preferring "to rely on 'make-believe' and superstition". He added: "Prince Charles thus financially exploits a gullible public in a time of financial hardship."

This "detox" concoction is, of course, a homeopathic remedy for what is not a problem. Prince Charles is an enthusiast for homeopathy. Edward VII, George V, George VI, and Elizabeth II, were all treated by Sir John Weir, a homeopath. For the last two centuries European Royals were intimately related and interbred and many very taken with homeopathy. This includes the royal families of Belgium, Netherlands, Denmark, Sweden, Norway, Austria, Portugal, Spain, Greece, Germany, England and Russia.

Prince Albert of Saxe Coburg and Gotha (Francis Albert Augustus Charles Emmanuel, later *HRH* The Prince Consort) 1819 – 1861 was the husband of Queen Victoria of the United Kingdom of Great Britain and Ireland. Prince Albert came from a family tradition of homeopathy, and when he came to England to marry Queen Victoria, he renewed the Royal patronage of homeopathy. Queen Victoria however was more sensible and did not use it herself.



And speaking of incestuous royals, on February 10, 1840, young Queen Victoria married her first cousin, Albert. They had a loving relationship and eight children but unfortunately Albert, due to primitive sanitary conditions at Windsor Castle, contracted Typhoid Fever and died on December 14, 1861. It seems that homeopathic treatment was insufficient to spare Albert.

Typhoid when untreated or treated homeopathically has a mortality rate of about 20%. Typhoid is readily treated with antibiotics, but unfortunately for Albert those modern potions were not available in 1861. In 1897, Sir Almroth Edward Wright, a British bacteriologist, developed an effective vaccine. In 1909, Frederick F. Russell, a U.S. Army physician, developed an American typhoid vaccine and two years later his vaccination program became the first in which an entire army was immunized. It eliminated typhoid as a significant cause of morbidity and mortality in the U.S. military.

Sir Almroth Edward Wright was not a relative of the Wright Brothers, but coincidentally Wilber Wright died of typhoid fever on May 30, 1912 at age 45.

The Detox story has made it into many outlets including:

BBC Website <http://news.bbc.co.uk/1/hi/health/7934568.stm> and VoYS is mentioned in

The Guardian <http://www.guardian.co.uk/uk/2009/mar/11/prince-charles-detox-tincture>

The Telegraph <http://www.telegraph.co.uk/health/healthnews/4967749/Prince-Charles-is-exploiting-the-gullible-with-dodgy-detox-remedy-scientist-argues.html>

The Scotsman <http://thescotsman.scotsman.com/features/Ditching-the-Detox.5030664.jp>

For more information about Sense About Science contact: Dr Leonor Sierra, Scientific Liaison - Sense About Science

25 Shaftesbury Avenue London W1D 7EG lsierra@senseaboutscience.org

www.senseaboutscience.org

