

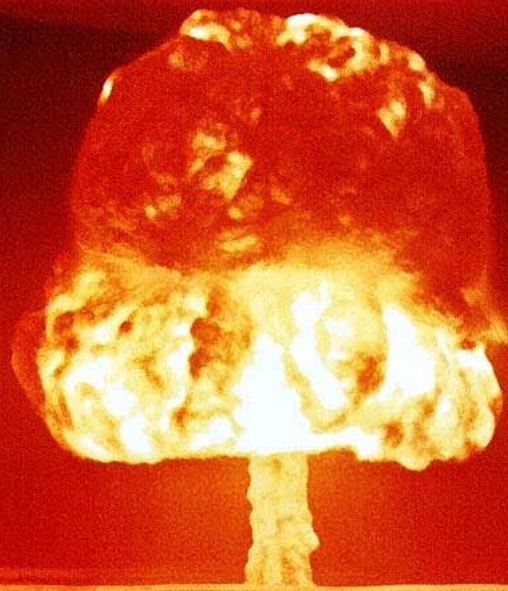
The greatest dangers to Liberty lurk in insidious encroachment by men of zeal, well-meaning but without understanding."

*Louis D. Brandeis, (1856 - 1941)
Associate Justice of the
United States Supreme Court
(1916 - 1939)*

Phactum

The Newsletter of the
Philadelphia Association for Critical Thinking
July/August 2009

editor: Ray Haupt email: phactpublicity@aol.com
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Behemical Fire

"My studies in *alchemy*," observed [Roger Chillingworth], "and my sojourn, for above a year past, among a people well versed in the kindly properties of simples, have made a better physician of me than many that claim the medical degree."

From Nathaniel Hawthorne's *The Scarlet Letter*.

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** easily available but is no longer free for PhACT attendees at CCP events. Enter the college parking lot on 17th Street which is one way south bound. This meeting site is handicap accessible.



Sunday July 19, 2009 - annual PhACT Picnic, free for **members and their guests only.** See Page 27.

Saturday September 19, 2009 - **Dr. Alan Mann**, Professor of Anthropology at Princeton University will discuss **The Origins of our Humanness.** Just who are we humans, and how did we get to be the way we are? Come to this lecture with an open mind and leave fascinated by the slowly unfolding tale of Human Evolution.



Saturday, October 17, 2009 - Dr. Paul Halpern, a physicist and author at the University of the Sciences in Philadelphia will discuss his book **Collider: The Search for the World's Smallest Particles.** It is about the Large Hadron Collider (and other colliders), what scientists hope to find, and the fear that colliders might produce black holes or other objects able to destroy the world. See Page 24 for a description of the book.

Saturday, November 21, 2009 - **Dr. Robert L. Park**, professor of physics at the University of Maryland and author of **Superstition: Belief in the Age of Science,** will be our speaker. Dr. Park will discuss his book and anything else that may be on his mind. See page 24 for description of the book.

Delaware Valley Mensa General Membership Meeting.

The General Membership Meeting is held at the Police Administration Building, 750 Race Street, Philadelphia, PA. This meeting is DVM's only activity specifically open to the public and is always on the second Friday of each month and discussions begin at 8 PM sharp. Feel free to invite your friends and relatives. Free. <http://dvm.us.mensa.org/>.

Friday, July 10, 2009 - Theta Healing - Repeatable Physical/Emotional Healing Through Meditation.

Here is a lecture that surely needs some skeptics in the audience.

Theta Healing is a powerful technique that combines science and spirituality to identify and instantly transform deeply held blocks, negative beliefs and trauma in the unconscious mind.

It is now becoming widely accepted that our thoughts create our reality. Films such as *The Secret* and *What the Bleep Do We Know* have explored the theory that what we experience in our external reality is shaped by what we experience within. Recent discoveries at the cutting edge of quantum physics and DNA research validate this theory. Albert Einstein once stated "Reality is definitely an illusion, albeit a persistent one".



**Omicron XIV
Baloney Detector**

Scientists such as Dr Bruce Lipton have revealed that genes/DNA do not control our biology; instead, DNA is controlled by signals from outside the cell, including the energetic messages emanating from our positive and negative thoughts. In other words, physical illness, or disease, is first present on an energetic level as a direct result of our beliefs, memories and emotional state.

In 2004, Kevin Baluha, a 20 year veteran of Computer Engineering, began his study of Healing and metaphysics. He learned Reiki healing, a Japanese form of energetic hands on healing. He studied quantum touch. And then when working abroad he found Theta Healing, where he began to experience many 'unexplainable' things occurring. Diving deeply into the inquiry of understanding, quantum physics channels opened up. He began learning about quantum physics 'basics' and their application to healing and consciousness. Some of the works he has studied include Col Tom Beardons work, Dr Richard Bartlett, Vianna Stibal, David Wag-oner, and Dr Ramesh. Today, Kevin conducts workshops, healing

(Continued on page 4)

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.

PHACT CALENDAR



Science on Tap, A Science Cafe

Science on Tap is a monthly gathering in Philadelphia for anyone who is interested in

getting together with other people to discuss a range of engaging science topics.

Held at National Mechanics, a relaxed, convivial bar in Old City, *Science on Tap* features a brief, informal presentation by a scientist or other expert followed by lively conversation. The goal is to promote enthusiasm for science in a fun, spirited, and accessible way, while also meeting new people. Please come join the conversation! On the second Monday of each month at 6:00 PM.

What's on tap: Monday, July 13 at 6 pm

- **Ted Daeschler**, Academy of Natural Sciences “**Cold Hard Science: Fossil Discoveries in the Canadian Arctic and the Origin of Limbed Animals**”. Daeschler, Associate Curator of Vertebrate Paleontology at the Academy of Natural Sciences, has done pioneering research collecting and describing Late Devonian fossil vertebrates in Pennsylvania and the Arctic. Presented by the Academy of Natural Sciences

Upcoming speakers

- August 10 - TBA
- September 14 - TBA

Science on Tap is sponsored by a consortium of five Philadelphia institutions: the Academy of Natural Sciences, the American Philosophical Society (APS) Museum, Chemical Heritage Foundation, the Mutter Museum, and the Wagner Free Institute of Science.

Note: The Mutter Museum has recently become the fifth member of the SoT Consortium. Welcome. A future edition of Phactum will have more information about the Mutter.

National Mechanics

22 South Third St.
Philadelphia PA 19106
215-701-4883

Free and Open to the public (age 21+)

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.



Wagner Free Institute of Science

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

Spend Your Summer at the Wagner!

We are OPEN Tuesday-Friday, 9 AM-4PM

We will be closed for summer break from August 17th-August 30th.

Try a museum scavenger hunt with your family and friends! Visit our unparalleled natural history collection! Take a self-guided tour of our National Historic Landmark building!

Museum admission is free. A donation of \$10 is suggested for ages 12 and up, \$5 for students and seniors, members are always free.



This recent photo by Tom Crane shows a small portion of the scientific collection at the Wagner. It looks today as it did in the 1890's but if you look closely there is some modern materials in the ceiling. Alas, old buildings need maintenance and maintenance is expensive. Donations large and small are appreciated ... \$1,000,000 would be nice.

A splendid old building like this must have a ghost and local ghost hunter's are invited to find him ... and in the process claim James Randi's \$1,000,000 challenge to donate to this good cause!

(Continued from page 2)

sessions, and classes to teach healing in Michigan, Florida, Costa Rica, and Australia. He is establishing healing centers in Michigan and Costa Rica, the first 2 of 25. These healing centers are dedicated to the wellness and joy for all who should visit.

Prior to the meeting, those who can, are invited to attend the pre-General Membership Meeting Dinner at a secret location someplace in the heart of "the City with a Million Eat'ries" 's very own Chinatown or O!City. This is an excellent opportunity to have a good meal and get to speak with the evening's guest, one on one. Contact Pete Stevens (pete.stevens@phila.gov) to reserve your place at dinner, by NOON, Friday, July 10th, 2009.

Upcoming Mensa meetings

- ♣ Friday, August 14 - TBA
- ♣ Friday, September 11 - TBA

Tuesday, July 14, 2009 at 7:30PM, At the Free Library of Philadelphia. **Dr. Harold Varmus** | *"The Art and Politics of Science"* A Nobel Prize-winning cancer biologist, former director of the National Institutes of Health, president of the world-renowned Memorial Sloan-Kettering Cancer Center, and co-chair of President Barack Obama's Council of Advisors on Science and Technology, Harold Varmus knows *The Art and Politics of Science*. His new memoir provides a glimpse into the world of high stakes, big-budget science, and exposes the tensions between laboratory researchers and clinical investigators, scientists, and politicians. "If you've ever wondered about the early life of a budding scientist... or the translation of brilliant work into public service," comments writer Andrea Barrett, "read the account of this passionate, politically engaged,

deeply humane scientist." Free.

Tuesday, July 21, 2009 at 7:30PM — Buzz Aldrin | *Magnificent Desolation: The Long Journey Home from the Moon ..* At Free Library of Philadelphia, 1901 Vine Street, 19103. 215-686-5322. Cost: \$14 General Admission, \$7 Students. Buy tickets online | Ticket and Subscription Packages Author Brochure

On the 40th anniversary of the historic moon landing, Buzz Aldrin—the lunar module pilot for Apollo 11 and the second man to set foot on the moon—tells the behind the scenes story of the Apollo 11 mission and his life afterward as he struggled with depression and alcoholism. *Magnificent Desolation* reveals how close Apollo 11 came to aborting its landing less than 60 feet from the moon's surface, how a computer overload almost jeopardized the entire mission, and how Aldrin and Neil Armstrong had to manually land the spacecraft with a mere 20 seconds of fuel left. Today, Buzz Aldrin is the founder of the ShareSpace Foundation, a nonprofit organization devoted to opening the doors of space tourism for all people. Mr. Aldrin will be interviewed by Ian Sheffer.

Buzz Aldrin will sign copies of Magnificent Desolation only. No memorabilia or photos.

"Any power must be an enemy of mankind which enslaves the individual by power and by force, whether it arises under the Fascist or the Communist flag. All that is valuable in human society depends upon the opportunity for development accorded to the individual."

- Albert Einstein

Delaware Valley Opera Company

Saturday, July 11 & 18
Wednesday, July 15 at 8:00 p.m.

Cinderella by Gioachino Rossini
sung in English

SOMEDAY MY PRINCE WILL COME
DVOC brings yet another familiar tale to the stage this season. Cinderella is one of the world's most beloved fairy tales. In the hands of the master, Rossini, this tale takes on new dimensions. Come join the fun.

Saturday, August 1 & 8
Wednesday, August 5 at 8:00 PM

La bohème by Giacomo Puccini
sung in Italian

TIMELESS LOVE



La bohème is quite possibly the most popular opera of all time. This tragic love story has been the inspiration for the Broadway musical "Rent," and the movie "Moulin Rouge." The story concerns 4 poor artists, and the loves that come into their lives. Find out why this opera is so widely loved.

Performances are held in the Roxborough High School Theatre, 6498 Ridge Avenue, Philadelphia, PA. Admission is \$20 for non-members,, a bit less for seniors and students.

For Information & Reservations:
Phone: 215-725-4171 -
Email: info@dvopera.org
website: <http://dvopera.org>

What is she thinking? To whom is she writing?



We will never know but PhACT members and other readers are invited to submit letters and articles about things they think about to be published in Phactum.

If you have a point of view on some matter in Phactum, whether in agreement or opposed, why not write it down

and send it in? Do not hesitate to comment on matters that have not been in Phactum since we constantly wish to present information of interest to Critical Thinkers. We try not to get into religion bashing or partisan politics, but the rest of the Universe is fair game for civil discussion. You need not be in agreement with the editor of this propaganda sheet. Diverse opinions make for good discussion and let your voice counter the lunatic ravings of the editor. Speak out!

Send more clerihevs!! Suggestions to improve Phactum are very appreciated. Send submissions by email if you can since my scanner is not working. Hand written notes are OK if they are very short. Good lasagna recipes are in demand.

Phactpublicity@AOL.com

Errors

Shiver me timbers!!!! In the May/June issue the editor did bungle the photo credit accompanying Don Nigroni's Blue Hole article. The photographer for that photo was really **Bob Clark** not **Bruce Clark**. Bob and Bruce are brothers

and both are cousins of the author, but Bob Clark is the photography buff and not a member of PhACT whereas Bruce Clark is a member of PhACT and is involved with the Prisoner Appreciation Society (<http://www.netreach.net/~sixofone/>), the avant garde TV series from the 1960's starring Patrick McGoohan. The editor will be on galley duty for a month as an Avant Garde TV prisoner Aaaarrrr!



Patrick McGoohan

Letters

Editor: Re: "Benjamin Franklin and the Philosopher's Stone." (May/June 2009) Franklin composed the following absolute gem of an epitaph for himself. It's not on his gravestone, but last I saw, it's on a plaque on the fence near his gravestone.

**The body of
B Franklin Printer
(Like the Cover of an Old Book
Its Contents torn out
And stript of its Lettering & Gilding)
Lies here, Food for Worms.
But the Work shall not be lost;
For it will, (as he believ'd) appear once more,
In a new and more elegant Edition
Revised and corrected
By the Author.**

Howard J. Wilk
Philadelphia, PA

Editor: More Franklin, more Priestley:
In a 1780 letter to Joseph Priestley, Franklin wrote:

"I always rejoice to hear of your being still employed in experimental researches into nature, and of the success you meet with. The rapid progress true science now makes, occasions my regretting sometimes that I was born so soon: it is impossible to imagine the height to which may be carried, in a thousand years, the power of man over matter; we may perhaps learn to deprive large masses of their gravity, and give them absolute levity for the sake of easy transport. Agriculture may diminish its labour and double its produce: all diseases may by sure means be prevented or cured, (not excepting even that of old age) and our lives lengthened at pleasure even beyond the antediluvian standard. O! that moral science were in as fair a way of improvement; that men would cease to be wolves to one another; and that human beings would at length learn what they now improperly call humanity!"

In a 1788 letter to Benjamin Vaughan, Franklin wrote:

"Remember me affectionately to good Dr. Price and to the honest heretic Dr. Priestley. I do not call him honest by way of distinction; for I think all the heretics I have known have been virtuous men. They have the virtue of fortitude, or they could not venture to own their heresy; and they cannot afford to be deficient in any of the other virtues, as that would give advantage to their many enemies; and they have not like orthodox sinners, such a number of friends to excuse or justify them. Do not, however, mistake me. It is not to my good

friend's heresy that I impute his honesty. On the contrary, 'tis his honesty that has brought upon him the character of heretic."

To those who questioned the value of new discoveries and new inventions, Franklin replied: "What good is a new-born baby?"

Joseph Priestley's house in Northumberland, Pennsylvania still exists, is administered by the Pennsylvania Historical and Museum Commission, and is open to visitors, but may be shut due to state budget cuts. Here's the website:

<http://www.josephpriestleyhouse.org/>

Howard J. Wilk
Philadelphia, PA

Editor: Here's a question for you: if you had to explain skepticism to someone who had never heard of it, do you have a good explanation (online) that you like? I don't care for the one on the PhACT web site, since Tom Napier defines the items of skeptical interest as having the characteristic that "there is no evidence at all for their validity." That's not true, so I can't borrow his explanation. Many of the assertions of the paranormal have lots of evidence, sometimes fairly good evidence. Look at all the published studies of ESP, for example, some of which are rather well done. It's just not good enough evidence for someone who takes existing knowledge seriously as a starting point, as most skeptics do.

I'm thinking we should define ourselves as investigators of claims that don't get tested in standard, peer reviewed ways. I'm working on my own definition for use on my personal web page, but I wondered if there is a really good one already out there.

Ed Gracely, PhD

Sicklersville, NJ

Editor's note: That is a great question which I can not readily answer myself, but perhaps a Phactum reader will have some clear and convincing ideas on the matter. A good start might be to read Paul Schlueter's article about the Scientific Method on Page 16. .

Editor: I just wanted to update you on a project our Voice of Young Science (VoYS) network have been working on and which was released today. In a letter to the World Health Organisation today, the VoYS network along with other early career medics and researchers from developing countries, have called for an international condemnation of the promotion of homeopathy for treating TB, HIV, malaria, influenza and infant diarrhoea.

You can read more about it here:

<http://www.senseaboutscience.org.uk/index.php/site/project/331/>

The letter was covered by the media on June 1, 2009 – see The Times (http://www.timesonline.co.uk/tol/life_and_style/health/article6406213.ece) and The Guardian (<http://www.guardian.co.uk/science/2009/jun/01/world-health-organisation-homeopathy-hiv>) online – and we have received interest from international broadcasters and newspapers that want to cover the story and interview some of the young scientists involved in the letter.

And see here for a blog post about this from Steven Novella: <http://www.theness.com/neurologicablog/>

Dr Leonor Sierra

Scientific Liaison

Sense About Science

London, England

www.senseaboutscience.org

Editor: Many if not all of you have heard my view that "organic" produce or products are not any safer than conventional ones. In a just published survey of toxicologists, virtu-

"As a child in Tibet, I was keenly curious about how things worked. When I got a toy I would play with it a bit, then take it apart to see how it was put together. As I became older, I applied the same scrutiny to a movie projector and an antique automobile. At one point I became particularly intrigued by an old telescope, with which I would study the heavens. One night while looking at the moon I realized that there were shadows on its surface. I corralled my two main tutors to show them, because this was contrary to the ancient version of cosmology I had been taught, which held that the moon was a heavenly body that emitted its own light. But through my telescope the moon was clearly just a barren rock, pocked with craters. If the author of that fourth-century treatise were writing today, I'm sure he would write the chapter on cosmology differently.

If science proves some belief of Buddhism wrong, then Buddhism will have to change. In my view, science and Buddhism share a search for the truth and for understanding reality. By learning from science about aspects of reality where its understanding may be more advanced, I believe that Buddhism enriches its own worldview,"

- the Dalai Lama.

(submitted to Phactum by Doreva Belfiori)

ally all agreed. Notably, most also judge that environmental groups greatly overstate risks: 96% believe Greenpeace does, 85% Environmental Defense Fund, and 79% for Natural Resource Defense Council & Environmental Working Group. This is ironic because most toxicologists became a toxicologist because of their concerns about human health and the environment. The further irony is that much of the data that environmental groups use to scare the public comes from toxicology studies. The difference is that those in the environmental groups often have had little or no toxicology training.

As an example of this, a biologist on a TV show on toxic chemicals noted that "we are just now learning that time of exposure matters" in regards to chemically-induced birth defects. What she should have said was "I have zero training in toxicology, so *I* just learned that time of exposure matters." If she had taken even an introductory toxicology class, she would have know that time of exposure has been a principle of teratology since 1959 (specifically "Susceptibility to teratogenesis varies with the developmental state at the time of exposure to an adverse influence." Wilson's General Principles of Teratology, 1959).

The survey is available at: http://www.stats.org/stories/2009/are_chemicals_killing_us.html

Similar results were found for most chemicals in the news as well (notably phthalates in plastics), i.e., risks are overstated. I find it interesting that in the public, toxicology has become almost a religion, i.e., people believe chemical risks on faith, and factual data are disregarded.

One point not discussed in the survey is some "good news:" Recently, one of the leaders of the California Wine Assoc mentioned that many of its members are moving on from organic to biodynamic agriculture. Biodynamic farming retains the non-science (or nonsense) aspects of organic farming and adds a new level of hokum. According to Wikipedia, your vegetable garden can be made biodynamic by preparing the ground as follows:

- 500:** (horn-manure) a humus mixture prepared by filling the horn of a cow and with cow manure and burying it in the ground (40–60 cm below the surface) in the autumn. It is left to decompose during the winter and recovered for use the following spring.

- 501:** Crushed powdered quartz prepared by stuffing it into a horn of a cow and buried into the ground in spring and taken out in autumn. It can be mixed with 500 but usually prepared on its own (mixture of 1 tablespoon of quartz powder to 250 liters of water) The mixture is sprayed under very low pressure over the crop during the wet season to prevent fungal diseases. It should be sprayed on an overcast day or early in the morning to prevent burning of the leaves.

I think this is "good news" because it may illustrate to non-scientists just how kooky organic & biodynamic ideas are. Modern conventional farming is heavily reliant on science.

In contrast, organic farming weaved in enough bits of science to make it appear credible. Biodynamic eliminate those bits.

David W. Cragin, Ph.D., DABT

Adjunct Professor

Department of Health Policy and Public Health

University of the Sciences, Philadelphia

Editor: I saw this in the Comments section of today's (June 14) Philadelphia Inquirer. Title of an article by the superintendent of the School District of Philadelphia: "All children deserve only the best teachers."

Presumably only in Lake Wobegon where all the children are above average.

Tom Napier

North Wales, PA

Ω Ω Ω

Various Ruminations

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

Jeepers, creepers, where'd you get those peepers?



While roaming through the internet searching for "stem cell" I stumbled upon this guy, **Ben Turpin (1874 - 1940)**, a popular silent movie era slapstick comedian who worked for Max Sennet and has absolutely nothing to do with stem cells, critical thinking, or skepticism.

Turpin, it is said, had insured his eyes with Lloyd's of London against the possibility that they become uncrossed.

Rocket Fuel: We're going back to the Moon to get water?

Get a load of this from Dr. Bob Park's "What's New" newsletter of May 22, 2009.

"Last week, even as I was screwing up the story about the new telescopes, Science magazine was perpetuating the rocket-fuel-on-the-Moon fantasy. I don't know where it got started, but in March of 1998, Alan Binder, the chief scientist on the lunar prospector mission, exulted that, "for the first time, we know that when we go to another planetary body, we can fuel up." It seems that water, or ice, had been detected in lunar soil at the bottom of craters near the poles. The water was not detectable 18 months later. NASA is now sending two missions to the Moon to look again. Science

magazine said last week that, "the lure of a resource easily convertible into to a high-energy fuel of oxygen and hydrogen has driven the decades long and often exasperating search for lunar ice." It's not nearly as exasperating as it will be in the unlikely event that they do find water and try to turn it into rocket fuel. If our planet is indeed covered with rocket fuel to a depth of miles, why is there an energy crisis?"

Why is there an energy crisis indeed, but don't fret too much, Bob. Rumor has it that NASA will be sending officials from the Tennessee Valley Authority to assure proper installation of hydro power generation and agricultural irrigation programs.

If you do not subscribe to Bob's weekly newsletter you should, and you can do so by going to his website:

<http://www.bobpark.org>

And don't forget to attend Bob's discussion with PhACT on November 21.

Louisiana mariners eschew rum!



A pink dolphin was sighted in shipping channels in the Gulf of Mexico near Louisiana causing some boatmen to eschew adult beverages. Notice that the picture is clear thus dashing the myth that cryptozoological sightings are only observed by inferior photographers. The pink creature is a rare albino bottlenose dolphin.

Faith Healing disaster: Jury Convicts Mother Who Prayed for Daughter Instead of Treating Her Diabetes

Here is a link to an Associated Press story on May 22, 2009 where a mother employed faith healing as an alternative to science based medicine when her 11 year old daughter was sick. The girl had diabetes and that line of treatment failed miserably resulting in the girls death. The mother has been convicted of murder and could face 25 years in prison.

I hope, in this case, that the woman does not get 25 years

of incarceration. It was religious zealotry that killed the child, not malevolence, and there are three more children to think about. In my opinion some much lesser penalty is far more desirable to keep the family intact, but very strict supervision is needed until those children are adults.

The father is to be tried on the same charges in July.

Any concurring or dissenting views on this matter? Write them down and send a letter to the editor.

<http://www.foxnews.com/story/0,2933,521307,00.html>

How Anti-Vaxxer Madness Leads To Dead Babies

Here is a link to a disturbing video about an infants whooping cough death, a disease that should be preventable today, but is making a resurgence in modern countries because of vaccination fears. It is outrageous. I am tuned into this disease because I had it when I was in 4th grade. I was quarantined and missed about 2 months of school. I did fully recover but some do not.

<http://noblesseoblige.org/wordpress/2009/04/26/how-anti-vaxxer-madness-leads-to-dead-babies/>

And here is another disturbing video of more very sick infants whose illness could likely have been prevented by vaccination or by living in a vaccinated population thus benefiting from "herd immunity".

<http://www.youtube.com/watch?v=dZ5jf-5MobE&feature=related>

Australian homeopath and wife convicted of manslaughter.

Dr. Stephen Barrett reports in Consumer Health Digest, June 11, 2009.

A jury in New South Wales has found Thomas Sam and his wife Manju guilty of manslaughter by failing to utilize medical care before their 9-month-old daughter died from malnutrition and infections related to chronic eczema. The prosecution successfully argued the couple were criminally negligent by persisting with homeopathic remedies instead of seeking conventional medical help in the last two weeks of her life. The jury was also told that the daughter's rash was so bad at age six months that her skin would weep and tear when her parents changed her clothing and diapers. As her health deteriorated, the parents continued to administer homeopathic drops and ointments recommended by Thomas's professional peers. [Homeopath Thomas Sam guilty of daughter Gloria's death. Daily Telegraph, June 5, 2009]

<http://www.news.com.au/dailytelegraph/story/0,22049,25590813-5005941,00.html>

Press reports also state that Thomas was educated in homeopathy in India and that the jury was told that Manju came from a culture where homeopaths were on equal footing with conventional doctors. [Eczema death parents 'on equal footing with doctors'. Daily Telegraph, May 6, 2009] <http://www.news.com.au/dailytelegraph/story/0,,25437641-5001028,00.html>

Name changing

In the May/June Phactum we reported that Elaine Brody suggested that PhACT change its name to Philadelphia Association for Rational Thinking. Tom Napier being alert as always responded:

Editor: Here is something short and light-hearted for Phactum. I thought it had already appeared but I can't find it in print. I'm sure Elaine can come up with some additions.

Sorry, I'm out of clerihews.

Tom

Phlights of Phancy

by Tom Napier

Elaine Brody's proposal in the May/June Phactum was anticipated. At the 1994 council meeting at which the acronym "PhACT" was adopted the majority faced stiff opposition from then treasurer Jack Rohr who insisted we should dub ourselves the Philadelphia Association for Rational Thinking. We couldn't imagine his motivation.

About the turn of the century I suggested that PhACT might have some sister organizations. Here is my original list, no doubt our editor will be willing to print further inventions.

- ♣ Philadelphians Investigating Crazy Theories, Ideas and Outlandish Notions (**PhICTION**)
- ♣ Philadelphia Association Researching Crackpot Engineering (**PhARCE**)
- ♣ Philadelphians Observing Obscure Lights in the Sky (**PhOOLS**)
- ♣ Philadelphia Association Interested in Tactile Healing (**PhAITH**)
- ♣ Philadelphians Researching Anything Underhand and Deceitful (**PhRAUD**)
- ♣ Philadelphia Association Trying Hard to Encourage Realism (**PhATHER**)
- ♣ Philadelphians Researching Origins of Nutty Theories (**PhRONT**)
- ♣ Philadelphians Against New Age Thought Investigate Cool Stuff (**PhANATICS**)
- ♣ Philadelphians Undertaking to Teach Individuals Lacking Education (**PhUTILE**)
- ♣ Philadelphians Aiding Investigative Research Into Ephemera and Specters (**PhAIRIES**)
- ♣ Philadelphia's Answer to Nightmares, Terrors and Occult Manifestations (**PhANTOM**)

Elaine, never at a loss for words responded: About the turn of the century. Which century was that, Tom?

Elaine (looking wide-eyed and innocent) adds:

Philadelphia Union for Queer and Unusual Endeavors (**PhUQUE**)

British libel ruling arouses international furor.

Dr. Stephen Barret reported this item in his weekly Con-

sumer Health Digest, of June 4, 2009.

The English High Court has ruled that a prominent science writer's use of the word "bogus" must be interpreted as "deliberately dishonest." The case arose after Simon Singh wrote in a newspaper column:

"The British Chiropractic Association claims that their members can help treat children with colic, sleeping and feeding problems, frequent ear infections, asthma and prolonged crying, even though there is not a jot of evidence. This organisation is the respectable face of the chiropractic profession and yet it happily promotes bogus treatments."

In ordinary English, this passage would be interpreted as Singh's opinion that the treatment claims are false and that the BCA promotes them anyway. It would not mean that the BCA believes they are false. Singh is appealing the ruling, which, if upheld, would mean that instead of examining the truth or falsity of the claims, the trial would focus on whether or not the BCA believed them. British libel laws are heavily weighted against writers because they are not easily dismissed and defense costs are so high that few defendants can afford to make their case. Although libel suits in the United Kingdom can cost millions of dollars, Singh has announced that he will appeal. Thousands of people have been rallying to his defense.

Sense About Science is spearheading a campaign to modify the laws. The campaign includes a statement from British scientists that "it is inappropriate to use the English libel laws to silence critical discussion of medical practice and scientific evidence." During the past week, more than 1,000 people have endorsed the statement. For further information or to add your name, see: <http://www.senseaboutscience.org.uk/index.php/site/project/333/>

Birds are not ex-dinosaurs?

The common wisdom up until now, among evolutionists at least, has been that birds have evolved from dinosaurs. That notion, however, may not be correct. Researchers John Ruben and Devon Quick, zoologists at Oregon State University, have discovered that the femur bone structure in birds and theropod dinosaurs such as allosaurus are quite dissimilar thus causing a difference in the way the creatures breathe making it unlikely that they are directly in an evolutionary line.

This is rather cool in my humble opinion, perhaps more so for clear demonstration of the way in which science works than for the discovery itself which does seem to be of considerable importance. It is an example of scientists challenging an old notion which will certainly upset the apperception of museum displays and long held "beliefs", but facts do emerge as they become known and science updates itself. The displays will just have to change, unless of course they are at the Wagner Free Institute of Science where the displays last changed about 1895 giving a clear snapshot of late 19th century scientific understanding. It will be interesting to learn

what other conclusions may evolve from this discovery. More information on this discovery can be found at:

<http://oregonstate.edu/ua/ncs/archives/2009/jun/discovery-raises-new-doubts-about-dinosaur-bird-links>

When I first heard of this discovery I did a google search using key words "bird evolution devon quick". Interestingly the first listed find was from the Answers In Genesis website, a vigorously Creationist organization, which was happy to print news of a scientific reversal of opinion as if updated scientific information or a challenge to a long held scientific "belief" signaled further fortification for arguments of their own "theory". It doesn't. That Creationist response to this scientific find can be found here:

<http://www.answersingenesis.org/articles/2009/06/12/birds-did-not-evolve>

Zeroing In On a Lymphoma Vaccine

Personalizing cancer care was a major theme at the 45th Annual Meeting of the American Society of Clinical Oncology (ASCO) this month. By tailoring anti-cancer treatments to the unique genetics of patients and their tumors, patients can receive treatments they are most likely to benefit from, while allowing those who will not benefit to avoid unnecessary side effects and costs.



Stephen J. Schuster, MD, a researcher funded by The Leukemia & Lymphoma Society (LLS), presented some encouraging results from a Phase III randomized clinical trial for an anti-cancer vaccine called BiovaxID. Schuster, of the Abramson Cancer Center of the University of Pennsylvania, showed that the vaccine delayed relapse for some patients with advanced follicular lymphoma. Disease-free survival was extended on average by more than one year and the vaccine was well tolerated. Two other LLS-supported researchers, Christopher Flowers M.D. of Emory University and Larry Kwak M.D. Ph.D. of M.D. Anderson Cancer Center in Houston, were among the co-authors on this study.

Zicam and loss of smell

PhACT member Doreva Belfiore alerted me to this little item about an anti-cold remedy called Zicam which has been marketed in many American pharmacies for about a decade.

It seems that Zicam, which has not been proven effective to cure or prevent colds, has the rather distressing side effect of possibly permanently affecting the sense of smell, a condition called **anosmia**. The active ingredient in Zicam is zinc which scientists have been aware as possibly being a safety hazard leading to impairment of the sense of smell. The FDA has recommended that the product not be used.

This product is labeled and marketed as homeopathic which adds an interesting dimension to the story. Homeopathic remedies are not regulated by the FDA. They generally are safe in the sense that they do little direct harm to users. After all, if a substance is diluted out of existence what

harm can it do beyond the very real harm of a patient not receiving tested and useful medication? Apparently in the case of Zicam zinc is not so highly dilute as to have no effect. Actually Zicam is a one part to ten, a 1X dilution, solution of the active ingredient, zinc gluconate, instead of the typical one part per billion, or trillion, or even septillion and beyond.



Homeopathic organizations are performing a rather complex fandango to distance themselves from the product. Homeopathic products, they say, are taken orally, not put in the nose, and have an enviable safety record.

Meanwhile, about 800 people have been injured, and trial lawyers no doubt are hovering like vultures over roadkill.

<http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm167065.htm>

<http://health.usnews.com/blogs/on-women/2009/06/16/throw-out-your-zicam-and-rethink-other-alternative-cold-remedies-.html>

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Soundbites

Compiled By Becky Strickland

▶ "If Darwin had been dependent on a grant from a British research council, he would never have set sail." George Monbiot, in *The Guardian* (London), arguing that university research is becoming too commercially oriented.

▶ "Bad information in the medical literature leads doctors to make irrational prescribing decisions, which ultimately can cost lives." Ben Goldacre comments in his "Bad Science" column (*The Guardian*) on drug company Merck paying publisher Elsevier (a sister company of *New Scientist*) to produce a promotional magazine in the style of a peer-reviewed journal. Both reported in *New Scientist*, May 23, 2009.

▶ "The Obama administration understands the role of science in dealing with national problems. It's built into their priorities and the people they've appointed to get the agenda moving" Arden Bement Jr., director of the US National Science Foundation, interviewed by Jeremy Webb, *New Scientist*, June 20, 2009.

▶ "72% of Americans think that scientific research will improve their quality of life, compared with 6% who disagree." From a poll conducted by Research!America, reported in *New Scientist*, June 20, 2009.

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The Screaming Lady of Fort Mifflin

By Don Nigroni

Space is unlimited and time is infinite, hence, it becomes ever more likely that some bizarre possibilities will someday, somewhere become realities. Furthermore, there are some things in the here and now apparently beyond human understanding such as consciousness and time. Nonetheless, there has never yet been a convincing case made for any paranormal phenomena and that includes ghostly happenings. However, these days, reports of ghostly happenings can change a place into a popular tourist attraction. Thus, it's not surprising that such reports are occurring locally at some famous historic sites, such as at Fort Mifflin which even promotes day and nighttime paranormal investigations.

The construction of the fort began in 1772 under British rule to protect Philadelphia, however, in 1777 during the American Revolutionary War it was used by the Americans to try to prevent the British from coming up the Delaware River to reach British-occupied Philadelphia. After being badly damaged at that time, it was rebuilt and over the years used in various ways as a military installation. In 1962 the fort became the property of the city of Philadelphia and today is administered by a non-profit organization.

According to *Weird Pennsylvania* (2005) by Matt Lake, some of the ghostly happenings reported at Fort Mifflin involve a blacksmith, a lamplighter and the Screaming Lady. Some people approaching the Blacksmith Shop supposedly hear a hammering sound but find the building empty upon entering. And a lamplighter is purportedly seen on occasion carrying a long pole with a light at its end on the second floor balcony of the Soldiers' Barracks. When I visited the fort in April 2009 I noticed that various metal implements were hanging from a long metal wire in the Blacksmith Shop and that both doors were wide open. I suspect on a windy day the slight swaying of the implements that I observed could increase enough so that they would clang together and sound like a blacksmith hammering. During my visit, alas, I didn't see a lamplighter on the second floor balcony of the Soldiers' Barracks, but then again I didn't see a second floor balcony on the Soldiers' Barracks either!

However, the alleged ghostly sound that I went there to investigate was that reportedly due to the Screaming Lady.

According to the story told by Lake, an Elizabeth Pratt lived near the fort and her daughter was seeing an officer. Elizabeth disapproved of the relationship and disowned her daughter who soon afterwards died of dysentery. Consumed with remorse, Elizabeth then committed suicide. Some people supposedly hear her scream coming from the Officers' Quarters to this day. However, according to the account in *Philadelphia Ghost Stories* (2001) by Charles J. Adams III,

the daughter died about 1801, Elizabeth committed suicide a year later and the current Officers' Quarters building was built in 1814 on the site of a Soldiers' Barracks. Adams noted that Elizabeth's ghostly screams were reportedly heard coming from the second level of the Officers' Quarters. Thus, Elizabeth Pratt apparently committed suicide around 12 years before the current Officers' Quarters was even built. Had the sound been due to a residual haunting of Elizabeth Pratt then a replay of her cry, which could have been im-



Photograph of the Soldiers' Barracks with the Officers' Quarters to the left taken in April 2009. Note the lack of a second floor balcony on the Soldiers' Barracks. Photograph by **Bob Clark**, not Bruce.

printed on the surrounding stones, or retrocognitive knowledge of her scream would presumably have shown the sound coming from somewhere other than the second floor of the Officers' Quarters which it seems didn't even exist in her time.

Furthermore, red foxes make many sounds, including one that apparently sounds like a woman screaming which is notably made by a vixen seeking a mate. Red foxes are shy and elusive but they can be found throughout this area and I occasionally spot them at the Tinicum National Wildlife Refuge which is near the fort. Hence, perhaps that ghostly sound isn't due to a residual haunting, but instead is the mating call of a red fox vixen!

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

The Zionitic Brotherhood, Count Cagliostro and Physical Regeneration

By Don Nigroni

The Ephrata Cloister, located in Ephrata, Lancaster County, Pennsylvania, was once the site of a flourishing 18th century religious community and today is a well-preserved historic site. Within this community, a faction, known as the Zionitic Brotherhood, was reportedly able to produce the inestimable alchemical Elixir of Life. In *The German Secularians of Pennsylvania (1708 - 1742): A Critical and Legendary History of the Ephrata Cloister and the Dunkers (1899)* by Julius Friedrich Sachse, we read an account of their procedure for attaining physical regeneration. The candidate “is to retire to a hut or cave in the forest, on the night of the full moon in the month of May, and for the following forty days is to live secluded”. He fasts and prays and has broths “comprised mainly of laxative and sanative herbs”. On the seventeenth day, the recluse:

... had several ounces of blood taken from him, after which certain white drops were administered; six drops of this elixir were taken at night and six in the morning, increasing the dose by two drops a day until the thirty-second day. The composition and preparation of this elixir was a secret known only to such adepts as were admitted to the highest mysteries ...

On the thirty-second day, more blood was drawn and “on the thirty-third day the first grain of *materia prima* was to be taken.” This was “the same substance which God created to confer immortality upon man” in paradise. When “taken the neophyte lost his speech” and recollection and “three hours later convulsions and heavy transudation set in”. On the following day, the candidate received the second grain which produced the same effects as before but also “a delirious fever set in which ended with a complete loss or shedding of the skin, hair and teeth”. On the thirty-sixth day, the last grain of the *materia prima* was taken which caused “a gentle and undisturbed sleep, during which a new skin appeared, the hair and teeth, which had been shed two days before, were

also miraculously renewed.” On the thirty-ninth day, he received “ten drops of the elixir of life”. When the fortieth day had ended, the votary was completely rejuvenated “with the power to lengthen his earthly existence to the limit of 5557 years”. Unfortunately, the process “had to be repeated every forty years, as before stated, during the full moon of May.”

Sachse noted that “Little authentic information has come down to us from the Zionitic Brotherhood itself” but “A little insight, however, is gleaned from the MSS. of Johann Frantz Regnier, who was one of the first to attempt to gain physical and spiritual regeneration at Ephrata according to the mystic ritual of the *Zionitische Bruderschaft*.” Regnier wrote that he had been told by them:

... that no one could endure the trial [i.e., the rigorous requirements of the ritual]. They themselves had tried it.

He underwent the ordeal sometime in 1734 or 1735 and wrote that:

I subjected myself in my cabin to all the rules and requirements of the ritual, even more strictly than they had been communicated to me. This went on without my attaining anything of that which I sought; until I at last lost my reason and became delirious. When I was completely mad, and without reason ...

However, Regnier apparently had psychological problems even before he underwent this procedure for physical regeneration.

We also find a report of a similar process in *The Life of Joseph Balsamo, Commonly Called Count Cagliostro (1791)* contending to be “Translated from the Original Proceedings published at Rome by Order of the Apostolic Chamber”, the proceedings being those before the Inquisition which led to Cagliostro being imprisoned until his death in 1795. According to this account, his forty day procedure for physical regeneration required going out into the country during May and then taking “laxative and sanative herbs”. On the seven-



The author walking up Mount Zion at the Ephrata Cloister in March 2009. Photograph by Bob Clark

teenth day, “after having let blood, certain white drops are to be taken, six at night, and six in the morning; increasing them two a day in progression.” Three days later, more blood is drawn. Then a “grain of the *panacea*” is taken which “is the same out of which God created man when he first made him immortal.” When taken the candidate “loses his speech and his reflection for three entire days” and is subject to convulsions and perspirations. Then “on the thirty-sixth day he takes the third and last grain of the *panacea*, which causes him to fall into a profound and tranquil sleep” at which time “he loses his hair, his skin, and his teeth.” These “are all reproduced in a few hours” and “on the morning of the fortieth day” he is completely rejuvenated “by which he is enabled to live 5557 years”.

And in *Cagliostro: The Splendour and Misery of a Master of Magic* (1910) by W. R. H. Trowbridge, we read about a forty day procedure for physical regeneration where the person “ ‘must withdraw every fifty years in the month of May at the full of the moon’ ”. The patient was bled on the seventeenth day, then “given a phial of some ‘white liquid, or primitive matter, created by God to render man immortal,’ of which he was to take a certain number of drops up to the thirty-second day.” He was bled again and “he would ‘lose his hair, skin, and teeth,’ but would recover them and find himself in possession of youth and health on the fortieth day – ‘after which he need not, unless he liked, shuffle off the mortal coil for 5557 years.’ ” One can not fail to notice the similarities among these three versions and it seems that the earliest one was that related above by Trowbridge whose source was an anti-Cagliostro satirical piece by the Marquis de Luchet entitled *The Secret of Regeneration or Physical Perfection by which one can attain to the spirituality of 5557 years (Insurance Office of the Great Cagliostro)*.

In conclusion, it may be that the marquis’s late 18th century satire was used, somewhat altered and jumbled, against Cagliostro by the Inquisition. And sometime before the end of the 19th century, this ridiculous procedure, apparently somewhat altered and jumbled again, had also been attributed to the Zionitic Brotherhood, presumably by their enemies. Nonetheless, the brotherhood evidently did believe in some secret, convoluted, rigorous method for producing physical regeneration, albeit surely not like the forty day procedure ascribed to them above. Also, although Cagliostro clearly was an alchemical charlatan extraordinaire, he presumably never promoted a method for complete physical rejuvenation like what was described by the marquis or attributed to him by the Inquisition.

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Count Alessandro di Cagliostro

(June 2, 1743 - August 26, 1795)



Count Cagliostro was a traveler, occultist and Freemason. He claimed to have been born in Malta of noble Christian parents. In reality, Cagliostro, whose real name was Guiseppe Balsamo, was indeed born of Christian parents in Palarmo, Sicily but they were poor with no claims to nobility.

Cagliostro was a petty thief as a young man but did acquire some fame in Naples and Rome. He claimed to have traveled as a child to Medina, Mecca, and Cairo, and upon return to Malta to have been initiated into the Sovereign Military Order of the Knights of Malta, with whom he studied alchemy, the Kabbalah and magic. He founded the Egyptian Rite of Freemasonry in The Hague.

Cagliostro traveled throughout Russia, Germany, and later France, spreading the influence of the Egyptian Rite and also claiming to be a magnetic healer of great power. His fame grew to the point that he was even recommended as a physician to **Benjamin Franklin** during a stay in Paris.

On December 27, 1789, he was arrested and imprisoned in the Castel Sant'Angelo. Soon afterwards he was sentenced to death on the charge of being a Mason. The Pope changed his sentence, however, to life imprisonment in the Castel Sant'Angelo. After attempting to escape he was relocated to the Fortress of San Leo. He died on August 26, 1795.

To Question Authority: When, How, and Why?

By Paul Schlueter III

Perhaps it's important to state, first, that I was a child of the '60s, and a teen of the '70s.

Though raised in the conservative Midwest, I grew up in college towns, and the counter cultural ideas of that time were frequently discussed. Among those ideas was "Question Authority," which pretty much applied to anybody who was part of what we called "the Establishment". The authority my generation (I am among the youngest of the Baby Boomers) saw fit to question was made up of parents, teachers, school administrators, Police, civil authorities, and of course, anybody in the military above the rank of Corporal. What I understood the imperative to mean (and I was far from alone in this understanding) was not just to question the authorities, but to distrust their answers and motives, to discount their positions a priori, to rebel against whatever the authorities wanted, and to find "new" ways to do just about everything in life, all on our own. Our rule (written by our older brothers and sisters, and handed down to us as a new sort of gospel that we never thought to question) was "Never trust anyone over thirty." Looking back, with the age of fifty looming rather close in my own life, I like to think that I've become a little better at thinking things through, and a little wiser about whose authority to follow.

The imperative to "Question Authority" is among those which I've gradually altered. I've never quite abandoned the idea, because in many ways it remains a crucial aspect of reasoned thinking. I've also learned that it is practically as old a concept as philosophy itself; the earliest philosophers of classical record lived by it, and they were surely the inheritors, rather than the inventors, of the idea. However, simply living a life has taught me that, if you really want to get anything done, SOMEBODY has to take charge. When decisions are debated, the only way to reach a

responsible solution is for someone "in charge" to impose some set of rules, or order, in discriminating between good solutions and poor ones. And, once you've learned the hard lessons of experience, a responsible person probably wants to share the lesson with posterity by writing down the problem, the issues, the solution, and the consequences of that particular choice. In so doing, the author becomes, quite literally, an authority.

So I've learned both that there is good reason to accept the guidance of authority in life, as well as good reason to continue to question that guidance's accuracy or relevance to the issues I have to face. Life has not become easier, but instead much more complex, as I've learned to see many more of the issues and concerns that have a bearing on each decision. And, while I'm inclined to give deference to authorities who have shown judgment that turned out to be sound in the past, I'm aware that they've also made mistakes, held prejudices or motivations that colored their decisions poorly, and made choices that have cost my friends and peers some sacrifice for the benefit of others. I've seen my own peers, in voting on issues according to our democratic process, make as many wrong decisions as right ones, choose for reasons of "image" or "popularity" or misguided faith", and simply "follow the herd off the

cliff." Certainly, there are times when it is necessary to question authority (of whatever sort); the trick is to figure out when, how, and why to do so.

WHEN? -- The simple, cynical answer is, whenever authority has anything to say. But that just leads back to the dogmatic rebellion of my youthful indiscretions, doesn't it? The next temptation is to question authority when its opinion differs from my desire (and, by corollary, to never question authority when it agrees with my opinion.) That's not using

Do not believe in anything simply because you have heard it. Do not believe in anything simply because it is spoken and rumored by many. Do not believe in anything simply because it is found written in your religious books. Do not believe in anything



merely on the authority of your teachers and elders. Do not believe in traditions because they have been handed down for many generations. But after observation and analysis, when you find that anything agrees with reason and is conducive to the good and benefit of one and all, then accept it and live up to it.

- **Buddha** (born circa 565 BC)

rational thinking, though; it's simply a way to exert my own selfish interest, and it's exactly as wrong or right as my fallible opinions might happen to be. While this appears to be one of the most popular interpretations, it simply seeks to impose "the tyranny of numbers" onto civic authority, one of the most notorious drawbacks of the purely democratic voting process. This is a problem because people's opinions are seldom the result of reasoned thought or personal experience, but instead are most usually just imitations of the opinions expressed by the most charismatic and/or popular person the voters have heard recently. Charisma and popularity are not, of course, good qualifications for making important reasoned decisions!

The answer is, like most good answers, a lot more complex. First, if the issue is one you wish to weigh in on, then it's one you have a responsibility to educate yourself about; research the problem, the options, and the likely consequences of the options. As you become aware of the many considerations that figure into the problem, then you can weigh your understanding against what you hear authority saying. ONLY THEN will you really begin to see where that authority is applying previously-established biases, serving hidden agendas, following distorted advice, or making any of dozens of other possible mistakes. So, the time to question authority (whether civic, social, parental, vocational, legal, or textual) is:

- a.) AFTER you've become at least competent in the matter at issue;
- b.) AFTER you've weighed competing options and their consequences;
- c.) AFTER you've determined that the authority's position is in some way flawed or unreasonable.

The question of when may also include matters of CIRCUMSTANCES. It also includes the WHY? First, let's look briefly at why you feel you need to question authority. Is it simply to become a practical hindrance, to impress peers with your courage, or to simply hear your own voice in a public forum? If so, then let's hope you'll quickly outgrow the need for such pointless exercises; not only do they waste everyone else's time, but they serve to diminish your own credibility and respectability, thus weakening whatever clout your voice might have when there is truly need to raise it. The why SHOULD include some need important enough to disrupt proceedings long enough for your question to be heard and addressed. Your purpose should clearly relate to trying to improve some aspect of the issue at hand, whether its fairness, its rationality, or its efficiency. Without some specific improvement, there MIGHT still be value question if it serves to clarify or educate. But if there's no reasonable expectation of causing an improvement or bettering knowledge, simple efficiency demands that casual or inconsequential questions be left unasked.

Also, the circumstances can affect the chances of your question having practical value. If, for instance, you are sim-

ply a nameless face in a large crowd, do you think even the most erudite of questions will be acknowledged? After a series of other questions which may have knocked the authority "off balance" and put him in a defensive mode, does even a perfectly reasonable question have much chance of getting a reasoned response? Are you simply the 99th party to voice a question in a tedious, drawn-out "Town Meeting"? Again, if there's no reasonable expectation of causing an improvement, it's probably best to await some other forum or opportunity when your question could serve a useful purpose.

In conclusion, it is a well-recognized skeptical point that "an appeal to authority" does not make practical sense in debate. It follows, then, that "Questioning authority" might be an important part of skeptical dialogue, and it certainly is... BUT, it is also important for the question to be informed, for it to serve a useful purpose, and for it to be presented in a suitable manner. That leaves us with the question, HOW?

HOW? - If the question is to be given respectful consideration by human authority, so that it may have a useful benefit to the dialogue, then the manner in which it is presented has importance. Shouting and accusation, common in political or philosophical situations, obviously have negative impact on the receptivity authority will have toward the question. Also, the question needs to be articulated well, and related clearly to the topic of discussion, yet it cannot be unduly long or complex, or nobody will be able to follow it. If the situation calls for an extremely complex and subtle question, then the forum should be chosen in such a way that you can write out the question in all its necessary complexity, so that the authority can take the time needed to re-read and study the question thoroughly and give a well-considered response. By all means, have the courage to step up and raise the issues that are important to you. Do not be deterred by the position or importance of the authorities you need to question, but be respectful of the power their positions hold. Know what you're talking about before you speak, pick your battles carefully, and use your best oratorical skills and courtesy. Above all, limit your questions to areas where they have reasonable relevance, importance, and present some opportunity to improve matters or increase knowledge. If the answers are insufficient or unreasonable, follow through appropriately! As a critical thinker, learning to question effectively can be one of the most formidable skills you ever acquire.

In this subject, perhaps more than any other, it is the author's humble wish that he could apply even HALF of his own advice to his own actions. He settles for the observation that the first step toward improvement is recognition, followed by aspiration for growth.

Paul Schlueter III is serving Life in Prison in NE Pennsylvania. His supporters have recently created a website about him. www.jaylbird.org

"GRASPING THE SCIENTIFIC METHOD"

by Paul Schlueter III

Science is truly different from art, music, religion, and other forms of human expression because it has a self-correcting mechanism built into it. If you don't catch the flaws in your theory, the slant in your bias, or the distortion in your preferences, someone else will, usually with great glee and in a public forum, for example, a competing journal! Scientists may be biased, but science itself, for all its flaws, is still the best system ever devised for understanding how the world works. - Michael Shermer, Skeptic, Vol. 14, No. 3, 2008, p. 65

Shermer's statement, wrapping up a book review, is one of the most concise bits I've read recently addressing what it is that makes the Scientific Method a superior way of obtaining knowledge. I think that most "critical thinkers" will tend to agree, largely because we at least grasp something about how science tends to self-correct. Others believe that science is too full of itself, too arrogant, too privileged and entitled; they proclaim that "believing" and "having Faith" are even more effective at determining what is true, and that doctrinal authority should be given preferential consideration.

In my experience, the most vocal opponents of the Scientific Method tend to be those who can't even give it a general description. Many of the anti-science philosophy will not only seek to avoid learning about how science works, but then will offer their ignorance of science as if it were a virtue. There are, however, some who really just didn't catch on during Science classes in school, and who might be receptive to a description of the Scientific Method. For them, and for those of us who have perhaps forgotten some bits, it's worth going over.

First comes the tricky disclaimer part: There is no one, universal "Scientific Method" that everyone uses at all times. There are varieties with subtle distinctions, and others with broad distinctions, necessary to address differing conditions in each field of study. Sometimes law or ethics prohibit pursuing a specific test. And, different standards of proof exist; Mathematic proofs might be purely logical and tightly defined, while proof of a concept in Sociology, rife with complications and exceptions-to-the-norm, might take a wholly different form. Different fields of study, and even different scientists within a field, use specialized variations on the general theme of "the Scientific Method." With that understanding, let's look at the generic steps of the Scientific Method:

1. ASK A QUESTION - It all comes down to this, really. If you don't ask a question, Science has no direction or goal. By asking, you set the system into motion along a path of inquiry.

2. SPECIFY YOUR DEFINITIONS - To ask, "What makes the sun come up?" can turnout to be pretty confusing if you don't describe the phenomenon itself, and your location on the Earth. Almost any other question can be interpreted in multiple ways, too, which can confound the effort to find an answer. One definition leads into mythology, while another leads into philosophy, while another leads into natural physical sciences, etc. If there's no consensus on what you're discussing,

how can you reach answers that can be widely accepted?

3. RESEARCH THE LITERATURE - It's astonishing how many people ignore this step. It's easier to just repeat what you think you remember having heard, rather than finding appropriate books and looking up information in a search that could take hours, weeks, or even months to complete! But, Science is an accumulation of knowledge, built layer-upon-layer over time. In most cases, your question has been asked before, and answers have been proposed, tested, reviewed, improved,

retested, etc. In researching the literature, one gets a sense of how the problem has been approached, of what flaws or biases might have distorted the results, of which technologies have been used to gather evidence, etc. If an answer has been offered, your next step might be to pursue replication, a crucial step in establishing the validity of prior work. If an answer has not yet been reached, seeing previous efforts and their results (positive or negative) is often helpful in planning your own inquiry. It helps you determine where you need to begin, to avoid revisiting dead-ends or procedural pitfalls, and to try to select effective strategies to follow. The Literature is also the primary source of "jargon", specialized terms and definitions which you should learn and use, to avoid confusion. While you can simply accept the answers you find in books, a crucial distinction of the Scientific Method is that such answers are not held to be unchallengeable! If you think you have a new outlook, a new fact, or a new exception, it is your privilege to carry the question to the next step, and try to expand on or correct the current state of knowledge. Scientific literature is neither edict or writ, but just a report on what has come to be known so far, ALWAYS subject to revision if further evidence indicates the need.

4. FORM A HYPOTHESIS - A hypothesis is your best, educated guess as to the answer to your question. It proposes a

Disturbing fact: the first recorded boomerang was used by people in what is now Poland, about 13,000 years before the first Australian boomerang. Early Polish boomerangs were made of mammoth tusk...



Cartoon by Nick D. Kim, <http://www.lab-initio.com>
Used by permission.

solution in terms that are to be tested and confirmed or refuted later. There is sometimes confusion from using the term "theory" instead of hypothesis, as in "it's only a theory". Hypothesis is the more precise term, though it's unlikely that we'll ever get past the popular usage of "theory" which implies "guesswork". Perhaps even the term "guess" would be best of all, for its plain integrity and simplicity. In any case, it is helpful to carefully phrase your hypothesis with both precision and simplicity, so as to only include a single step in solving your question. It is better to thoroughly address and prove each step in reaching your answer, in case an error needs to be tracked down later. The hypothesis also needs to be presented in a format that permits it to be either verified or falsified by testing, since without both possibilities being present, it's most likely that you're simply asserting a presumption based on bias or prejudice.

5. TEST THE HYPOTHESIS - Where possible, a physical

experiment under precisely controlled conditions is the best test; by measuring some physical aspect of your hypothesis under actual, reality-based conditions, you get a good idea of whether or not it is correct. However, it is also crucial to include an experimental "CONTROL", which is a second test run under conditions identical to your experiment, save for one factor which is different. The different factor is the causative factor described by your hypothesis, the main subject of your experiment. A control is crucial because it provides distinction between potential causes for the outcome. If the cause you're testing produces results no different than those obtained when your test cause is NOT being applied, then that's a

strong indication that your test cause isn't really the cause you're looking for. A large portion of results which are subsequently disproved are discovered by using different controls against which to compare the original experiment. If you don't "control for all the alternative potential causes", not only do you fail to clearly answer the question, but you discredit your own competence as a scientist, as well. It should be mentioned that there are so-called "theoretical sciences" which are not easily subjected to physical testing. In these, the testing takes the form of careful application of well-established principles of formal Logic and Reason, to arrive at what will most likely be a reasonably accurate answer. While physical proof is preferable, when it is unavailable, proof established by Reason is the next best thing (again, subject to revision if new facts indicate the need).

6. DOCUMENT YOUR TEST AND ITS RESULTS - Tests are generally temporal events, which may not leave much in the way of "proof" after their completion. Documentation

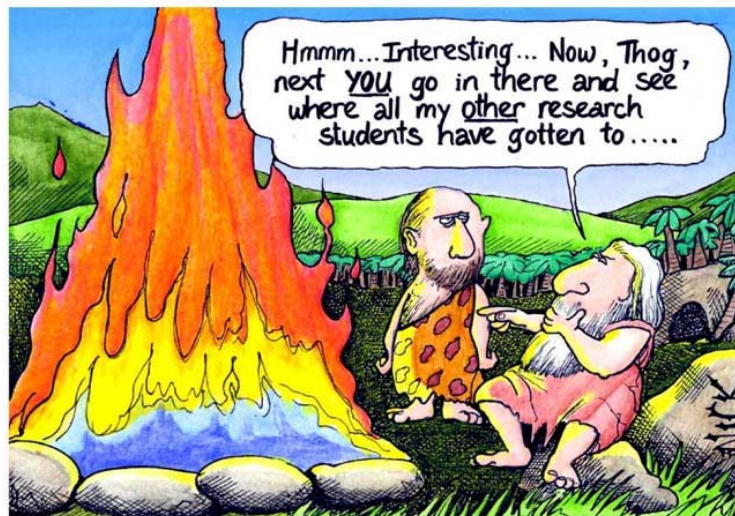
consists of keeping detailed records of your test methodology and results, measured as precisely and delicately as you can manage. Documentation may include film, photos, charts, lists of measurements, recorded verbal notes, or anything else that helps to record what you did, and how it turned out. This process comprises the accumulation of "scientific data". Without such records, the results you claim cannot be reviewed or replicated, and without those, your claims are not entitled to acceptance. If you make a claim, it is your responsibility to provide the proof supporting that claim, in such a manner that others can follow up on your work; without "proof", you have just wasted the effort of carrying out an inquiry. Undocumented claims are simply a lot of hot air, and they carry about that much weight in terms of credibility.

7. PUBLISH YOUR DOCUMENTATION - It serves very few people to pursue scientific inquiry if the results of your inquiry are kept private. Obviously, there are commercial and

political reasons to hold documentation in confidentiality, yet even the most secret of inquiries needs to be published at some point if human knowledge is to progress. Failure to publish your documentation means that nobody else has the chance to review your work, to replicate your findings, or to verify/challenge your results. By seeking out a disinterested party to publish your work, you enhance your credibility and improve the chances that you will be able to obtain funding for future research, but you also accept scientific accountability for the claims you make (not to

mention credit for your discoveries).

8. OBTAIN PEER REVIEW - This is when someone else gets the opportunity to critically evaluate your work. Generally, peer review is sought by the disinterested party (journal or other publication) who actually plans to publish your documentation. Before your paper is accepted for dissemination, the publisher locates and enlists the review of others with expertise in the field of your study. Their job is to give your work a cursory wringing-out, using their informed insight and experience, in search of obvious errors, oversights, biases, etc. Their job is to avoid the potential embarrassment of publishing patently substandard scientific workmanship, and also to begin to point out potential areas for review, further work, or special notice. The criticisms of peer reviewers may be enough to block the publication of your work. This is rarely a case of closed minds protecting established opinion (after all, a valid paper declined by one journal might be published by a competitor later, detracting from the first publisher's credibility!)



Proto-Professor Algarth Zag, pioneer in fire research.

Cartoon by Nick D. Kim, <http://www.lab-initio.com>
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Rather, it is usually an important step in preventing pseudoscience and malarkey from being propagated among the scientific literature, for everyone's benefit. To avoid abuses or jealousies, most publishers enlist multiple peer reviewers, so that several opinions can be considered.

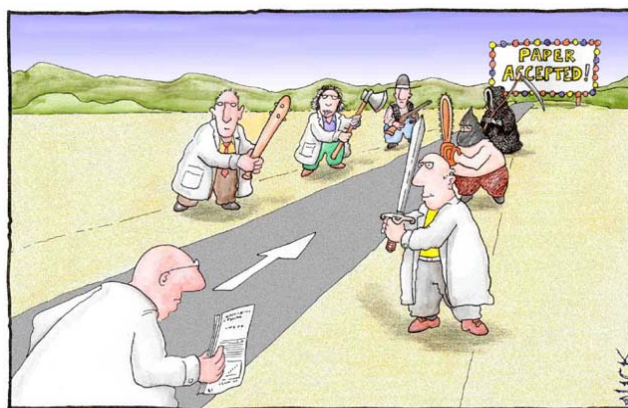
9. REPLICATION - This important step of verifying the results of scientific study is the responsibility of others in the field, preferably people not involved in the initial work. If the initial results cannot be replicated by others, then there's a high probability that there's either some experimental error or an error in the documentation (which is, after all, the "recipe" for replicators to follow). However, once it is established that unrelated parties may replicate the results of an experiment, those results gain immense scientific value, because "predictability" has been demonstrated. In the practical world, knowledge is only really useful when it can be relied on to predict that certain causes will produce a specific outcome. Whatever the specific steps of Scientific Method used, it is the power of its results to accurately and reliably predict cause and effect that benefits the overall body of scientific knowledge. In other words, a hypothesis can only really be considered "proven" when any competent and suitably-provisioned student can follow the published record and reproduce the results for himself.

10. INCORPORATE THE KNOWLEDGE - This is the step when science is carried beyond the lab and the journals that only fellow scientists read, and gets incorporated into the technology, the medicine, the actual lifestyles, and the general education of the rest of the world. It

is during this step that "THEORIES" are created, as proven explanations for a set of observed facts encompassing related phenomenon into cohesive fields of understanding. Sadly, much of the detail behind scientific endeavor is poorly incorporated, and it remains known solely by specialists in particular relevant fields (I, as an audio electronics specialist, know far more about the minutiae of tubes, transistors, transformers, resistors, and capacitors than the vast majority of you would care to hear me drone on about!) It is this poor incorporation of the vast depths of underlying detail (resulting from uncounted layers of development, experimentation, and proof) that leaves the majority of the population relatively ignorant of the sciences today. In fact, one of the dominant issues of great concern to educators today is how to summarize the vast oceans of current scientific knowledge for modern students so that they can grasp the essential validity of the Scientific Method itself, and have "faith" in Science as the most effective means of pursuing reliably predictive and relevant knowledge of the world we live on, and the universe that surrounds us.

11. ADAPTATION TO FURTHER LEARNING - There is

no such thing in science as "the final answer". As we fallible, limited humans continue to learn, we continually come across new facts and exceptions, and to incorporate them into the standing body of scientific knowledge, only to find that they frequently change the things we once thought we knew! It is this crucial aspect of the Scientific Method that separates it from "doctrine" or "dogma", which are immutable and fixed, by definition. It wasn't that long ago when the Earth was "known" to be flat, and at the center of the Universe. It was only very recently when we discovered that people really could fly through the air, and even through the space beyond our finite atmosphere. We now know much more about how germs, viruses, and genetic misprints contribute to physical diseases, and are only now learning that nutrition and the environment really are capable of changing the way in which our cellular machinery reads our DNA blueprint. This is all because we modify what we "know" when we learn more; science alters its understanding to fit the facts, as they are discovered and accepted.



Most scientists regarded the new streamlined peer-review process as 'quite an improvement.'

Cartoon by Nick D. Kim, <http://www.lab-initio.com>
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Those eleven points cover the generic steps of the Scientific Method, if you allow some wiggle room for moderate differences between scientists and fields. Sometimes the method will circle back on itself to an earlier step, and at other times it is possible to combine two steps together without sacrificing much in the way of checks and balances. Over some 500 years of developing these steps, Science has advanced through any number of errors and mis-steps; as we continue to apply the Scientific Method, we learn to do so better, and with greater efficiency, and to disperse the results

ever more usefully. In the last 50 or 100 years, there has been relatively little change in the process of scientific study, though there have been exponential leaps in the progress scientists have made

It is arguable that "general scientists" have disappeared in this world of growing specialty, and the complexity within every sub-field of study, but I propose that such is only the case among the cutting edge of "PROFESSIONAL" scientists. Amateurs, of all levels of education, are quite able to pursue generalized studies in science, tasting the fruits of many different fields, and yet always feeling as if we are on familiar territory. It is to this class of amateur generalists, I think, that MOST of us who pursue Rational Thinking, Reason, and Critical Skepticism belong. I hope that this review of our own grand heritage is useful both as a reminder of how we learn about our world, and as a tool for helping others to understand our way of thinking a little more clearly.

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SYLVIA

by Daniel Glass

On Jun 12th, **Sylvia Browne** came to Philadelphia as part of a "Farewell Tour" (which could not have come soon enough) and a promotion of her latest book. A group of concerned individuals, inspired by similar events in Halifax, Canada, decided to stand outside the venue and distribute envelopes stuffed with information about cold-reading, Sylvia Browne, and why people should not take medical advice from her. The outside of the envelope had instructions not to open it until the holder was in his/her seat. This way, people would accept the envelope and be seated before realizing what it was; the hope was that they'd have time to digest the info before throwing it out.

It was quite the experience. We met an hour and a half before the show, divided up the envelopes, and used a printed floorplan of the Convention Center to split ourselves up among the entrances. Having scoped out the inside earlier, I had discovered the closest we could get to the ballroom where the performance was held was the bottom of the escalators downstairs, as Sylvia Browne's people were taking tickets next to the ballroom entrance. Two of us, including myself, stood at the escalators and four others took back and side doors.

Everything went well for a few minutes. Sylvia's was easy to spot demographically, for the most part consisting of Caucasian women from their mid-20's and up, especially middle-aged ladies in groups of two or more. Many also sported wristbands (blue for the \$50 seats and green for the premium \$100 ones) so they were easily identifiable. People were friendly as we began passing out the envelopes, assuming we were part of her crew. A few were curious as to the contents, but nobody refused the envelope.

It hadn't even been ten minutes when a young woman riding up the escalator decided that the instruction "Please do not open until you have reached your seat" contained too many ambiguities to be complied with, and ripped it open immediately. "Get a real job!" she shouted down at us. I gazed blithely back at her, not wanting to point out that the two of us worked in an Alzheimer's clinic and a nonprofit animal shelter, respectively. I soon realized that other people were tearing open the envelopes immediately so we began verbally reinforcing the directions "Don't open it til you reach your seat. Thank you!" Soon, the originally screamer came back down again and told a couple of women taking the envelopes from us "Don't open it! It's bashing Sylvia." They rolled their eyes at us, but took them anyway when I said "It's just information."

One of our group was taking pictures, acting as lookout, and sending surreptitious text messages. Through her I found out that security had been notified. Some of us were asked to leave, and others did pre-emptively. We stationed ourselves outside the entrance and continued the flyering. One security guard told one of our guys that the police would be notified unless he got off of the premises and stood across the street. Standing outside, it was harder to differentiate the Sylvia people from the other passersby, and we looked less legitimate than we had in-

side. Some audience members were milling around smoking instead of going straight in, making the situation a bit tense. We got some hostile looks and one of Browne's people sweetly warned me that security was going to ask us to leave. I thanked her for her courtesy.

The crowd seemed to thin out well before 7:00, when the show was scheduled to start. Although the ballroom held over 3,000 people, I only saw a couple hundred who were going to see her. Perhaps this was due to my limited vantage point, or (hopefully) she doesn't draw nearly as big of a crowd as we were afraid of. We put some of the extra envelopes under the windshield wipers of parked cars near the Center, and met up again to discuss and go to dinner.

One of us was able to chat up a Sylvia Browne attendee before the show and somehow managed to briefly venture into the heart of darkness without a ticket. He learned that a warning announcement had been made about us, and that the Sylvia people were taking the envelopes from the audience members and tearing them up before they could enter the hall and read them.

On the whole, we distributed maybe 1/3 of the 500 envelopes, although Sylvia Browne's people made sure that fewer of them than that actually were read.



Sylvia Browne is not the only Sylvia in town. If you follow this link on Youtube you will find a 1952 radio performance of a very lovely song entitled "Sylvia" by composer Oley Speaks. <http://www.youtube.com/watch?v=LiOI8WQh3K8> The tenor is Philadelphia's own Mario Lanza.

Hopefully, some of the audience members has their curiosity piqued by what could have possibly been so bad in those envelopes that they needed to have been confiscated and destroyed. A couple crucial differences made this effort a bit more chaotic than I understand the Canadian initiative to be. First of all, the Philly venue was set up so attendees could trickle in person-by-person hours before the show; there was no large group of people waiting for the doors to be opened

as there had been in Halifax. Also, there may be cultural differences in politeness and courtesy between Americans and Canadians; many people acted with hostility, mistrust, or impulsiveness, opening the envelopes immediately.

At the very least, we made our presence known and accomplished something gratifying, which was to rattle Sylvia Browne's team a little bit. At best, some people got the information and read it and it made them think. If, as a result of our effort, even one person at that show decided "You know, I really shouldn't be taking medical advice from this woman," and maybe will even be spared illness or death in the future as a consequence, this entire thing would have been worth it to me.

Daniel Glass grew up in Mississippi and now lives in Philadelphia. He got his Psychology B.A. at University of Pennsylvania 2007 and is currently work at the Penn Memory Center before hopefully going on to get a PhD in Psychology.

The Horned Giants of Bradford County, PA

By Don Nigroni

Long, long ago there were many awfully bizarre creatures on our planet what with pterosaurs, dinosaurs and plesiosaurs about and also, to a lesser extent, more recently considering mammoths and saber-toothed tigers. And there may be a multitude of fantastic beings on distant planets in our own universe or in other universes, dimensions or planes. However, there is no convincing evidence for any such having been here for thousands of years and that includes not only fire-breathing dragons and sea serpents but also giants.

Nonetheless, in *The Holy Bible, According to the Authorized Version* prepared and arranged by Rev. George D'Oyly and Rev. Richard Mant (1839) in Genesis 6, it is written that:

There were giants in the earth in those days; and also after that, when the sons of God came in unto the daughters of men, and they bare *children* to them, the same *became* mighty men which *were* of old, men of renown.

And according to *Weird Pennsylvania* (2005) by Matt Lake, there were giants in Bradford County, Pennsylvania. An expedition in the 1880s made by Dr. G. P. Donehoo, state historian of Pennsylvania, Prof. A. B. Skinner from the American Investigating Museum and Prof. W. K. Morehead from Phillips Academy in Andover, Massachusetts discovered large skeletal remains of humans or creatures that looked almost human. The site was a burial mound near Sayre which is located along the Susquehanna River in Bradford County, Pennsylvania. These giants were seven feet tall and had two inch long protuberances above their eyebrows. However, the evidence was lost after being shipped to Philadelphia and never seen again.

In *Great Unexplained Mysteries: Probing the Unknown* (1989), Ed Manzi and Jim Nettleton stated that in the late 1880s a scientific expedition including Dr. P. G. Donehoo, Professor A. B. Skinner of the American Investigation Museum and Professor W. K. Morehead of the Philips Academy in Andover discovered male skeletal remains which were buried in mounds in around 1200 at Sayre. The skeletons were all over seven feet tall with two horns apiece on their skulls. The remains were shipped to the American Investigation Museum in Philadelphia where they were examined by scientists for months before they disappeared and were never seen again.

And in the story told by Robert R. Lyman Sr. in *For-*

bidden Land: Strange Events in the Black Forest (1971), an expedition made by Dr. G. P. Donehoo, State Historian, Prof. A. B. Skinner from the American Investigating Museum and Prof. W. K. Morehead from the Phillips Andover Academy discovered the skeletal remains of 68 men in an Indian burial mound on the Murray farm at Tioga Point near Sayre. They were thought to have been buried in about 1200. These men averaged seven feet tall with many much taller and some had protuberances located two inches above their foreheads. Some specimens went to the American Investigating Museum but Lyman does not mention what became of them.



First, according to *American Men of Science: A Biographical Directory* edited by J. McKen Cattell and Dean R. Brimhall (1921), Warren K. Moorehead was born in 1866 and Alanson Skinner in 1886, hence, they were surely too young to have been prominent members of such an expedition in the 1880s.

Second, Skinner was associated with the Museum of the American Indian located in New York City, not with an American Investigating or Investigation Museum located in Philadelphia or anywhere else. *American Men of Science: A Biographical Directory* noted that Alanson Skinner was on the scientific staff of the "museum Am. Indian, Heye Foundation" from 1916-20 and was a "co-leader, Susquehanna River exped, 16".

Third, the archeological expedition seeking Indian artifacts and remains referred to in the three above accounts seems to have really been the Susquehanna Archeological Expedition of 1916 which was co-led by Alanson Skinner from the Museum of the American Indian and Warren K. Moorehead of the Phillips Academy. The Rev. G. P. Donehoo, secretary of the Pennsylvania Historical Commission, was a member of this expedition.

Fourth, in Alanson Skinner's brief review of the *Susquehanna Archeological Expedition. Second Report of the Pennsylvania Historical Commission* - Harrisburg, 1918 which appeared in the 1919 issue of the *American Anthropologist*, there was no mention of that expedition finding any giants, with or without horns. And in the July-December 1916 issue of *Science*, we read of "The Susquehanna River Archeological Expedition, in charge of Messrs. W. K. Moorehead, Alanson Skinner and George P. Donehoo" that: Contrary to absurd newspaper reports, none of the skeletons were abnormal, nor were they found in a mound. One of the

burials, of the so-called “bundle” type, was of unusual interest, since it was covered by a deposit of the antlers of the Virginia deer.

Hence, this seemed like a pretty typical paranormal story with any incontrovertible physical evidence conveniently unavailable for scientific scrutiny. However, in researching this story I came across an extensive account of the findings of Indian artifacts and remains in the area in question in *Aboriginal Sites in and Near “Teaoga”, Now Athens, Pennsylvania* by Louise Welles Murray in the 1921 issue of the *American Anthropologist*.

Murray wrote about Site 2 which was her own garden in Athens, just south of Sayre:

But for long years we have wondered if the large skeletons from our own garden and the unwieldy implements found there and on some neighboring sites did not indicate the same race as that described by Capt. John Smith in relating his encounters with the mighty Sasquesahannock in 1608.

The American Indians in question are known by various names such as Andaste and Susquehannock and were evidently considered by the English to be extraordinarily tall. She continued:

The burial sites at Athens, on our own property, have furnished the best known artifacts for the study of the culture of the Andaste, or archaic Iroquois, and are to be found in the museums of the Wyoming Historical and Geological Society at Wilkes-Barre, of the American Indian, Heye Foundation, New York City, and our own of Tioga Point. These include skeletal remains, often indicating men six feet and more in height,¹ ...

And in the footnote, she stated:

¹ *The size of many skeletons found hereabouts has been a matter of wonder for the last thirty years. While no competent specialist has checked them up, the unusual size led us to have a physician who had made a special study of anatomy examine many of the skeletons from Site 2. After measuring these he said, “They must have been seven feet tall.”*

And Murray asked:

... but to whom but mighty men belong the large chipped tomahawk, the unwieldy pestle, and the grooved axe 13 inches long?

At Site 1, “the home of Tioga Point Museum” in Athens: ... were found some very large skeletons, one of which was carefully examined and described as

a man of gigantic size. Judging from the thigh bone, 21 inches long, he must have been seven feet tall. The skull was much larger than usual, very thick, the forehead unusually receding and the top flattened. The jaws were extremely strong, full of large perfect teeth. Altogether the remains seemed to be those of a brutal and very powerful giant.

Using a rough calculation for determining the height of people from the length of their femur and without adjusting for race or gender, I multiplied 21 inches by 2.6 to get 54.6 inches and then added 25.59 inches to get 80.19 inches, thereby guessing that someone with a 21 inch long femur would be around 6 feet 8 inches tall!

Murray stated:

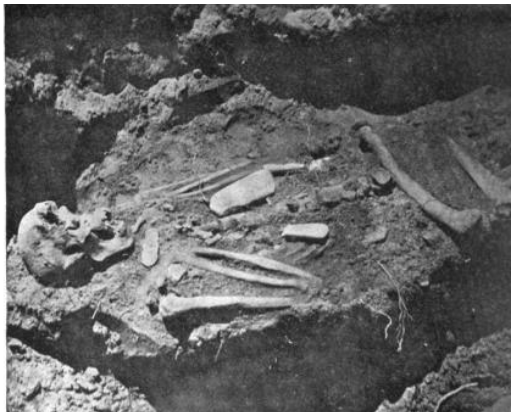
Although most of the bones crumbled, the femur above mentioned, together with the jaw and teeth, are in the Museum ...

And Murray’s article explained how the story about the horns came to be when the Susquehanna Archaeological Expedition of 1916 was excavating in the area:

While the writer was present one of the men in working a grave exclaimed, “There are horns over his head!” Mr. Skinner said that indicated chieftainship. Later this was found to be a bundle burial, completely covered with antlers of Virginia deer. A passing visitor, however, heard the exclamation and attempted to verify it by interrogating a fun-loving Maine workman, and the story grew and was printed from coast to coast that one or more skulls had been found with horns growing from the forehead!

In addition, in an early 17th century work entitled *The Historie of Travaile into Virginia Britannia* which was “gathered and observed as well by those who went first thither as collected by” William Strachey, we have an account evidently from Captain John Smith of Pocahontas fame concerning the size of the Susquehannocks encountered near the mouth of the Susquehanna River:

... sixty of the Sasquesahanougs came to the discoverers with skynns, bowes, arrowes, targetts, swords, beades, and tobacco-pipes for presents. Such great and well-proportioned men are seldome seene, for they seemed like giants to the English, -- yea, and to the neighbours, -- yett seemed of an honest and simple disposicion, with much adoe restrayned from adoring the discoverers as gods. These are the most straung people of all those cuntryes, both in language and attire; for their language yt may well beseeme their proportions, sounding from them as yt were a great voice in a vault



Andoste grave in the Murray garden; skeleton now in Tioga Point Museum

or cave, as an eccoe...

Of their large implements, we read that:
... his tobacco-pipe three quarters of a yard long, prittely carved with a bird, a deare, or with some such devise, at the great end, sufficient to beat out the braynes of an horse. Likewise their bowes, and arrowes, and clubbs, are sutable to their greatnes...

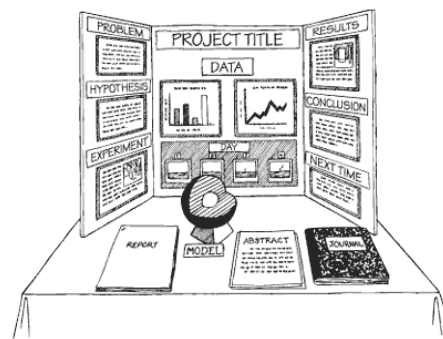
And there is a description of one of them such that:
... the calf of whose leg was three quarters of a yard about, and all the rest of his lymes so answerable to that proportion, that he seemed the goodliest man they ever sawe ...

In conclusion, it seems that while the Susquehanna Archaeological Expedition of 1916 found no unusually large skeletal remains in this area, others apparently already had. The confusion caused by the deer antlers found in a grave by the expedition apparently became conflated with the apparently large skeletal remains that had already been found in that area to produce the story of the horned giants. When the English came into contact with the Susquehannocks in the early 1600s, they apparently considered them to be very tall people with unusually large implements, albeit without horns growing out of their heads. And while a 13 inch long axe doesn't seem all that impressive to me, many of the other artifacts that were found were also said to be abnormally big. Also, accompanying Murray's article is the photograph of a "skeleton of a man six feet or more tall" with the front of his skull evidentially crushed by the weight of stones that had been placed above his corpse. This skeleton was found in her garden in the 1880s and given to the Tioga Point Museum. Since these allegedly large skeletal remains and implements should be at some upstate museums with some on display, this should be a scientifically testable case where we could determine if there is any incontrovertible physical evidence for these at least somewhat curious claims.

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High School/Middle School Science Fair

In the May/June 2009 Phactum Eric Krieg reported that on March 17th he had participated as a judge at the Delaware Valley Science Fair held at Delaware Valley College in Doylestown, PA. Students participating were in middle school and high school. A month before that date a few PhACT members chipped in and created a \$100 prize to be dispensed by Eric to some student(s) who in his judgment were outstanding in their efforts and appreciation of science.



This is an activity perfectly suitable for a small science oriented band of skeptics and we would therefore like to do this again on a somewhat grander scale of three \$100 prizes instead of just one. We are soliciting small donations from members and others to fund these cash awards. Money collected will go into the PhACT treasury earmarked for use ONLY for prizes in the 2010 Delaware Valley Science Fair. Our goal for this event is to raise \$300 and contributions after the target amount is received will be returned to the contributor.

Fund raising status will be reported in each Phactum from now until the event. We already have received a check for \$25.00.

Eric would like to recruit some other PhACT folks to be judges at this event. It would be fun and perhaps you will get to know the kid with the first tractor-beam in your neighborhood. If things go according to plan perhaps we can increase the prize pool in 2011 or even participate in a similar event at another location.

Eric may be contacted at: erickrieg@verizon.net

Science can be introduced to children well or poorly. If poorly, children can be turned away from science; they can develop a lifelong antipathy; they will be in a far worse condition than if they had never been introduced to science at all.

Isaac Asimov (1920 - 1992)

Gehennical Fire

By Ray Haupt

Gehenna is a new word to me, perhaps because it can be found in the Old Testament as the name for Hell but surely. Gehennical Fire or Hell Fire, are perfectly apt descriptions of an atomic bomb blast as is melodramatically shown on the cover page.

In the May/June 2009 edition of *Phactum* an article by Don Nigroni entitled "**Benjamin Franklin and the Philosopher's Stone**" referred to a 17th century American alchemist named George Starkey who had achieved greater fame under his pen name, Eirenaes Philalethes, than his own. When performing an internet search on this topic it did not take long to discover William R. Newman, a professor of history and philosophy of science at Indiana University, who in 1994 had written a book entitled "**Gehennical Fire: The Lives of George Starkey, an American Alchemist in the Scientific Revolution**". Professor Newman very kindly sent me a copy of that book which I confess has been skimmed but not yet been read. My interest in alchemy has been piqued however, and it is abundantly clear that there is much more to this ancient science than is readily apparent and it makes me wonder: does alchemy linger on masked in more respectable branches of scientific endeavour? I think it clearly does.

Much of the ancient art of alchemy centered on devising "elixirs of life" and transmutation of base metal into gold. Needless to say, those attempts failed but today scientists are essentially doing the same things. During Starkey's epoch chemists could compound many things but they did not have a good understanding of what was really happening chemically. The Periodic Table of the Elements did not exist until 1869 when it was introduced by Russian scientist Dmitri Ivanovich Mendeleev (1834-1907). The periodic table at that time had 56 elements listed, and although substances such as mercury, gold, lead, and tin had been known for thousands of years, they were not recognized as elements. In 1669 a German alchemist named Henning Brand who, while boiling concentrated urine, observed a precipitant that turned out to be phosphorus, the first substance scientifically recognized as an element. Starkey, by the way, had died in 1665.

In 1774 English chemist Joseph Priestly discovered a gas that he called "dephlogisticated air". To us that substance is known as oxygen but it was not until some years after Priestly's death in 1804 that oxygen was recognized as an element.

And scientific moves onwards. Alchemy has transmuted into modern medicine where "elixirs of life" such as penicillin and MMR vaccines are being developed. Chemists and physicists can transmute one substance into another. Gone are incantations and urine boiling but one can easily imagine physicists muttering $E = MC^2$ as they go about their business of turning on Hadron Particle Colliders.

Albert Einstein had famously written to President Franklin

D. Roosevelt informing him that a fission bomb could be built. It was devised and in the process of detonation heavy elements, by subjected to Gehennical Fire were transmuted into lighter ones. At the other end of the periodic table the lightest element, hydrogen, was fused into heavier ones using an even more Hellish Fire.

Bombs are not a very satisfactory way of creating things, but the knowledge of the new alchemists is usefully being employed in other ways, such as electrical power production and advanced medical imaging devices, for the betterment of mankind.

As to the incantations, perhaps we can persuade the Delaware Valley Opera Company to sing the Second Law of Thermodynamics, or better yet "The Elixir of Love"!

Gehennical Fire:

The Lives of George Starkey, an American Alchemist in the Scientific Revolution

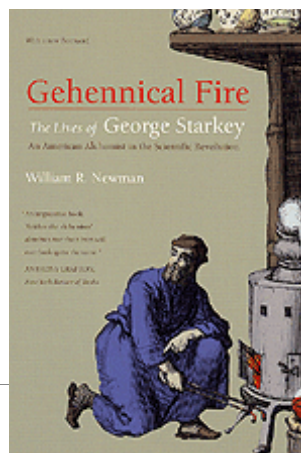
By William R. Newman

University of Chicago Press

390 pages \$35.00

ISBN: 9780226577142 Published February 2003

Both the quest for natural knowledge and the aspiration to alchemical wisdom



played crucial roles in the Scientific Revolution, as William R. Newman demonstrates in this fascinating book about George Starkey (1628-1665), America's first famous scientist. Beginning with Starkey's unusual education in colonial New England, Newman traces out his many interconnected careers—natural philosopher, alchemist, chemist, medical practitioner, economic projector, and creator of the fabulous adept, "Eirenaeus Philalethes." Newman reveals the profound impact Starkey had on the work of Isaac Newton, Robert Boyle, Samuel Hartlib, and other key thinkers in the realm of early modern science.

Nothing is more difficult than competing with a myth.

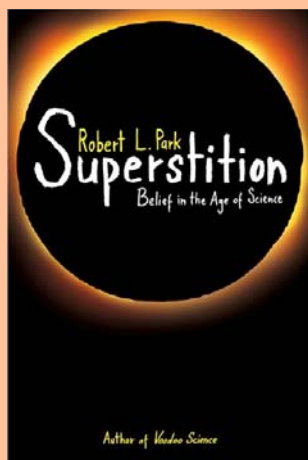
- Françoise Giroud

Superstition: Belief in the Age of Science

by Robert L. Park

Princeton University Press October 2008
ISBN-13: 9780691133553
Hardcover 240 pages \$24.95

From uttering a prayer before boarding a plane, to exploring past lives through hypnosis, has superstition become pervasive in contemporary culture? Robert Park, the best-selling



author of *Voodoo Science*, argues that it has. In *Superstition*, Park asks why people persist in superstitious convictions long after science has shown them to be ill-founded. He takes on supernatural beliefs from religion and the afterlife to New Age spiritualism and faith-based medical claims. He examines recent controversies and concludes that science is the only way we have of understanding the world.

Park sides with the forces of reason in a world of continuing and, he fears, increasing superstition. Chapter by chapter, he explains how people too easily mistake pseudoscience for science. He discusses parapsychology, homeopathy, and acupuncture; he questions the existence of souls, the foundations of intelligent design, and the power of prayer; he asks for evidence of reincarnation and astral projections; and he challenges the idea of heaven. Throughout, he demonstrates how people's blind faith, and their confidence in suspect phenomena and remedies, are manipulated for political ends. Park shows that science prevails when people stop fooling themselves.

Compelling and precise, *Superstition* takes no hostages in its quest to provoke. In shedding light on some very sensitive—and Park would say scientifically dubious—issues, the book is sure to spark discussion and controversy.

Collider: The Search for the World's Smallest Particles

by Paul Halpern

Hardcover 272 pages August 2009
ISBN: 978-0-470-28620-3

An accessible look at the hottest topic in physics and the experiment that will transform our understanding of the universe.

Understanding what our universe is physically made of is one of the oldest and most researched scientific quandaries to date. In the spring of 2009, the Large Hadron Collider will begin smashing particles to deconstruct matter to its smallest pieces and test the existence of the elusive and theoretical Higgs boson—a.k.a. the God particle—among other experiments. The results could confirm or disprove what we supposedly know about quarks, string theory, dark matter, dark energy, and the fundamental tenets of modern physics. Paul Halpern explains what scientists are searching for and why particle physics could well be on the verge of some of its greatest breakthroughs.

Paul Halpern, PhD (Philadelphia, PA), is Professor of Physics and Mathematics at the University of the Sciences in Philadelphia. He is the author of numerous books, including *The Great Beyond* (ISBN: 978-0-471-46595-9) and *What's Science Ever Done For Us?* (ISBN: 978-0-470-11460-5).

Books may be ordered online at:

<http://www.wiley.com/WileyCDA/WileyTitle/productCd-0470286202.html>



CHRIS MADDEN
www.chrismadden.co.uk

Cartoon by Chris Madden
<http://www.chrismadden.co.uk/moon/jigsaw.html>
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May 2009 Meeting Report

By Becky Strickland

The excellent science writer and local journalist, Faye Flam, was the speaker for our annual end of year luncheon on May 16th, discussing her column in the Philadelphia Inquirer and her book, published last summer.

Faye had been a science reporter for the Inquirer for 10 years when a new editor suggested she write a column on sex. Believing there are no irresponsible topics, that anything can be covered in a responsible way, she began Carnal Knowledge, a weekly column. The column always received a lot of reader attention and letters. Approximately 1/3 of readers liked the topics, 1/3 thought they were too pornographic and 1/3 thought they were not pornographic enough.


Carnal Knowledge led to writing a book on the history of sex - **The Score: How the Quest for Sex has Changed the Modern Man**. Procrastinating (I didn't know professional writers did that!!!), with **The Game**, a book she'd been sent to review, gave her the opening for her own book. The Game tells men how to pick up women and have sex with them within 7 (nonconsecutive) hours. Faye attended the author's "Seduction Boot Camp" and weaves that experience in with much more scientific information on the origin and evolution of sex. (For those who are concerned that this boot camp has unleashed a gang of predators on unsuspecting women, Faye said it appeared most of the men were simply hoping to improve their social skills.) Have you ever wondered why there are 2 genders instead of 3, or 100? Why men and women view sex (and pornography) so differently? What one might see in a penis museum? Whether homosexuality and transsexualism exist in the animal world? What animals have corkscrew shaped penises and why? It's all here in **The Score**.

The Score was just released in paperback with a different subtitle - **The Science of the Male Sex Drive** - and a slightly different cover. The ladder on the hardback edition has been replaced with a DNA strand to give readers a clue as to the scientific nature of the book.

In her columns and her book, Faye always makes complicated science accessible and enjoyable.

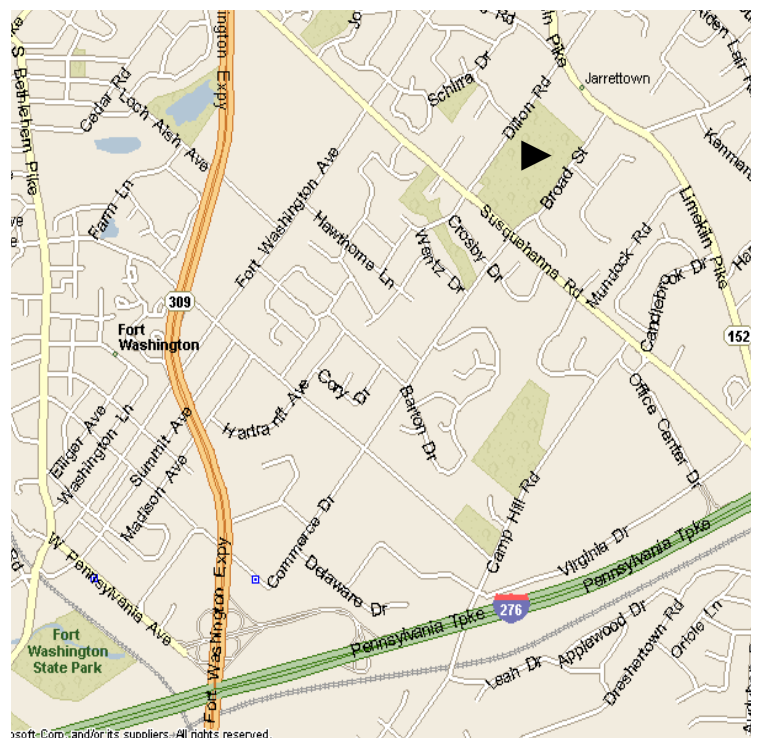


The **PhACT Annual Picnic** will be on **Sunday, July 19, 2007** from 1:00 to 5:00 PM at Mondauk Commons Park in Upper Dublin off Broad Street in Upper Dublin.

There is plenty of parking. The  on the map is roughly at the location of the pavilion we will be using. If your body and soul gets lost call Eric on his cell



phone: 215 667-1151. Bring food and beverages if you wish. The local ant colony will appreciate the handout. There are fireplaces for grilling, and the pavilion will provide sun shelter and hopefully not rain shelter. If you are a musician, bring your guitar or bongo drum. Some folks are likely to throw a ball around.



I support the aims of PhACT and would like to join/rejoin for the next year. The annual membership is \$15 and \$10 for students which includes e-mail delivery of Phactum.

If you wish **US Mail delivery annual membership is \$25.** Checks should be payable to **PhACT.**

Membership dues of \$ _____ enclosed to pay for _____ years of membership.

Donation of \$ _____ enclosed for additional support

Donation of \$ _____ dedicated for High School Science Fair prizes

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The Philadelphia Association for Critical Thinking is grateful for the hospitality extended by Community College of Philadelphia and especially Dr. David Cattell, Chair of the Physics Department, for hosting PhACT and giving us access to such excellent facilities. Part of CCP's mission is to serve Philadelphia as a premiere learning institution and PhACT is pleased to support this goal by having talks on wide ranging, engaging, and educational topics.

Phactum is, in theory, distributed 6 times a year and is the main propaganda organ for the Philadelphia Association for Critical Thinking.

If you are not a supporting member/subscriber we invite you to become one. \$15 for a one year membership to PhACT with email Phactum subscription. \$25 for US Mail subscription. \$10 for students, email only. Donations are welcome.

Send letters of rebuttal, ideas, short essays, poetry, opinion pieces, complaints, and lavish praise to Ray Haupt, Phactum editor, at phactpublicity@aol.com.

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Contact the editor, Ray Haupt, at phactpublicity@aol.com

PhACT's High School Science Fair 2010 Prize Fund.

1 contribution in June - \$25.00

Total collected so far: \$25.00 / Goal = \$300.00

Please donate. Small contributions are preferred and donations in excess of the 2010 goal will be applied to the 2011 Prize fund or some other youth science education project not yet determined.

ALL money collected for this project will be used for student prizes. PhACT members and others are invited to participate as judges. Contact Eric Krieg for more information: erickrieg@verizon.net

The PhACT Council 2009

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