

**It is not equal time the creationists want. ... Don't kid yourself. They want all the time there is.**

**- Isaac Asimov**

# *Phactum*

**The Newsletter and Propaganda Organ of the  
Philadelphia Association for Critical Thinking  
April/May/June 2016**

**editor: Ray Haupt email: [phactpublicity@aol.com](mailto:phactpublicity@aol.com)**

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## ***Shark Attack in New Jersey***

A century ago, on July 1, 1916, a young man was ocean bathing at Beach Haven, New Jersey. He was attacked by a shark and was brought to shore by a life guard, but unfortunately all first aid procedures failed and the young man, Charles E. Vansant, died from his severe wounds. This event was considered to be a freak occurrence and summer life continued.

Five days later and forty five miles north another young man was swimming and screamed to companions that he was attacked by a shark. Both legs were severed and the young man died. People became concerned at this point and the summer tourist season was beginning to fail.

A few days later on July 12 and about 30 miles further north, a retired fishing captain was crossing a bridge across Matawan Creek, a brackish water stream eleven miles inland, when he spotted what appeared to be a large shark swimming upstream. He reported this sighting but his account was dismissed, this being a small stream and far from the ocean. On that day a young boy aged 11, Lester Stillwell, was swimming with two friends when he was attacked. The other boys ran to town seeking help. When rescuers arrived and entered the water one of the men, Stanley Fischer, spied Lester's body and while attempting to retrieve it was also attacked. Stanley died a few hours later in the hospital.

Sadly, the carnage had not ended as the shark had reversed direction now heading back toward the ocean when an hour later 12 year old Joseph Dunn was attacked. Joseph did manage to



**Searchers at Matawan Creek, July 1916**  
<http://weirdnj.com/stories/matawan-man-eater/>

escape but had lost a leg in the encounter.

Local residents were outraged and vowed vengeance upon the monster. Some citizens obtained dynamite and set it off in an attempt to destroy the shark. It was to no avail.

Meanwhile, a vigorous shark hunt occurred along the New Jersey shore resulting in extensive carnage of sharks of all species. Not long thereafter a fisherman did capture and kill an eight and a half foot long Great White shark which upon dissection was said to contain fifteen pounds of human remains.

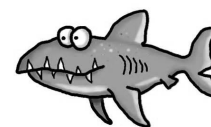
Modern scientists question that the culprit shark was a Great White, many thinking that a pugnacious Bull shark was a more likely perpetrator as they are known to enter brackish water and have often been implicated in attacks upon humans.

There is some speculation that the shark attacks of 1916 were the inspiration for Peter Benchley's novel *Jaws* in 1974 and the subsequent movie of the same name directed by Stephen Spielberg in 1975. That movie kept a lot of people from ocean bathing for quite some time and no doubt the incidents in 1916 cause some considerable apprehension among bathers in New Jersey for the remainder of that summer.

Read more: <http://weirdnj.com/stories/matawan-man-eater>  
<http://www.dailymail.co.uk/news/article-2187103/Jaws-The-1916-shark-attacks-Jersey-coast-inspiration-film>

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Have a great summer at the shore and enjoy the beach!!



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## *Phactum's* Roster of I.R.E. (Infamous Rational Errors)

*Phactum* contributor Paul Schlueter III has accumulated over time a vocabulary listing of many of the egregious flaws of thinking, devious tactics of argument, and some pretty cool Latin phrases that might sound impressive used at a social gathering. This listing is nowhere near complete, but has been made into a pamphlet that is available free and only at PhACT Meetings. It is a handy little reference booklet that writers of philosophic and political nature might profitably keep by their typewriter.

Meeting attendees are invited to take one and are invited to participate in expanding the listing in the next edition as it is intended to be a collaborative project. Definitions and examples should be short and to the point and may be submitted to the *Phactum* editor at: [phactpublicity@aol.com](mailto:phactpublicity@aol.com)

**New entry: SOLECISM** - A nonstandard usage of terminology or grammatical construction which leads to a deliberate miscommunication or error. Example: "Evolution is only a theory." By misapplying the term "theory" in its non-scientific popular context, the user implies that the "theory = guess" meaning is more appropriate than the "theory = encompassing explanation" meaning, thus falsifying the actual meaning intended by the phrase, "The Theory of Evolution."

# UPCOMING PHACT EVENTS

**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. Parking is easily available and costs \$4.00 for all day. Enter the college parking garage on 17th Street which is one way south bound. It opens at 1:00 PM and closes at 6:00 PM. This meeting site is handicap accessible. **PhACT Meetings are Free and open to the public unless otherwise noted.**



Lectures are generally at Community College of Philadelphia in Lecture Room C2-28 in the Center for Business and Industry at the corner of 18th and Callowhill Streets, at 2:00 PM, unless otherwise noted.

**Saturday, April 16, 2016 - In Lecture Room C2-28 in the Center for Business and Industry at the corner of 18th and Callowhill Streets.**

**Dr. Thomas Delworth will discuss:**

**“Global Warming and climate change - where are we now”?**

In this talk Dr. Delworth will synthesize our current understanding of global warming and climate change, and highlight some of the most recent research findings. The planet continues to warm, with 2015 being the warmest year on record. Arctic sea ice continues its long term downward trend, and sea level continues to rise. In this talk, we will discuss the warming observed over the last 50 years, including the so-called recent “hiatus in global warming”, the fate of Arctic sea ice, hurricanes and global warming, ice sheets and sea level rise, and other climate extremes such as droughts and heat waves. We will also discuss leading uncertainties in our projections of future climate change, and key pathways to reduce those uncertainties.

**MCHUMOR.com** by T. McCracken



“I for one don't care about carbon emissions. I wish we went back to using a diesel powered engine.”

Cartoon by T. McCracken  
<http://www.mchumor.com/>  
 Used by Permission

Dr. Thomas Delworth earned his PhD from the University of Wisconsin. He is a Physical Scientist at GFDL/NOAA in Princeton, New Jersey, where he uses climate models and observations to study decadal to centennial scale climate variability and change. His research foci include the role of the ocean in the climate system, and decadal scale changes in hydroclimate including drought. He is a Fellow of the American Meteorological Society, and also teaches at Princeton University in the Atmospheric and Oceanic Sciences Program.

See: “**Some Thoughts and Observations on the Matter of Climate Change**” by Dr. David Cragin on page 23

(Continued on page 4)



## Saturday, May 21, 2016 - PhACT Expedition to Haycock Mountain

In the 19<sup>th</sup> and early 20<sup>th</sup> centuries there were countless peculiar articles about American wild men, reportedly hairy, man-like beings, in newspapers across the country. It was once believed that civilized people who went into the wilderness to live might revert to an animalistic state and grow a coat of fur all over their bodies. And, in the early 20<sup>th</sup> century, one of these feral men was thought to be haunting 980 foot high Haycock Mountain in Upper Bucks County.

Our guide, Don Nigrone, will relate the legend of the **Wild Man of Haycock Mountain**. Robb Kerr and Jeff Cooney will be providing zoological and botanical information about this Piedmont site, which overlooks scenic 1,450-acre Lake Nockamixon, and professional photographer Ned Levi will be photo-documenting the day's activities. We will meet at the Nockamixon State Park boat rental concession (<http://www.dcnr.state.pa.us/stateparks/findapark/nockamixon/>) at 10:00 AM. Then we will caravan to nearby Haycock Mountain where one search party will ascend the hill, a steep and difficult climb requiring some bouldering, while a second search party will proceed along an old logging road at its base, a flat and easy walk. After a noon lunch at the picnic tables by the boat rental concession, participants can take a short drive caravanning past the nearby mysterious Rosicrucian pyramids, stop at the historic Levi Sheard Mill, a grist mill dating back to at least 1798, and drive over the 130 foot long picturesque Sheard's Mill Covered Bridge (1873). Also, the Nockamixon State Park boat rental concession (<http://www.nockamixonboatrental.com/>) provides kayaks and pontoon boats with a five person capacity for those interested in boating on the lake.

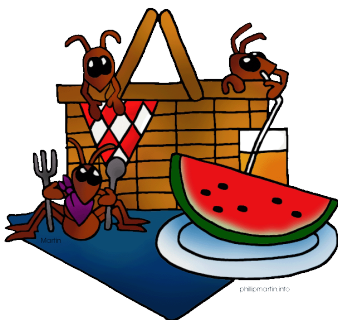


Mysterious Rosicrucian pyramid.

Although we may not find the Wild Man of Haycock Mountain, we will learn about his legend and inspect his wild habitat. Bring insect repellent, sturdy shoes, lunch, and a camera. The event is free and open to the public. Feel free to join us for any or all of these activities.

## Sunday, July 31, 2016 at 11am PhACT picnic and book trade at Mondauk Common park.

The PhACT annual picnic will be at our usual spot at the pavilion in the woods at Mondauk Common Park in Upper Dublin, PA. Bring food to eat, (a grill will be available), bring things to throw and books to trade. From the turnpike go on Rt 309 north, get off at the Susquehanna road exit, turn right at end of the ramp. Make a left on Broad Street at the 3rd traffic light and take the 2nd left into a park parking lot. We will be about 80m ahead just over the little bridge. This event is free and open to anyone who wishes to attend.



(Continued on page 5)



**Saturday, September 17, 2016 - In Lecture Room C2-28 in the Center for Business and Industry at the corner of 18th and Callowhill Streets.**  
**Dr. Rob Brotherton will discuss:**

## **The Psychology of Conspiracy Theories**

"Why do people believe conspiracy theories? What's the harm if they do? And just what is a conspiracy theory, anyway? Rob Brotherton provides a psychological perspective on conspiracism. Recent research into cognitive biases and heuristics - quirks in the way our brains are wired - suggests that we're all intuitive conspiracy theorists; some of us just hide it better than others.

Rob Brotherton is an academic psychologist and science writer who likes to walk on the weird side of psychology. Rob completed a PhD on the psychology of conspiracy theories with the Anomalistic Psychology Research Unit at Goldsmiths, University of London. He now lives in New York City and teaches classes on conspiracy theories and science communication at Barnard College. "

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### **Suspicious Minds: Why We Believe Conspiracy Theories by Rob Brotherton**

**Publisher: Bloomsbury Sigma (19 Nov. 2015)**

**Hardcover: 304 pages**

**ISBN-10: 1472915615 ISBN-13: 978-1472915610**

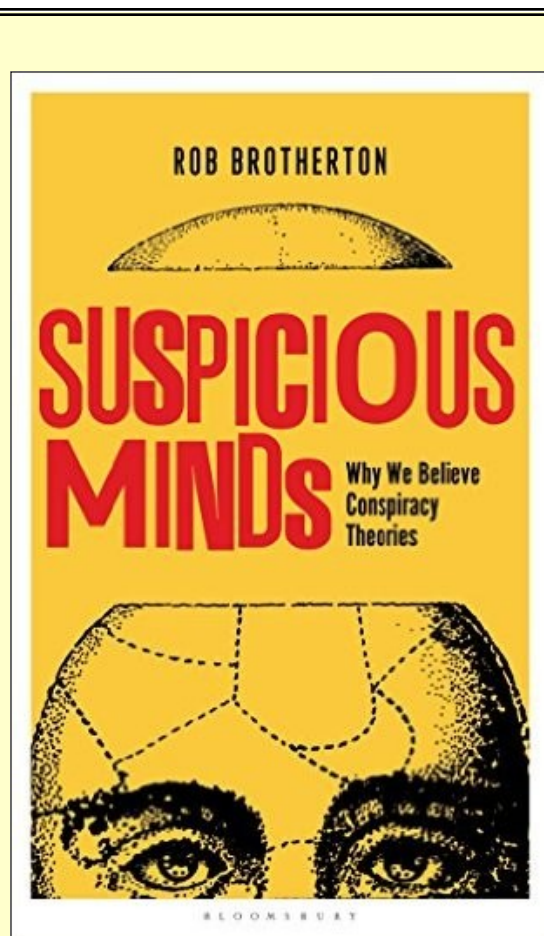
**We're all conspiracy theorists. Some of us just hide it better than others.**

Conspiracy theorists do not wear tin-foil hats (for the most part). They are not just a few kooks lurking on the paranoid fringes of society with bizarre ideas about shape-shifting reptilian aliens running society in secret. They walk among us. They are us.

Everyone loves a good conspiracy. Yet conspiracy theories are not a recent invention. And they are not always a harmless curiosity. In *Suspicious Minds*, Rob Brotherton explores the history and consequences of conspiracism, and delves into the research that offers insights into why so many of us are drawn to implausible, unproven and unproveable conspiracy theories. They resonate with some of our brain's built-in quirks and foibles, and tap into some of our deepest desires, fears, and assumptions about the world.

The fascinating and often surprising psychology of conspiracy theories tells us a lot - not just why we are drawn to theories about sinister schemes, but about how our minds are wired and, indeed, why we believe anything at all. Conspiracy theories are not some psychological aberration - they're a predictable product of how brains work. This book will tell you why, and what it means.

**Of course, just because your brain's biased doesn't always mean you're wrong. Sometimes conspiracies are real. Sometimes, paranoia is prudent.**



# Letters to the Editor

Letters to the Editor are encouraged.  
Send to [PhACTPublicity@aol.com](mailto:PhACTPublicity@aol.com)

**Editor:** Re: Jan./Feb./March 2016 *Phactum*: You dissed the Kardashian Sisters. I object, specifically as it relates to Kim Kardashian. I used to think she was just one of those people famous for being famous, but then she successfully sprang a canary trap. Wikipedia defines "canary trap" thusly: "a method for exposing an information leak by giving different versions of a sensitive document to each of several suspects and seeing which version gets leaked." Ms. Kardashian gave different personal baby photos to different friends and saw which ones became public. You go girl!

"Canary trap", together with "No matter how the bologna is sliced, it's still...", reminds me of a "salami scheme". That's where you steal a very little amount of money from each of a very large number of people. See <http://www.snopes.com/business/bank/salami.asp>.

I've got a better Sherlock Holmes story than the "Element tree" tale: Modern-day Sherlock Holmes and Dr. Watson go hiking and camping. They hike for many miles up and down mountains and across fields and streams. (They've been warned that there are grizzly bears in the area, but that doesn't scare Holmes. He knows that if a bear attacks, he can just run. He knows he can't outrun the bear, but he doesn't have to. He just has to outrun Watson.) In the evening, they pitch their tent, build a campfire, cook and eat dinner, drink some good Darjeeling tea, sing campfire songs, and go to sleep. In the middle of the night, Holmes nudges Watson awake, and says, "Watson, look up at the stars and tell me what you deduce." Watson says, "I see hundreds of stars. In fact, Sky & Telescope enumerates 9096 stars that are visible from Earth, but that includes some not visible at our latitude or at this

time of the year. But now consider something like the Drake equation. In the entire Universe, there are billions upon billions of stars we can't see. If only a small fraction of them have planets, and only a small fraction of the planets are in the "Goldilocks zone" (the zone in which there can be liquid water, necessary for life), and only a small fraction of those habitable planets actually have life, and intelligent, technologically advanced beings have evolved on only a small fraction of those planets with life, there still must be billions of planets with technologically advanced species in the Universe." Holmes says, "Watson, you idiot. Somebody stole our tent!"

BTW it is (or rather was) BlackLight Power (note the capital "L"), and it's Randell, not Randall, Mills.

Howard J. Wilk  
Philadelphia

**Editor:** I was reading *The Invisible Man* by H. G. Wells and came across the word "ejaculated" in the today-rarely-used sense of "to utter suddenly and briefly; exclaim". A few hours later I was watching an episode of the TV show *Fargo* and State Trooper Solverson, reading a book to his



## Letters to the Editor and other Correspondence are highly valued

for inclusion in *Phactum*. If you have thoughts on some matter why not write down those thoughts and share with other *Phactum* readers? Writing is a great way to hone and refine critical thinking skills. You need not be as contemplative as Augustine.

Articles, poetry, Letters and Rants to the Editor, suggestions to improve *Phactum*, items for the calendar, and other matters of interest are wanted for *Phactum*.

Almost all topics are welcome - no partisan politics please.



young daughter, also spoke the word "ejaculated", also in the non-sexual sense. I don't remember if it was a children's book or not but I do know it wasn't *The Time Machine*.

Believe it or not.

Howard J. Wilk

Philadelphia

Editor: I told the following story to *Our Editor* two years ago. It's considered bad form to praise oneself for one's good deeds, but I think enough time has passed to sufficiently mitigate the dishonor.

I was in line to buy \$15 of lottery tickets. Ahead of me buying groceries was an old man who didn't look too well off and sounded like an immigrant. He was having trouble with his purchase: His cards were expired, he left his money in his jacket and he wasn't sure where his jacket was, etc. So I said, "I'll take care of it." It was \$13 and change.

(Piece of luck: When the man was having trouble paying, I thought I heard \$37, and I was ready to help out with \$37. So I've earned the karma of being willing to give \$37, but it only cost me \$13 and change!)

The store clerk handed me my \$1 bill and change, and said, "Sir, you're blessed." I said, "I'll see how blessed I am" and handed back the \$1 bill to buy a lottery ticket (in addition to the \$15 I had intended to buy).

The ticket hit the jackpot! In another universe. In fact, in an infinite number of other universes. In this universe, nada. Not even one number.

You may remember from the April/May/June 2015 *Phactum* my article "On the Theory of Intelligent Design, etc.", in which, inter alia, there was a battle between God and me to prove His existence, God taking the affirmative position, me the negative. God and I were tied, 1-1. This is a point for me, so I pull ahead, 2-1. The battle continues.

Howard J. Wilk

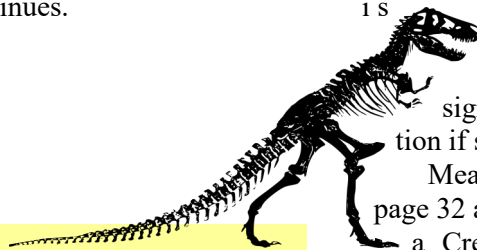
Philadelphia

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## On Quackery

**From powerful causes spring the empiric's gains,  
Man's love of life, his weakness, and his pains;  
These first induce him the vile trash to try,  
Then lend his name, that other men may buy.**

**~ George Crabbe (1754 - 1832),  
English poet, surgeon, and clergyman.**



# Various Ruminations of Woo Woo and Real Science and some Gossip

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

## No S### Department

"One of the ways you learn about life is to associate with people." ~ L. Ron Hubbard

## Tiktaalik Videos

Doreva Belfiore found some Youtube videos about Tiktaalik. Did you know Tiktaalik has his own music video?

<https://www.youtube.com/watch?v=B9h1tR42QYA>

And here in a PBS video Tiktaalik escapes the box.

<https://www.youtube.com/watch?v=T2vKIEUX7DI>

**What a guy, that Tiktaalik!!!**

## Cloning T-Rex

It seems that the Express, a UK media outlet has released a video where the producers claim that useful DNA has been obtained from the remains of a pregnant T-rex.

<http://www.express.co.uk/news/science/653117/Scientists-closer-to-CLONING-T-Rex-after-discovering-remains-of-pregnant-dinosaur>

A fascinating video to be sure, and since the DNA material is only a few thousand years old, according to the producers, skeptics are wrong in thinking that it is unusable. It is likely that most *Phactum* readers think otherwise but it is not a bad thing to listen to opposing viewpoints. We invite Creationists and Intelligent Designers to submit their ideas to *Phactum* for publication if such articles fit in terms of size and lucidity.

Meanwhile be sure to see Linda Blythe's article on page 32 about the **Glendive Dinosaur and Fossil Museum**, a Creation oriented museum of dinosaurs located in Glendive, Montana.

## Dr. Stephen Barrett Reports in Consumer Health Digest ▶▶ Vitamin Advisor Debunked (February 8, 2016)

Puritan's Pride, which is one of the world's leading mail-order marketers of dietary supplements, claims that its "Vitamin Advisor" provides a "personalized supplement plan" with "expert recommendations chosen just for you." The "experts" are not identified, but the program is licensed from Healthnotes, a company that markets "decision tools" that promote product sales. The Healthnotes Web site describes the Vitamin Advisor as a proven "sales machine." By taking the test repeatedly, Drs. Harriett Hall and Stephen Barrett found that a multivitamin product is always recommended and most answers trigger a recommendation for at



least one more product. They concluded:

We do not believe that Puritan Pride's questionnaire provides trustworthy advice. Its questions and answers related to dietary adequacy are simplistic. Its disease-related questions lead to products that are useless, poorly formulated, or both. In proper professional hands, a well-designed questionnaire that includes a detailed dietary history can identify areas of overall diet that could use improvement. However, no questionnaire can be customized to make appropriate *supplement* recommendations, either for dietary improvement or for treatment. If someone's diet is inadequate, the best way to fix it is to eat more sensibly. If a diet is missing any nutrients, it may also lack components (such as fiber) that will not be supplied by pills. If you think your diet may be deficient, analyze it with the tools provided on the U.S. Department of Agriculture's Choose MyPlate Web site or seek professional advice from a registered dietitian (R.D.) or physician. [Hall HA, Barrett S. Puritan's Pride's "Vitamin Advisor" wants to sell you something. Quackwatch, Feb 3, 2016]

▶▶ **Burzynski's activities examined (February 28, 2016)**

*Newsweek* has examined the decades-long struggle between Stanislaw Burzynski, M.D. and regulatory authorities that have tried to stop him treating cancer patients with questionable treatments. [Wilner T. Cancer 'visionary' Stanislaw Burzynski stands trial for unprecedented medical malfeasance. *Newsweek*, Feb 22, 2016] In 2014, the Texas Medical

Board charged Burzynski with false advertising and patient mismanagement. Hearings on these charges began last year, but after Burzynski was diagnosed with a heart condition, the remainder of the trial was postponed until May. The *Newsweek* article also revealed a startling admission from Burzynski's long-time attorney, Richard Jaffe. About 20 years ago, the FDA permitted Burzynski to set up a clinical trial that included all of his nearly 200 patients. Clinical trials are supposed to test the safety and/or efficacy of a treatment. But in 2008, Jaffe wrote that since these patients were already on treatment, "there could not be any possibility of meaningful data coming out of the so-called trial." [Jaffe R. *Galileo's Lawyer*. Thumbs Up Press, Houston, TX, 2008, pp 106-108]

**Editor's note:** Stanislaw Burzynski was the topic of PhACT's March lecture led by Professor Bob Blaskiewicz. See page 14 for a brief review of that lecture.

▶▶ **Another cancer scammer convicted (March 27, 2016)**

Antonella Carpenter, 71, former owner of Lase Med Inc., has been convicted of conducting a fraudulent scheme claiming to cure cancer. [Winfrey K. Tulsa woman who claimed to cure cancer guilty on 29 counts. *News on 6*, Feb 10, 2016] Carpenter, who is physicist and not a medical doctor, operated clinics in Broken Arrow and Owasso, Oklahoma. In February 2016, following a 15-day trial, the jury found her guilty on 29 of the 41 counts alleged in a superseding indictment. The indictment stated:

**Mensa Event - Sunday, April 10, 2016 1:30 to 3:30 PM**

**the Delaware Valley Mensa will host a program meeting open to the public at  
Marple Public Library 2599 Sproul Road, Broomall, PA 19008**

**Barbara Mancini and Ethan Andersen  
"From Accused to Advocacy"**

Barbara Mancini, an advocate of improved end-of-life care, will be discussing her story, "**From Accused to Advocacy.**" Barbara Mancini was arrested in 2013 and prosecuted on the charge of aiding the attempted suicide of her dying 93 year- old father after she handed him his prescribed morphine. Police and hospice workers ignored his written advance directives, and he was hospitalized and treated in defiance of his end-of-life wishes. Barbara's prosecution lasted a year, during which time it garnered national attention, and was roundly criticized in the media. Her case was featured on CBS's 60 Minutes in October 2014. She has become an advocate for end-of-life choice, and will talk about her ordeal, and the implications for all who are facing end-of-life issues.

Ethan Andersen, a Field Organizer with Compassion & Choices, a non-profit end-of-life choice advocacy organization, will be discussing the legal options we currently have to ensure that end-of-life planning is taken care of in a clear and direct way. Ethan has been with Compassion & Choices since February 2014, and has directed most of his efforts toward passing the Aid in Dying for the Terminally Ill Act, otherwise known as New Jersey Senate Bill S382, a piece of legislation that would allow a terminally ill, mentally competent adult the choice to self-administer a medication that would end their life in a peaceful and dignified way. Pennsylvania has a similar bill, House Bill 943, with fourteen sponsors.

Questions: Nancy Jarrin, [nancyjarrin@comcast.net](mailto:nancyjarrin@comcast.net). - 609-287-1239

- From 2006 to 2012, she orchestrated a scheme to obtain money from cancer patients by means of false and fraudulent representations.
- She falsely claimed her treatment method, called "Light Induced Enhanced Selective Hyperthermia" or "LIESH," was 100% effective and produced no negative side effects.
- She claimed that she could cure various kinds of cancers by injecting a patient's tumor with a mixture consisting of saline solution and food coloring or walnut hull extract. She would then heat the injected area with a laser.
- She sometimes falsely told patients that they had been cured.

Carpenter could be sentenced to up to 20 years in prison. A criminal forfeiture money judgment will be entered against



her of approximately \$1,102,160 which represents proceeds through her fraudulent scheme. In 2011, in a civil suit for fraud and deceptive practices, a jury awarded \$2.5 million to the the survivors of a woman whom Carpenter had treated for breast cancer. [2.5 million dollar verdict against Lase Med Inc. and

Antonella Carpenter. McMath Woods Web site, June 16, 2011]

Antonella Carpenter. McMath Woods Web site, June 16, 2011]

### ▶▶ Anti-quackery podcast posted

Drs. Stephen Barrett and Harriet Hall are featured in a 1-hour podcast that focuses on claims and facts related to "alternative medicine."

<http://www.blogtalkradio.com/thethinkingatheist/2016/03/15/evil-western-medicine>

Dr. Barrett's newsletter, Consumer Health Digest, is free and available to all who wish to subscribe. To subscribe send a blank email to send a blank message to:

[chd-subscribe@lists.quackwatch.org](mailto:chd-subscribe@lists.quackwatch.org)

Dr. Barrett's main website is [www.quackwatch.org](http://www.quackwatch.org)

### National Center for Science Education (NCSE)

*Phactum* (the editor of *Phactum* that is) has been remiss lately in reporting the activities of NCSE, a science oriented organization that is highly involved in matters of science education in the United States. The major themes of NCSE are to advocate for science based instruction and texts and to resist faith based interpretations of topics such as Evolution, Creation, and Climate Change.

The NCSE website is: <http://ncse.com>

The website has an enormous library of stories of various

## Gibberish and Deepak Chopra

Thanks to Howard Wilk for submitting this item about New-Age sounding rhetoric that makes little if any sense. It has been observed that the tweets of Deepak Chopra <https://twitter.com/DeepakChopra> are indistinguishable from random profundities. There are two sites that I'm aware of that randomly generate similar-sounding expressions, <http://sebpearce.com/bullshit/> and <http://www.wisdomofchopra.com/>. Below is a list of thirteen sentences from those sites (SPBS and WoC), from Deepak Chopra (DC), and Howard Wilk (HJW). Try to identify the source of each sentence.

1. The you of your sensory experiences understood as apart from the other is a false dualism uprooted from the impossible.
2. Death comprehends the progressive expansion of possibilities.
3. The true self is the awareness whose constant changing modulations are mental and perceptual experiences.
4. Your movement is the reflection of the mechanics of self-knowledge.
5. As you reflect, you will enter into infinite wonder that transcends understanding.
6. The scientist is an activity of the universe trying to understand itself.
7. Anything you can experience mentally or perceptually cannot be you.
8. The unity of consciousness supersedes the awareness of ego.
9. The complexity of the present time seems to demand an ennobling of our lives if we are going to survive.
10. The mind is nothing but the infinite expression of quantum being and consciousness.
11. Meditation is the silent witnessing awareness of itself and its modifications as mind body and universe.
12. This life is nothing short of an unveiling transmission of unlimited grace.
13. Greatness gives rise to visible acceptance.

Editor's notes: 1.) The two websites listed above, <http://sebpearce.com/bullshit/> and <http://www.wisdomofchopra.com/> are fun and can be invaluable resources for psychics and others who deal in new-age gibberish. 2.) Answer key to questions is on next page with **DC in red** and **HJW in blue**. 3.) Hint: DC has four quotes, the others three each. 4.) Readers who may know of other Gibberish Generators are invited to apprise the Editor of such facilities.

pro and anti science cases considered at every level of government and every level of the Education Bureaucracies.

From the NCSE website:

*The National Center for Science Education (NCSE) is a not-for-profit, membership organization providing information and resources for schools, parents, and concerned citizens working to keep evolution and climate science in public school science education. We educate the press and public about the scientific and educational aspects of controversies surrounding the teaching of evolution and climate change, and supply needed information and advice to defend good science education at local, state, and national levels. Our 5000 members are scientists, teachers, clergy, and citizens with diverse religious and political affiliations.*

End of commercial and onto a few examples of NCSE activity.

### ▶▶ **Kitzmiller v. Dover: Intelligent Design on Trial**

In the legal case Kitzmiller v. Dover, tried in 2005 in a Harrisburg, PA, Federal District Court, "intelligent design" was found to be a form of creationism, and therefore, unconstitutional to teach in American public schools.

As the first case to test a school district policy requiring the teaching of "intelligent design," the trial attracted national and international attention. Both plaintiffs and defendants in the case presented expert testimony over six weeks from September 26 through November 4, 2005). On December 20, 2005, Judge John E. Jones issued a sharply-worded ruling in which he held that "intelligent design" was, as the plaintiffs argued, a form of creationism.

NCSE served as a pro bono consultant for the plaintiffs and assisted the legal team in choosing and preparing expert witnesses and in helping the lawyers deal with the scientific and technical material. NCSE scientists Kevin Padian and Barbara Forrest testified in this case. It so happens that one of PhACT's most memorable lectures was that of Judge John Jones, the presiding judge in that case, in April of 2011.

The NCSE website is a treasure trove of information about many other legal proceedings including interesting links to accounts of the infamous 1925 Scopes "Monkey Trial" in Dayton, Tennessee.

### ▶▶ **Climate Change**

NCSE presents a significant amount of science based information on the matters of Climate Change and Climate Change Denial. <http://ncse.com/climate/>

### ▶▶ **Project Steve**

Project Steve is a light hearted spoof of the practice of

some Intelligent Design/Creation organizations who amass lists of scientists who dissent on matters of Evolution, preferring instead theories of Divine Guidance to explain our existence. Those lists may extend to several hundred scientists. Enter NCSE with Project Steve, a listing of scientists named Steve (or some variation such as Stephanie, Stefano, Estefan) in honor and remembrance of Steven Jay Gould. That list which is now includes about 1350 scientists.

### ▶▶ **NCSE offers copious amounts of easily obtained free materials.**

Check out NCSE's new blog, Science League of America:

<http://ncse.com/blog>

Read Reports of the NCSE on-line: <http://reports.ncse.com>

Subscribe to NCSE's free weekly e-newsletter:

<http://groups.google.com/group/ncse-news>

NCSE is on Facebook, YouTube, and Twitter:

<http://www.facebook.com/evolution.ncse>

<http://www.youtube.com/NatCen4ScienceEd>

<http://twitter.com/ncse>

### **Ark Encounter Opens July 7!!**

We are sure that you are pleased to learn the breathless news that Ark Encounter, a Noah's Ark themed amusement park in Kentucky, will finally open on July 7!! **Hallelujah!!!**

The theme park's central exhibit is a life-sized replica of



**Ark Encounter under construction**

Noah's Ark rebuilt in exact detail as Noah would have built it in year 2348 BC or, if you wish, in year 1656 AM (*Anno Mundi* – "year of the world"). This project is the inspiration of Young Earth Creationist entrepreneur Ken Ham who also is the CEO of nearby Creation Museum.

The exhibit will be open for 40 days and 40 nights begin-

Gibberish Answers:

**1. HJW; 2. WoC; 3. DC; 4. WoC; 5. SPBS; 6. DC; 7. DC; 8. HJW; 9. SPBS; 10. HJW; 11. DC; 12. SPBS; 13. WoC.**



ning July 7. Thereafter it will have a more normal schedule as the Flood recedes. The ticket prices are a bit steep for a day, \$40.00, but might be worth a peek if one is curious enough and anyway it is less expensive than fortune tellers



In this diorama at the Creation Museum, Noah who is 600 years old is planning the Ark with one of his sons.

billings. The somewhat less expensive Creation Museum is well done and quite interesting if one can entertain an alternative universe of “facts.”

The Ark Encounter project does have its problems and no small number of critics such as most atheist organizations. Salon.com has published an article that illuminates some of the critics’ concerns and the many legal and tax complications surrounding Ark Encounter. [http://www.slate.com/articles/news\\_and\\_politics/jurisprudence/2014/10/ken\\_ham\\_ark\\_encounter\\_theme\\_park\\_religious\\_discrimination\\_may\\_block\\_kentucky.html](http://www.slate.com/articles/news_and_politics/jurisprudence/2014/10/ken_ham_ark_encounter_theme_park_religious_discrimination_may_block_kentucky.html)

NCSE has gotten into the act as a critic of Ark Encounter and reports that tax incentives from the Commonwealth of Kentucky for the project have been thwarted for a variety of reasons. <http://ncse.com/news/2014/12/no-tax-incentives-ark-park-0016043>

Ark Encounter has a website: <https://arkencounter.com/> and on Facebook has a page called “arkencounter.”

### Neolithic Men and Red Deer

Yahoo News ( <https://www.yahoo.com/news/stone-age-humans-brought-deer-scotland-sea-study-233224392.html> ) reports that scientists have determined that red deer inhabiting islands north of Scotland have DNA quite dissimilar to DNA of similar animals inhabiting Britain, Ireland, Scandinavia, and western Europe. Those islands were ice covered some 11,000 years ago and were a long swim from the mainland which has different stock anyway. Scientists are presently not sure where the source of this red deer stock might be, but it does open up a nice little mystery

of cryptozoology, one that does not speculate on myth but is a scientific puzzle to solve with concrete clues and living animals.

One possible explanation is that Neolithic men between 5,500-4500 years ago had considerable seafaring ability and



A red deer stag

they were known to have transported domesticated animals across fairly wide bodies of water.

Hmmm.... 5,500-4,500 years ago? That would be 3384 -2384 BC and perilously close to the **Year of The Flood.**, short by a measly 36 years. Could it be? Could it be that those clever ancient mariners populating remote Scottish Islands with red deer were none other than Captain Noah and his sailors? I would not dare speculate on the answer to this cosmic quandry but I suppose we could ask Ken Ham.

For a more detailed account of the red deer mystery see a report in *Science*, the newsletter of the American Association for the Advancement of Science:

<http://www.sciencemag.org/news/2016/04/red-deer-came-scottish-islands-unexpected-places>

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**DARWIN ABOLISHED SPECIAL CREATIONS,  
CONTRIBUTED THE ORIGIN OF SPECIES  
AND HITCHED ALL LIFE TOGETHER IN ONE  
UNBROKEN PROCESSION.**

~ **SAMUEL L. CLEMENS ( 1835-1910)**

## Meeting Reports - January/February/March 2016

Reported by Leomar Durán , Laura Council, and Jeffrey B. who are Physics students of Dr. David Cattell at Community College of Philadelphia.

### Dr. Ted Daeschler, a paleontologist, discussed: “A Farewell to *Tiktaalik*”. Saturday, January 16, 2016

#### Reported by Leomar Durán

In 2000, *Tiktaalik rosae*, named after the Inuktitut word for a “large freshwater fish” and a patron by the name of Rose, was discovered by Ted Daeschler and his team on Southern Ellesmere Island in Nunavut, Canada, north of the Hudson Bay. They named the site NV2K17 since it was the seventeenth site they had excavated.

The importance of the creature itself is that it is the first discovered among the first of the limbed vertebrates, serving as an example of a transitional species from fully aquatic fish to terrestrial vertebrate, although the *Tiktaalik* itself was in fact fully aquatic. It dates back to the very end of the Devonian period, which ranged from 390 million years ago to 375 million years ago.

During this period, the continents were also populated by terrestrial plants which also came from the seas. As a result, new biomes such as forests, swamps and fresh shallow water ecosystems came about separate from the sea, granting many new opportunities in niches for organisms to fill.

However, as mentioned earlier, the *Tiktaalik* was still a fully aquatic animal and not capable of enjoying such biomes, which would go on to be populated mostly by insects and other land-dwelling invertebrates for the time being. The much more important thing about *Tiktaalik* is that it had gained limbs through slight sporadic evolutions every now and again. These limbs were more capable of sustaining *Tiktaalik* than the lobed fins of its ancestors, which were only useful for swimming underwater.

As a clear example of adaptation of existing structures though, these limbs retained much of the structure of the ray fin. Likewise, *Tiktaalik* had developed its shoulders separated from its skull, unlike those of fish, allowing it to look around at its surroundings without having to move its entire body.

Evolution is normally sporadic and slight in what is known as mosaic evolution. It's important to note that when a paleontologist talks about rapid changes, these changes occur over the course of one quarter million years. Furthermore, as it is difficult to draw the line of where one species ends and the next begins, these transitional forms can only be identified in retrospect with the sequence of evolution being illustrated only by the fossils and not by DNA evidence.

These limbs and the development of its shoulders gave *Tiktaalik* an appearance similar to that of a baby crocodile. Although the crocodile itself would not come along for tens of millions of years afterward, this serves



An artist's interpretation of how *Tiktaalik roseae* may have appeared

as an example of convergent evolution, where animals that fill similar niches are environmentally selected upon for similar structures.

Additionally, *Tiktaalik* developed lungs alongside its fish gills. This is yet another evolutionary advantage that would later

go on to help its descendants take the first step on land although the adaptation may be seen as redundant considering the function of both the gills and the lungs. However, this is an earlier adaptation from its own ancestors, the lunged fish, which still survive to this day.

During the next four years, bit by bit, more of the Tiktaalik was found. The first part found was the jaw bone of the Tiktaalik. There are about 15 more specimens of the jaw bones now. Then the eye orbits were found, indicating that the specimen was an upwards facing fish. As more work was done, the *type specimen* was recovered, which was the upper body of the Tiktaalik in this case. The type specimen is the example specimen whereto all future specimens are compared to identify and validate them as other individuals for the Tiktaalik genus. Eventually about five full specimens were found.

The process of excavating was performed by strip mining a hill side on Southern Ellesmere Island. The fossil layer will be pulled under the hill over time through a process known as *subsidence*. Because of this, it will take longer to reach the fossil layer, the closer it is to the hill side. Additionally, the paleontologist must be very careful not to remove the entire rock layer surrounding a fossil. Instead, the fossil must be covered in plaster and sent to the lab. This preserves the fossil and protects it from the elements until it can be recovered and studied.

In 2007, the first report on Tiktaalik was released, and eventually Tiktaalik had to be returned to the Ottawa Museum of Nature and back to the Inuktitut people, where they now have it on display. The Inuktitut people are proud of science and have combined paleontology and archeology into a study on their own land, so they see the Tiktaalik as importantly as an evolutionary biology will. However, since then there have been many more publications released on the research performed on Tiktaalik.

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**Professor Alan Mann, an anthropologist, discussed:  
“The Scars of Human Evolution”.  
Saturday, February 20, 2016**

**Reported by Laura Council**

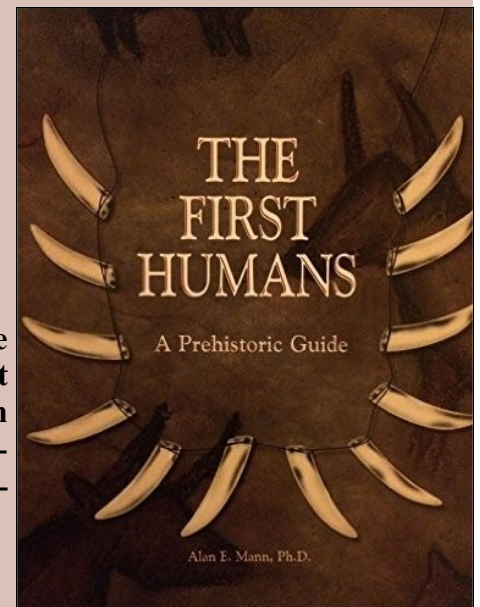
At the PhACT meeting on February 20<sup>th</sup>, we were graced with the presence of Alan Mann, professor Emeritus of Anthropology at both Princeton University and the University of Pennsylvania. Dr. Mann shared with us an evolutionary perspective of the evolution on human biology and function. The lecture was an examination of the evolution of human upright posture and its development. Mr. Mann said that we are able to function as bipeds, but we are subject to a number of difficulties and limitations.

Evolution produces function, not perfection. Professor Mann showed us an evolutionary diagram of human and African ape relationships based on comparison of the DNA of living species (no aDNA involved). Our closet living relative the

**The First Humans: A Prehistoric Guide**  
by Alan E. Mann

**Publisher: Running Pr Book Pub      March, 1997**  
**ISBN-10: 076240048X    ISBN-13: 978-0762400485**

**Imagine the earth 4 million years ago. What kind of plant and animal life covered the earth? What did our ancestors look like? This fascinating kit explores humankind's evolutionary process from the earliest prehuman (Australopithecus) to our modern form. Learn about major fossil discoveries and how anthropologists and archaeologists use these finds to understand ancient life.**





African ape, the chimpanzee, is estimated to be between 98.3%-98.6% genetically identical to modern upright posture and bipedalism. Bipedalism allows freedom from requirements of locomotion. Still, problems in the back, pelvis, and lower limbs are what might be called the scars of human evolution. For example, chimpanzees, our closet living relatives (NOT ancestors) are knuckle walkers. They can walk bipedally but will mostly knuckle walk.

The professor educated us as to why we may experience lower back problems, herniated disks, and aching knees. He focused a lot on the genetic make-up of women especially. Like all bipeds, women runners (and walkers) have to balance on one leg while the other is moving forward. Also, there is a greater angle (femur) thigh bone to allow for the birth canal. Mr. Mann believes that this evolutionary change is to accommodate for a larger brain that we humans have developed over time. It was stated that because of these evolutionary changes, giving birth has become painful and dangerous. The bony birth canal is apparently constricted when you compare it to that of other primates. We are the only species that requires assistance when giving birth. I found it interesting that the highest rate of caesarian section by state was New Jersey.

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## **Professor Bob Blaskiewicz discussed the ethical and legal events surrounding controversial internist Stanislaw Burzynski Saturday, March 19, 2016**

### **Reported by Jeffrey B.**

On Saturday, March 19, Stockton University Associate Professor Bob Blaskiewicz lectured on the battle against Doctor Stanislaw Burzynski and his clinic's ineffective and predatory cancer treatments.

Over a decades-long career, Burzynski has been a strong proponent of his own brand of treatment which involves the use of antineoplastons - compounds not accepted anywhere else as a viable treatment option. He has proposed that these compounds cure everything from cancer to AIDS.

Disturbingly, Burzynski has made tens of millions of dollars through his practice and his clinic in Texas. In spite of lack of scientific support for his method, he managed for many years to sidestep federal regulations designed to protect consumers and patients. However, his unorthodox style ultimately caught up to him in 1995; Burzynski was indicted for seventy-five counts of insurance fraud and violations of the Food, Drug, and Cosmetics Act. Immense pressure followed against the FDA's action by defensive patients, believing that without treatment, their lives would in danger. With the help of representative Joe Barton, who put the FDA director on the stand four times over two years to defend his supposed persecution of Burzynski, the FDA agreed to allow "clinical trials" to go forward. These sham trials were designed as a compromise in order to ensure that patients who wanted treatment would be able to get it.

The sad fact is that many of these patients who so desperately wanted Burzynski's treatment paid for it out of their own pocket because it was not covered by insurance. They also gained no benefits from the treatment, so instead of pursuing chemotherapy or end-of-life/palliative care at home as conventional medicine might have prescribed, they often traveled across the country with hopes of a complete recovery.

An immense battle between skeptics and the clinic has ensued over the last two decades, with legal and underhanded tactics alike (though these are not mutually exclusive) being employed by the clinic. Ultimately, however, the skeptics won a significant victory with a front page USA Today story in 2013. Opponents of Burzynski hope that mounting pressure will result in legal and/or federal action against him that will end his predatory and opportunistic behavior once and for all.

The lecture ended with questions, and the meeting was adjourned.

**See:** [http://www.csicop.org/specialarticles/show/burzynski\\_in\\_court\\_again](http://www.csicop.org/specialarticles/show/burzynski_in_court_again) an article in Skeptical Inquirer by Dr. Blaskiewicz on the matter of cancer quackery and Stanislaw Burzynski.

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## PhACT Participates in School Science Fairs In Philadelphia and Bucks County

### Carver Science Fair (Philadelphia)

PhACT Board members Becky Strickland & Doreva Belfiore judged the 37<sup>th</sup> Carver Science Fair at Temple University on March 4<sup>th</sup>. The fair, which has been operating yearly since 1979, is open to all students attending school or homeschooled in Philadelphia County.

This year's fair showcased over 600 exhibits from grades 7 through 12, in 14 scientific disciplines. PhACT prizes are given for excellence in critical thinking. Specifically we looked at projects that were manipulating a variable and followed proper scientific procedure. 7 exhibits were initially selected, then, after speaking with each student 3 equal prizes were awarded to:

Melanie Kaminski, George Washington HS, for 'Saving America's Soil', measuring the most effective method for killing invasive earthworms.

Maggie Lapp, Penn Alexander, for 'Musical Mysteries', measuring the correlation between music and math ability.

Lubna Khan, Philadelphia HS for Girls, for 'Potatoes vs Lemons', measuring which provides the strongest electrical current.

Congratulations to our winners and many thanks to our judges, and to those who contributed money for prizes.



A view of the Carver Science Fair exhibition  
at Temple University

### The Bucks County Science Fair

Board members Tom Napier and Eric Krieg judged the Science Fair held at Delaware Valley College which is open to all students in Bucks County. PhACT's judging was only for middle school students, grade 6 to 8.

Five prizes were awarded. First prize was to a girl for researching the efficacy of techniques to detect lying, second prize to a girl for investigating battery performance over heat ranges, and third prize to a boy for his research on how spices deter growth of bacteria (garlic is best). For honorable mentions, a boy honestly reported invalidating his own hypothesis about video games aiding learning, and lastly, a girl investigated the delayed testimony of witnesses and found such testimony to be inaccurate.

Even though we limited ourselves to grades 6 through 8 there were 231 presentations to judge. Counting team efforts, almost 280 students participated. As in previous years well over half were girls. It will be interesting to see if this reversal of the former trend appears in the future scientific workforce.

The enthusiasm of these young people for Science and learning does inspire more hope for the future than any presidential candidates. It is good for us to have a chance to encourage young people and PhACT anticipates doing so again in 2017.

The PhACT Council wishes to thank long time member Al Erpel for once again fashioning solid metal medallions for winners. They are a very nice memento for the kids, in addition to cash prizes.

We encourage everyone to donate to the Science Fair Prize fund so that we may continue to offer these prizes which support science education and critical thinking. Please go to [www.phact.org](http://www.phact.org) to donate online. All donations are tax deductible to the extent of the law.



## At the Wagner Free Institute of Science

1700 W. Montgomery Ave., Philadelphia, PA 19121 215-763-6529 Tuesday-Friday 9am-4pm  
<http://www.wagnerfreeinstitute.org>

### Spring 2016 Events at the Wagner

#### Thursday, April 7, 2016 6:00-7:30 PM

The Biology of Bedtime with Dr. Amita Sehgal, University of Pennsylvania

SLEEP—it's something we do (or try to do) every night because we feel tired and know how our behavior changes when we don't catch enough zzz's. Scientists, however, aren't clear on the biology behind our compulsion to sleep, or even how regular snoozing benefits us. After making a simple discovery, that flies also need sleep, University of Pennsylvania Neuroscience professor Amita Sehgal was inspired to study the molecular basis of sleep and circadian rhythm (the 24-hour cycle that mysteriously dictates many of our physiological functions). At this Weeknights at the Wagner lecture, Sehgal will share the latest findings from her lab, where they use the *Drosophila melanogaster* fruit fly as a model for human sleep and sleep-related behavior.

#### Sunday, April 24, 2016 Noon-4 PM

Symmetry, Sequence, and Starfish: Exploring Math in Nature (A 2016 Philadelphia Science Festival Explorer Sunday program)

Count on having exponential fun when science meets math at the Wagner Free Institute of Science on Explorer Sunday! Discover patterns and sequences in Wagner museum specimens; see how complicated math was done in the age before calculators with the aid of our giant, historic slide rule; and learn the mysterious ways that math and nature intersect from professionals in different science disciplines. Activities such as slide rule demonstrations and math- and nature-themed arts and crafts will take place throughout the afternoon and are geared toward children ages 6-12. However, visitors of all ages are welcome to visit the museum - it's a perfect time to come to the Wagner on a weekend when we are usually closed!

#### Wednesday, April 27, 2016 6:00-8:00 PM

Science Expo 1866 (A 2016 Philadelphia Science Festival program)

We cordially invite you to travel back in time, and examine cutting edge science of the past. Delight in the curiosities you will find and wonder at relics that then were unsurpassed. Marvel at the feats and innovation in medicine, technology and engineering, accomplished by the world's most advanced minds. Glimpse how yesterday's science laid today's foundation, forever changing humankind. Hosted by Alexis Jeffcoat (Chemical Heritage Foundation Manager of Public Programs and Philadelphia Geek Award nominee), this event will begin with short presentations by: Robert D. Hicks, Ph.D., Mütter Museum and Historical Medical Library of The College of Physicians of Philadelphia; Jennifer Vess, The Academy of Natural Sciences of Drexel University; Dr. Beth Ann Swan, Thomas Jefferson University College of Nursing; Susannah Carroll, The Franklin Institute; and Susan Glassman, The Wagner Free Institute of Science. After the presentations, join the speakers in the Wagner's museum, a preserved, Victorian-era natural history museum, to learn more about the artifacts presented and a witness a few bonus presentations.

#### Thursday, May 19, 2016 6:00-7:30 PM

How to See Science: A Media History with Dr. Oliver Gaycken, University of Maryland

At this special Weeknights, the end of our year-long 150th building anniversary celebration, we will look back through Wagner's history as an educational institution with a lecture about the history of visual media in science education. Dr. Oliver Gaycken, Associate Professor of English at the University of Maryland, is an expert the history of popular science, and the links between scientific and experimental cinema. He has published on topics such as the flourishing of the popular science film in France at the turn of the 1910s and the surrealist fascination with popular scientific images. His book *Devices of Curiosity: Early Cinema and Popular Science*, appeared with Oxford University Press in the



spring of 2015. Along with his lectures, the Wagner will display some lantern slides from our own collection, which was used to illustrate educational lectures in the early 20th century. The Annual Member Reception will follow the lecture and is free for members to attend. Non-members will be asked to pay a small entry fee just for the reception (though they are not obligated to attend if they just want to see the free lecture.)

### **Adult Education Spring 2016 Course Schedule**

**Urban Plant Ecology - Professor Dr. David Hewitt**  
6 Tuesdays, March 29 - May 3, 2016, 6:30 to 7:30 pm  
at the Pennsylvania Horticultural Center

This course will cover the basics of plant ecology, with a focus on principles especially relevant to plants growing in urban (and sub-urban) areas in and around Philadelphia. Preregistration is required and will begin on Tuesday, December 8th.

**Evolution in Action - Professor Mary Beth Davis**  
6 Wednesdays, March 30 - May 4, 2016, 6:15 to 7:30 PM  
at the Independence Branch of the Free Library

This course will examine case studies of the natural history of individual species and consider how information from molecular studies can provide insight into evolutionary change. Preregistration is not required; register by attending the first course.

**See the website for more details of lectures and courses.**

### **Children's Education**

The Wagner Institute has offered educational programs for children since the turn of the last century.

These programs aim to promote children's interest in science by introducing them to the natural sciences at an early age. Because the Institute's programs are available at no cost, they are a popular resource for groups throughout the city, especially those in its immediate neighborhood.

Programming for children is varied and reaches more than 10,000 children each year. The Institute offers free, hands-on natural science lessons to school groupsthroughout the year. Visiting students have the unique and engaging experience of taking part in an interactive lesson in the historic lecture hall and also spend time exploring the museum collections during their field trip.

The Wagner's GeoKids program is an innovative museum-school partnership that since 1992 has grown to include collaboration with four schools in its North Philadelphia neighborhood. Museum educators work with several teachers at each school and their students over the course of the school year to bring real-life natural science to the classrooms on a weekly basis. Our newest outreach initiative, SNAP (Science, Nature and Art in Philadelphia), offers after school and summer programming in science and art to middle school students in our neighborhood. Programs are also offered for Scout groups and home schooled children. Outreach programs are offered through the Wagner-to-Go program.

**Courses and lectures at the Wagner Free Institute of Science are free of charge and open to the general public. Offering high quality events is expensive however and donations are gratefully accepted.**

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## **Thomas Jefferson on GMO's**

“It be urged that the wild and uncultivated tree, hitherto yielding sour and bitter fruit only, can never be made to yield better; yet we know that the grafting art implants a new tree on the savage stock, producing what is most estimable in kind and degree. Education, in like manner, engrafts a new man on the native stock, and improves what in his nature was vicious and perverse into qualities of virtue and social worth. “

~ Thomas Jefferson (1743 - 1826), third President of the United States



**Book Review of:**  
**"The Way To Happiness:  
 A Common Sense Guide To Better Living"**  
 by L. Ron Hubbard

**Pubr.: L. Ron Hubbard Library, Copr. 2006 (no ISBN assigned)**

**Reviewed by Paul Schlueter III**

This 78-pp. booklet, a mere 7/32" thick, has the general appearance of a religious tract, and the author's very name hints that it might be related to some of his other brain-children, Dianetics and Scientology. However, turn the booklet over, and beneath a blank spot (meant for organizational I.D. stamps) is the following self-certification:

*"This may be the first nonreligious moral code based wholly on common sense. It was written by L. Ron Hubbard as an individual work and is not part of any religious doctrine. Any reprinting or individual distribution of it does not infer connection with or sponsorship of any religious organization. It is therefor admissible for government departments and employees to distribute it as a nonreligious activity."*

That admissibility claim is self-serving, and it notably lacks the authority of Court challenge/ruling (perhaps we aren't supposed to nitpick about the difference). Intelligent Designers attempted to make a similar claim about their "science," until a federal court declared it undercover Creationism.

In fact, this reviewer is incarcerated in state prison, at a facility which has elected to accept the publisher's claim, and use this booklet as the foundation for a new program which will employ older, well-adjusted inmates as mentors or tutors for other inmates. Given the basic purpose of trying to present younger offenders with a set of moral guidelines by which to begin their reformation, officials (many of whom have long been stymied in their desires to evangelize inmates) can be forgiven for having difficulty finding many "authority" works which do not cross the Establishment Clause of the U.S. Constitution's 1st Amendment.

When given an open-minded review (which is quick enough...), this booklet presents a reasonably good attempt to establish a secular moral code. As such, it should be given fair discussion by Critical Thinkers. There are definitely sections (more accurately, sentence-paragraphs) which present an affront to reason-based thinking (more on this, later), but taken overall, the booklet is a very good start toward its reasonable goal.

Critical Thinking skills can be discussed/taught right along with the precepts offered by this booklet, making it a useful family discussion resource; "Chapters" (of which there are 21) are but a page or two in length, and dictionary definitions of core terms are offered as footnotes throughout. However, let us review the booklet's concept of "truth." Chapter 7 (p. 23) de-

**“Writing for a penny a word is ridiculous. If a man really wants to make a million dollars, the best way would be to start his own religion.”**

**~ L. Ron Hubbard (1911 - 1986), as quoted in the  
 Los Angeles Times (27 August 1978)**

finds truth in footnote 19 as "that which agrees with the facts and observations; logical answers resulting from looking over all the facts and data; a conclusion based on evidence uninfluenced by desire, authority, or prejudice; an inevitable (unavoidable) fact no matter how arrived at." This is a fair definition, and should have been preserved in the text.

However, the text itself instead proposes: "False data can come from many sources: academic, social, professional. [Note the glaring omission of far grander sources of false data: religion and/or superstition/legend!] Many want you to believe things just to suit their own ends. What is *true* is what is *true* for *you*." [emphasis in original]

This proclamation opens the door wide to either religion or woo-woo; if one may simply follow that which "is true for you," then all standards of evidence fly right out the window, and each individual becomes his own soothsayer! If each of us had a direct satellite link to the Almighty's advice, there would never have been any need for religion or moral teaching in human history, nor even for this booklet. There is no expectation here for "truth" to conform to reality (though, in all fairness, such suggestions are made elsewhere in the text).

Chapter 18 (p. 67), Respect the Religious Beliefs of Others, seeks to deride the philosophies of "mechanism" and "materialism" (both of which it fairly defines) as merely "the fad" among modern leadership. It presents rationalists as "attackers" who "seek to harm" believers for their beliefs, which is far from the truth.

In these two places, a clear bias toward believing in SOME religious "truth" (even implying that common sense itself equates to religion) belies the booklet's own claim to be nonreligious. Simply declining to specifically name any one or group of religions does not excuse this core presumption. These instances are this reviewer's largest complaints with this booklet.

As stated above, this book is a good idea, and a well-taken step along the path toward propagating morality outside of its traditional religious underpinnings. However, it suffers from the pretensions of its infamous single author and his widely-known philosophical inclinations. As such, it would benefit from revision by other persons dedicated to making it a truly "reason-based" guide. That may be difficult, since its ownership is a bit vague; who underwrites the publication and its free distribution, behind the covers of "The Way To Happiness Foundation International" and "the L. Ron Hubbard Library?" Tracing the copyright, if such a task hasn't been made impossible by the proponents, might reveal a religious support network, after all.

No Critical Thinker should consider him/herself "above" reviewing this booklet, especially given the short time that would take. Simply being aware of this effort (particularly its better and worse aspects) should be considered part of responsible involvement in the world community of reasoned thought.

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**“THE ONLY WAY YOU CAN CONTROL PEOPLE IS TO LIE TO THEM. You can write that down in your book in great big letters. The only way you can control anybody is to lie to them.”**

**~ L. Ron Hubbard, Lecture: "Off the Time Track" (June 1952) as quoted in Journal of Scientology issue 18-G, reprinted in Technical Volumes of Dianetics & Scientology Vol. 1, p. 418**



# Tax Reform

## A Modest Proposal From the Henry George Perspective

By Mike Curtis

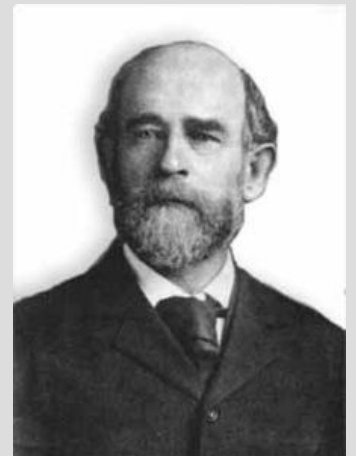
There is really only one legitimate way to reform our tax system, and that is for each and everyone of us to pay for the benefits we receive from the government — nothing more. Land, meaning the surface of the Earth, includes mineral resources and airwaves, and its value measures exactly the benefits received from society. Government represents society and transfers those values to individuals and corporations with the title to land. Without title, no social benefits are accessible. All that is needed for tax reform is to make every title to land conditional upon the payment of its rental value — and abolish all other taxes. By doing that, everyone pays for the value of the benefits received and no one is robbed of the things they've produced, which are their rightful property.

The value of land is the total value of advantages: weather, climate, scenery, and topography, access to shopping, jobs, and recreation, the quality of schools, the level of safety, and even the sense of community; it sums the values of proximity to navigable water, rail roads, high-voltage electric, and even the presence of a skilled workforce; it values the presence of potential customers and their propensity to spend; and, it calculates the difference between the value of minerals in the market and the cost of their extraction at every particular location.

All people feel an inherent right to live, but without access to land no one can exist. To say that some people have a greater right to land is to say they have a greater right to life. Therefore, all people must have an equal right to land. By the same reasoning, if what we produce (food clothing, and shelter), is taken from us, we will not experience our right to live. To the extent that any portion of what we produce is taken from us, the quality of our life is equally diminished. Therefore, all people must have an equal right to the natural opportunities of the Earth, and an exclusive right to the products of their labor.

### Henry George (1839 – 1897)

Henry George, born in Philadelphia, was an American political economist, journalist, and philosopher. George is famous for popularizing the idea that land/resource rents be captured for public use or shared, in lieu of harmful taxes on labor and productive investment. The philosophy and reform movement were known in George's time as 'Single-Tax'. His immensely popular writing is credited with sparking several reform movements of the Progressive Era and ultimately inspiring the broad economic philosophy that is today often referred to as Georgism, the main tenet of which is that people legitimately own value they fairly create, but that natural resources and common opportunities, most importantly the value of land or location, are rightfully owned in common by individuals in a community, rather than titleholders. His most famous work, *Progress and Poverty* (1879), sold millions of copies worldwide, probably more than any other American book before that time. The treatise investigates the paradox of increasing inequality and poverty amid economic and technological progress, the cyclic nature of industrialized economies, and the use of extensive land value tax as a remedy for these and other social problems.



Title to land is necessary to insure that what is produced on the land is secure. Who would plant a crop or build a house, much less a modern factory, if they couldn't put up a fence and lock the doors? But, all land is not of equal quality — the same title that insures the product to the producer, also confers an advantage to the owners of superior land. Not only is some land better for crops and mining, but certain natural conditions such as adjoining rivers and natural harbors draw people into a community. The larger the community, the greater the potential for divisions of labor, and the accumulation of special tools and machines for each specific product. Far more results than when each family produces their own food, clothing, and shelter. The larger and denser the population, the more productive each person becomes. Public infrastructure and service permit larger and denser populations with greater divisions of labor and economies of scale. And all of the greater results of increased density of population, which is enabled and enhanced by the infrastructure and the functions of government, add to the value of land.

By paying to the community the value of the land that is exclusively held, each landowner satisfies all other peoples equal right to the same parcel of land. By eliminating all other taxes, every person's exclusive right to the product of their labor is assured.

The United States has about 450 people per square mile of arable land. France has a little more than twice that density; Germany, more than three times; and Britain has more than five times as many people per square mile of arable land as the United States. The reason so many people who are willing and able to work are unemployed, in spite of the abundance of arable, habitable, and potentially productive land, is that too much of it is being held unused or under used as an appreciating asset. With every new technology, every addition to the infrastructure, and every increase in the population, the incomes and the selling values of land increase. And that increase encourages holding land as an appreciating asset. Not only is the value of land an equitable source of revenue, but collecting it removes the profit and imposes a burden on those that hold their land idle or under used — causing unemployment and recessions.

When the rental value of land is collected throughout the country, labor and capital will migrate from the least productive places to previously un-used and under used land in cities and urban areas. The rejuvenation of cities will grossly reduce the demand for less potentially productive land in rural areas and make much of it accessible for free. Not that a significant segment of the population will be inclined to live and work on the rural land that is free, but, it will offer every worker an alternative when negotiating wages. No one will work for someone else unless they are offered more than they can produce working for themselves where the opportunities to do so are free. The same goes for people who have saved and are looking for productive investments; the free alternative place for investment and production will increase the return on savings.

Those who hold superior land will have to put it to full economic use, for its rental value will have to be paid, even if the land is idle and yields no income. In spite of significantly higher Wages and the return to buildings and machinery, the tremendous incentive to fully use the more potentially productive sites will keep to a minimum the actual use of land that is free. Full employment and higher wages will require welfare only for those who are physically and mentally unable to work, and the rate of crime will be greatly reduced. This will give government more resources for infrastructure, and public service, which are essential to denser populations and the value of urban land.

As cities and urban areas redevelop and evolve with far greater populations, productivity and the rental value of its land will increase as well. As inventions and technologies increase productivity, wages everywhere will be equal to the increasing productive potential of the natural opportunities that are free. And, while the vast majority of inventions increase productivity everywhere, they increase it disproportionately more on superior land. The latest farm equipment increases productivity more on the most fertile land. Faster elevators increase efficiency far more in areas with the tallest buildings. The greater yield from superior land will also provide for social security, universal healthcare, and national defense.

**If thinking men are few, they are for that reason all the more powerful. Let no man imagine that he has no influence. Whoever he may be, and wherever he may be placed, the man who thinks becomes a light and a power.**

~ Henry George

Private ownership of wealth and common ownership of land is a fundamental dichotomy that gives real meaning to the concept of Limited Government. It assures to the individual and corporation all values that can be attributed to their efforts and productions, while allocating to the people as a whole, those values that are socially created, and result from the title to superior opportunities.

In summary: collecting the rental value of land for public revenue will increase the total productions of the country; it will create full employment, eliminate recessions, and raise wages. It will yield to labor everything that can be attributed to the efforts of workers — while granting to the owners of buildings, machines, and products in the course of being made and exchanged, whatever is necessary to induce their accumulation where the land is free. It will share with everyone, those values that can not be attributed to the efforts of individuals and corporations, but result from the conscious and sub-conscious cooperations of all the people in communities and society.

Compare this to our current system of taxing income, sales, and buildings, all of which confiscate the rightful property of producers, while insuring that some portion of what is socially produced is taken exclusively by private citizens and corporations. Taxing the rich more; eliminating deductions and loop-holes; adding or eliminating brackets; taxing or not taxing corporations, estates, inheritance, and capital gains does not alter the fundamental distribution of wealth.

Under the current system some deductions offer a measure of relief for medical expenses and losses from natural disasters. However, under all the tax reform programs already enacted and proposed in our legislatures, land remains private property. As long as it does, the workers and producers will continue to get after-tax wages just as they do now — below which productivity would fall. All taxes are paid out of what would in their absence go to the owners of land and other monopolies. So, in spite of all the above proposals, until the rental value of land is taken for public purpose, all reductions in taxes and all increases in production will continue to go to the owners of land and other monopolies.

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**Mike Curtis** spent many years teaching the thesis of Henry George and is the Vice President of the Henry George Institute. He lives in Arden, Delaware, a land trust village where he grew up and currently serves as its Senior Trustee.

## Progress and Poverty

author: **Henry George**

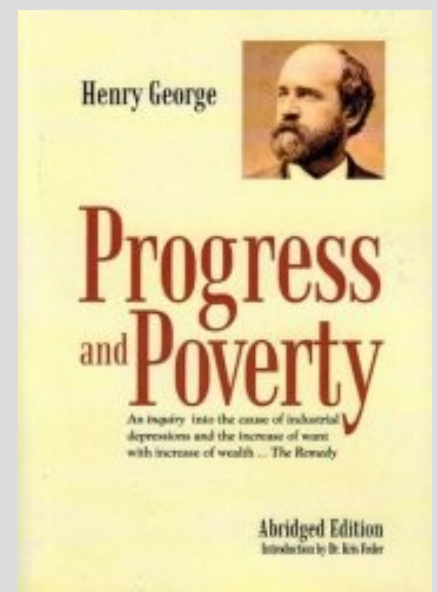
abridged by **A. W. Madsen**

**Paperback 250 pp ISBN: 9780911312102**

An Inquiry Into the Cause of Industrial Depressions and of Increase of Want With Increase of Wealth...the Remedy

Many economists and politicians foster the illusion that great fortunes and poverty stem from the presence or absence of individual skill and risk-taking. Henry George, by contrast, showed that the wealth gap occurs because a few people are allowed to monopolize natural opportunities and deny them to others. George did not advocate equality of income, the forcible redistribution of wealth, or government management of the economy. He simply believed that in a society not burdened by the demands of a privileged elite, a full and satisfying life would be attainable by everyone.

Originally published in 1953, this redesigned edition of Madsen's thoughtful abridgment has an introduction by Prof. Kris Feder of Bard College.





# Some Thoughts and Observations on the Matter of Climate Change

## by Dr. David Cragin

As we'll have Tom Delworth speaker on climate change, some critical thinking input on the Paris Accords is apt. A key point is that there is no penalty for agreeing to the accord and then later, not following thru.

Canada did this with the prior Kyoto Protocol – they agreed to abide by it and dropped out when business conditions changed. Rather than achieving the 6% targeted reduction in CO<sub>2</sub>, their CO<sub>2</sub> emissions increased by 24% and they withdrew from the commitment. In contrast, the US never

agreed to the Protocol because they didn't think it was practical. However, in the court of public opinion, it appears Canada "won." They felt relatively few recriminations for rescinding their commitment, whereas the US received much condemnation for not making a (false) commitment.

From this, it looks like countries learned that the best approach with the Paris Accord is to make the commitment, regardless of a country's actual plans. Here are some of the most amazing ones from Paris:

The Philippines pledged a 70% reduction in CO<sub>2</sub> emissions by 2030. Why is this amazing? Because the Philippines is planning to triple its coal use by 2020. In addition, based on the huge number of coal-fired plants it's building, it will be the Asian economy most dependent on coal by 2035 (see Moss, Wall Street Journal A11, Dec 10, 2015). This seems like saying "In addition to my regular meals, I'm going to eat a quart of ice cream every day for the next 6 months, not exercise, but I WILL COMMIT to losing 10 lbs."

Regarding carbon-based fuels, coal is the worst energy source as regards CO<sub>2</sub> emissions for power plants. see: <http://www.eia.gov/tools/faqs/faq.cfm?id=73&t=11> Wood can be more problematic, but it's not normally used for large scale power generation in the US: <http://e360.yale.edu/feature/wood-pellets-green-energy-or-new-source-of-co2-emissions/2840/>.

Vietnam will double its coal-fired power plants by 2022 and agreed yet, it also agreed to the Paris Accord (see also: Moss, Wall Street Journal A11, Dec 10, 2015).

To be clear, this is not an easy issue. Energy is fundamental to life. China also agreed to the accord despite huge investments in coal. China has helped its population rapidly emerge from poverty and commensurate with this is a rapid increase in energy needs. At a recent Society for Risk Analysis session on air pollution in China, a commenter noted "China is doing a good job at installing green energy." To which the speaker responded, "they are doing an even better job at installing coal-fired plants." In just 2014 alone, China installed 39 gigawatts of coal-fired power. That's enough to cover the entire UK's average daily use. Yet, this isn't even enough to meet China's needs. China's more affluent population needs more energy.

**MCHUMOR.com** by T. McCracken



"I for one don't care about carbon emissions. I wish we went back to using a diesel powered engine."

Cartoon by T. McCracken  
<http://www.mchumor.com/>  
 Used by Permission

Here is an interesting piece on how increasing the yields in farms could reduce CO2 emissions:

<http://www.businessgreen.com/bg/news/2440707/could-land-sparing-help-agriculture-slash-its-greenhouse-gas-emissions> Notably, they don't actually say it, but effective pesticide use is key to yields.

Land use is also one of the many reasons that the Environmental Working Group considers the ethanol-mandate in gasoline and "environmental disaster." EWG notes that ethanol is more carbon intensive than gasoline from oil sands:

<http://www.ewg.org/agmag/2015/05/how-corn-ethanol-worse-climate-change-keystone-pipeline>

### So what can you do regarding CO2 emissions?

The New York Times has some excellent simple suggestions: <http://www.nytimes.com/interactive/2015/12/03/upshot/what-you-can-do-about-climate-change.html>

In addition to their list, one thing to do is add insulation to your attic. Homes made before the mid-1990s generally have R-33 or less attic insulation, whereas newer homes have R-50 or higher. It was relatively easy for me to achieve this by adding R-25 on top of my R-33.

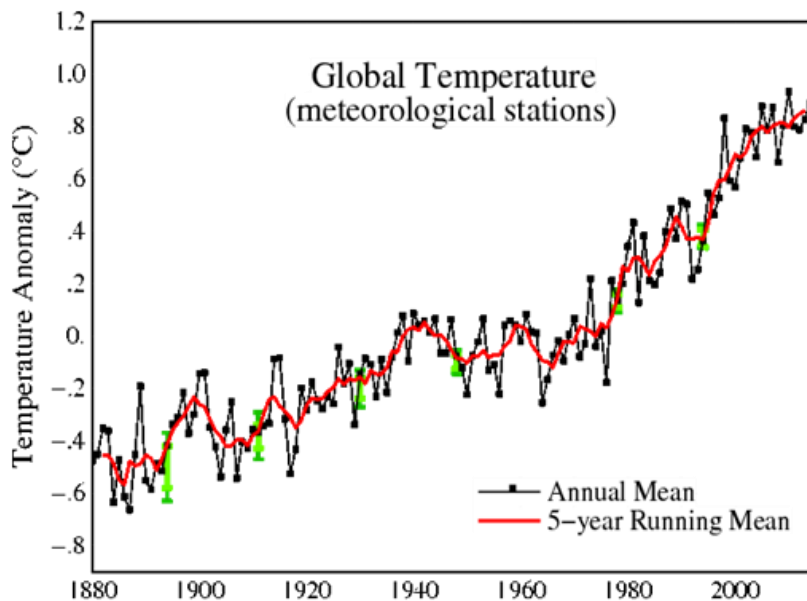
The difference was quite notable. It reduced the summer-time temperature differential between the 1<sup>st</sup> & 2<sup>nd</sup> floor and

virtually eliminated aircraft noise. In addition, it will likely extend the life of our furnace & air conditioner because both have to work less. Finally, it saves money in heating and cooling costs. It's hard to calculate the dollar value of this. When I did this ~10 yrs ago, one website estimated an \$80/yr reduction in heating/cooling costs. Considering it cost me \$500 to add the insulation, this is a good return on the investment, i.e., 16% ( $80/500 = .16$ ). And – of course – it helps the environment too.

To add to the NY Times recommendations: Remember every gallon of gasoline creates 20 lbs of CO2. As the NYT suggests, take SEPTA when you can or walk instead of driving.

**David Cragin, PhD** is a PhACT Councilor and a board-certified toxicologist. In addition to working full-time for a pharmaceutical company, as an Adjunct Professor, he also teaches a graduate course on risk and critical thinking for the University of the Sciences, Philadelphia and an excerpt of this course for Peking University in Beijing China.

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Source: NASA. [http://data.giss.nasa.gov/gistemp/graphs\\_v3/](http://data.giss.nasa.gov/gistemp/graphs_v3/)

This traditional analysis using only meteorological station data is a line plot of global annual-mean surface air temperature change, with the base period 1951-1980, derived from the meteorological station network. Uncertainty bars (95% confidence limits) are shown for both the annual and five-year means, account only for incomplete spatial sampling of data.

## Off the Beaten Path

By Kim A. Sheridan



# Haycock Mountain:

Where the Wild Men Are

There's a Wild Man lurking amongst the rocks of Haycock Mountain. Or is there? In May, PhACT's intrepid band of explorers will launch an expedition to search for the Wild Man of legend. What will we find when we get up there? What does the Wild Man's natural habitat look like?

Probably much like Haycock Mountain, which is heavily wooded, rocky and isolated. At 965 feet, Haycock is a

high point in the rolling hills and valleys of Upper Bucks County. Most of the mountain is forested; trees include red oak, beech, maple, birch and black gum. Ephemeral wildflowers such as trout lilies and may apples carpet the forest floor in spring, with ferns taking over in the summer. The Wild Man shares his territory with foxes, raccoons, opossums, the occasional coyote and many species of birds, and feels at ease amongst them.

The rocks and boulder fields of Haycock Mountain offer shelter and solitude to the Wild Man. The bedrock of Upper Bucks County is red shale and siltstone and dark gray argillite. In the Triassic Era, 200 million years ago, hot magma pushed its way through to the surface where it cooled to become the dark gray igneous rock diabase, composed of the minerals labradorite and augite. In addition, the heat of the molten magma baked the adjacent shale and argillite into metamorphic rocks called hornfels. In the intervening years, the softer shales and argillites eroded, leaving the diabase to form hills and ridges. Haycock Mountain contains extensive boulder fields that attract not only the Wild Man but eager bouldering enthusiasts.

There are other interesting geological features in Upper Bucks County that our Wild Man might find appealing. Sentinel Rock stands guard over Tohickon Creek on the northwest side of Nockamixon State Park. Layers of thin shale perch precariously on a narrow stem, like an oddly twisted wine gob-



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Don Nigroni  
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**Diabase boulders on a wooded slope of Haycock Mountain.  
Does a Wild Man hide in the dark crevices of these rocks?  
Photo by Don Nigroni, July 27, 2013.**



let. Thousands of years of weathering and erosion left behind this unique red shale and siltstone remnant.

Farther afield is Ringing Rocks County Park in Upper Black Eddy. Nestled in the park is a strangely placed boulder field. The boulders here respond with a metallic ring when struck with a hammer or rock. This oddity has previously been described in the October 2008 issue of *Phactum* by geologist Andrew E. Stroud, and interested readers can learn more by reading his excellent article on page 10 here: <http://www.phact.org/data/phactums/Phactum%202008-10.pdf>

Last but not far from least, the Nockamixon Cliffs tower 300 feet above the Delaware River along River Road. The Cliffs are red shale, siltstone and sandstone, which have been baked to an unusual hardness by the intrusion of molten diabase. Folding of the rocks tilted the formation to the northwest, and erosion left them exposed for us to view from below. The palisades provide habitat for an arctic-alpine plant community that is rare in the continental United States, including one plant found nowhere south of Maine except here. More than 90 bird species, including peregrine falcon and osprey, call the Cliffs home.

It remains to be seen whether the Wild Man of Haycock Mountain still haunts its slopes. His reclusive nature means that sightings are few and far between. But if the Wild Man finds an appealing home in deep woods, rocks, boulders and cliffs, he can do no better than the geological wonders of Upper Bucks County.

#### IF YOU GO:

All of these locations are frequented by ticks in season, so use bug spray, as well wearing appropriate clothing, sturdy shoes and sunscreen.

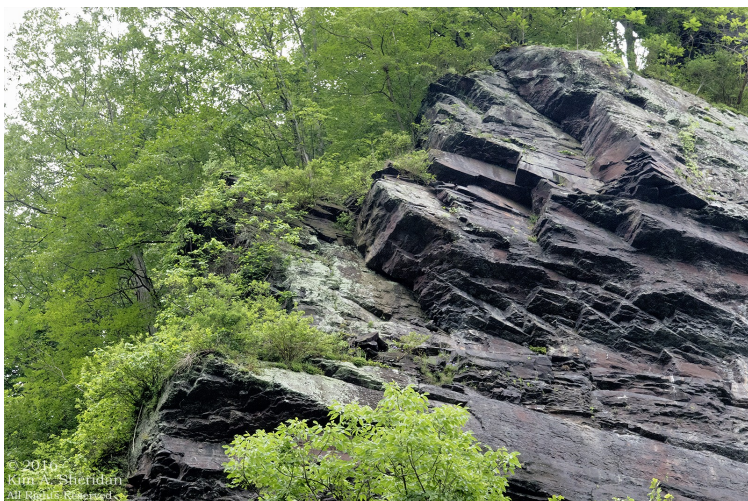
#### HAYCOCK MOUNTAIN:

The PhACT Expedition to Haycock Mountain is Saturday May 21, 2016. If you are unfamiliar with Haycock, this



The red shale and siltstone of Nockamixon Cliffs, framed by lush green summer foliage, tower dramatically over the Delaware River near Kintnersville.

Photo by Kim A. Sheridan



A closer view of the dramatic red shale formation of Nockamixon Cliffs.

Photo by Kim A. Sheridan, June 20, 2015

is a good opportunity to see what awaits you there. Hiking on Haycock to the boulder field is rocky and requires sturdy shoes, not sneakers. The trail is not well marked; use caution, carry water and snacks and don't walk alone. Be aware that the trail is on State Game Lands, and wear blaze orange in hunting season.

**Directions:** From Rt. 313 east of Quakertown, turn left on Rt. 563; turn left on Top Rock Trail Road; go about a mile to a small parking area on the left.

GPS: lat: 40.4922, lon: -75.2068

**RINGING ROCKS COUNTY PARK:** The Ringing Rocks boulder field is an easy walk from the park's parking lot. If you venture out among the boulders, sturdy shoes are a





**Sentinel Rock in Nockamixon State Park is an erosional pinnacle overlooking Tohickon Creek.**

**Photo by Kim A. Sheridan, November 7, 2014**

of Kintnersville. GPS coordinates are below. As an added bonus, Delaware Canal State Park is across the road. Here you can stroll along the canal or the Delaware River, examine the old canal locks and get some great views of the cliffs.

**Directions:** From the intersection of Rt. 611 and Rt. 32 (River Rd.) in Kintnersville, drive approximately 0.8 miles to the roadside pullout on the right.

GPS (roadside pullout): lat: 40.56232, lon: -75.16349

Address: This is the Delaware Canal State Park office, where you can get information on the Cliffs and other interesting sites along the Canal.

11 Lodi Hill Road RR

Upper Black Eddy, PA 18972

<http://www.dcnr.state.pa.us/stateparks/findapark/delawarecanal/>

**Kim Sheridan** is an ardent amateur naturalist and wildlife observer based in Havertown, Pennsylvania.. She may often be found in forest or marsh with camera in hand. Her blog site is dedicated mainly to nature photography at:

<http://thewildedgedge.net/>

must. Bring a hammer! See if you can make beautiful music. Further down the trail beyond the boulder field is a picturesque waterfall, reportedly Bucks County's largest.

Address: Ringing Rocks Rd.

Upper Black Eddy, PA 18972

**Directions:** From Upper Black Eddy, head north on Rt. 32 (aka River Road) for a short distance. Turn left on Bridgeton Hill Road. After a short distance, turn right onto Ringing Rocks Road. Drive to the entrance to the park on the right.



**The Ringing Rocks boulder field is a popular place for visitors to make music in harmony with nature.**

**Photo by Kim A. Sheridan, July 11, 2015.**

**NOCKAMIXON CLIFFS, UPPER BLACK EDDY:** You can view the Nockamixon Cliffs along Rt. 32 between Narrowsville and Kintnersville. Parking is challenging. We found a roadside pullout for several cars on Rt. 32 just south

of Kintnersville. GPS coordinates are below. As an added bonus, Delaware Canal State Park is across the road. Here you can stroll along the canal or the Delaware River, examine the old canal locks and get some great views of the cliffs.

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# "Archaeology of an Ancient Atrocity"

by Paul Schlueter III

Sometimes we tend to idealize the lifestyles of ancient peoples, often because we're hoping to make a point about how "times were better before 'all this' came along." The "good ol' days" make for great storytelling, but the surviving evidence of reality tells a somewhat harsher tale.

In the Sept. 19, 2015, issue of Science News, Bruce Bower wrote (<https://www.sciencenews.org/article/bones-revive-7000-year-old-massacre>) about the reports on an archaeological dig which began when road workers exposed an ancient ditch in Germany, in 2006. The research was led by Christian Meyer, an anthropologist at the University of Mainz, also in Germany.

As reported online Aug. 17, in Proceedings of the National Academy of Sciences, Meyer and his colleagues investigated a mass grave dating to between 7.2K and 6.85Kya, near an ancient farming site now called Schoneck- Kilianstädten. At least 26 people were interred in the ditch, after being beaten to death (some may have been shot with arrows, as well).

"A majority of recovered skull pieces display cracks and depressions probably caused by blows from stone tools attached to handles. Two bone arrowheads also lay among the remains. Fractures on many lower leg bones indicate that attackers immobilized and perhaps tortured victims before killing them," reports Meyer.

The age of the site suggests that both attackers and victims belonged to (perhaps separate) groups of the Linear Pottery (LBK) culture, which inhabited the region at the time. These were primarily farming settlements, but this and other sites of the LBK culture indicate that interactions were sometimes ferociously lethal among them.

One sign of cultural behavior is inferred from the lack of remains of females in their young adult (child-bearing) years. We cannot prove what happened to the women who would otherwise be expected among this group, but we may fairly look to continuing human nature for potential answers. We are repeatedly disturbed by reports of the Boko Haram terrorist organization in parts of modern Africa; that group is most infamous for repeatedly raiding villages and stealing away young females to later be sold off as sex slaves (they also take young boys, who are pressed into pseudo-military duties).

The SN article lists the body count: 13 victims were adults, and another 12 were children ranging from 6 months to 8 years in age. Two women were found, both over the age of 40 or so. Bower wrote that drought-related food shortages may have caused population pressures between closely-spaced farm villages, perhaps leading one group to raid their neighbors' farm. It is of course difficult to deduce the motives of raiders (or even their specific identities) from their victims' mass grave. It is easier to infer that the very use of a mass grave was an act of ruthless efficiency, as opposed to the caring interment of beloved relatives in separate, personalized graves.

It is often debated whether the rape and forced marriages of women taken in "raiding" was routine in ancient cultures. It seems that they are common enough today, usually rational-

**(Bandkeramik culture), an early Neolithic archaeological culture (end of the fifth millennium and beginning of the fourth millennium B.C.) that was widespread in Central Europe. Considered part of the Danubian culture, the Linear Pottery culture is characterized by uniform pot-**



**tery of spherical and hemispherical shape, decorated with a design of bands consisting of two or three incised parallel lines (S-shaped spirals, meanders). The lines are sometimes interrupted by dots and stabs ("music note," or "notenkopf," pottery). Last-shaped axes are the typical tools. Large settlements, consisting of large post houses and pit houses, have been found, among them Köln-Lindenthal in the Federal Republic of Germany, Bylany in Bohemia, and Florești in the Moldavian SSR. The population engaged in farming (wheat and barley) and stock raising (cattle, sheep, goats, pigs).**





German researchers have discovered signs of what may be the earliest known case of leukemia on a 7,000 year old skeleton. The victim of the disease was a female individual who appears to have been in her 30's when she died. Her skeleton was initially excavated in 1982 at a site near Stuttgart-Mühlhausen in south western Germany, dating from the early Neolithic period. Another 71 burials were uncovered near her at the same location.

The skeleton was laid next to a round-bottomed jar linked to the Linear

Pottery culture of western and central Europe, 5500–4800 BC. This was an early farming culture that produced pottery decorated with linear markings.

ized as "spoils of war." For this example to display an absence of young-adult women, it seems to support the position that the ancients were similarly inclined. Unless we happen to have the extreme luck of finding remains of women who can be DNA-matched to the ditch-grave remains, we will probably never really know whether those women were dragged away for short-term horrors and quickly killed afterward, or they were assimilated into the homes/farms of the victors on a long-term basis. One can imagine clear arguments over which alternative might be viewed as "worse." Only the obvious factor, fertility, seems certain, but why would raiders seek to father additional children if their basic motive for raiding was the pressure of overpopulation at home? Too many alternative scenarios present themselves to answer the question of what fate befell the missing women (or even their number).

The LBK culture is just one of a series of agricultural cultures which came and went during ancient European history. They are not described in surviving writings, but archaeologists have learned to distinguish cultures based on distinctive pottery designs used within each group, types of structures built by each group, and to a broader degree, by their stone tool making techniques.

It is not exactly clear when or why the LBK culture was displaced by its successors. It is not even

certain if the transition was swift or protracted. The time period involved is tantalizing, because it seems so much closer to us than the exodus period (when humans arrived in Europe and began to displace Neanderthals), and yet its apparent illiteracy makes it difficult to understand its inhabitants at any depth. Only careful forensics, DNA analysis, and lucky discovery help us to fill in tiny pieces among the huge blank zones of our knowledge. This one discovery is therefore that much more fascinating, despite the obvious atrocity to which it attests.

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

[www.jaylbird.org](http://www.jaylbird.org)



A flint arrow head from the Bandkeramik culture.



A cranial injury on the frontal bone of a roughly 8 year-old child. Credit: Courtesy of Christian Meyer

## Skeptics vs. Believers; Just A Matter Of Alignment?

by Paul Schlueter III



As I write this, it's New Year's Eve, 2015... almost 2016! We're entering an election year, and the political posturing is already going at full volume, with the main parties facing primaries, and contenders trying to win the allegiance of their party's voters. Why is this so important? Because it still seems that most voters vote for the candidate put forward as their chosen party's favorite, as determined at the primary elections. Voters tend to align themselves, many for their entire voting lives, with just one party, and they follow that party's lead in general political opinions. It doesn't seem to matter much, to "true partisans," if their personal inclinations might lead them to different views (leading to sometimes hilarious political hypocrisies). If the party holds a position, then the partisan voter supports that view, exclamation point!

This is not news to anyone who follows politics. There are "factions" within each party (sometimes called "centrists," "moderates," and "extremists"), but for the most part, a voter ALIGNS his/her views with those put forward by their chosen party, and simply naming their party affiliation is usually a shortcut to declaring their stances on most of the political questions of our day, and their support for specific candidates.

I propose that Skeptics and Believers do very much the same thing. On the issues which our two groups debate, both parties generally align themselves with the relatively consistent positions of their party. A Skeptic will generally prefer evidence which is collected scientifically, while a Believer will generally prefer evidence revealed through special powers and abilities, or through "alternate ways of knowing." Far more telling than these two opposing perspectives, individual members of each party often accept 2nd- or 3rd-hand evidence in fields of which they personally hold little or no real knowledge, as long as that evidence is simply presented in the terminology and framework-of-dialogue to which they subscribe.

Few Skeptics really have much scientific expertise themselves; most people within the skeptical "party" have some personal expertise which has led them to adopt skepticism in general, but they don't really have a full grasp of other fields (they aren't "polymaths"). Skeptics tend to have a slightly higher educational level than Believers (on average), but the difference isn't overwhelming, and higher education still

doesn't guarantee that a person eschews "true belief" in favor of the hard scientific facts. Nor does a limited formal education guarantee that a mere High School grad will eschew science in favor of the supernatural, the pseudoscientific, and/or the cryptozoological.

Also, just as few skeptics are really scientists, few Believers are really well-versed in the formal texts of their beliefs (where those may exist). Yes, lots of religious folks read the Bible (or whichever text) quite regularly, but how well do they grasp the context, how skilled are they at citing chapter and verse? Among your religious friends, how many own/use a Concordance with any real zeal? It is my sad experience that greater textual knowledge often requires greater degrees of "blinding" and cognitive dissonance, in order to overlook/rationalize the many discrepancies and contradictions the text contains (otherwise, the reader would almost HAVE TO convert to Skepticism!)

Some Skeptics can rattle off the names of rational errors as if they've been reading *Phactum's Roster of I.R.E.* for an hour each day, for the whole past year. Some Believers can cite chapter and verse of the Holy Word, and daisy-hop a conversation from one hot-button, emotion-laden topic to the next like a real pro. In a very real sense, these characters are both "extremists" within their parties, unusual for the skill with which they apply the semantic and philosophical specifics which define their positions. They can argue and debate one another for hours, refuting one another's perspectives and simply responding to one another's "moves" like martial artists in a choreographed '70s Kung Fu flick. To use spy movie terminology, they are one-another's "opposite number," well-matched tacticians of supreme skill on opposing teams.

Also similar to the "factions" within political parties, there are Skeptic and Believer versions of "moderates" and "centrists," who are still oppositely aligned, yet respectively less vehement about trying to "win the debate" all by themselves.

My proposition is that a substantial number of people from the competing parties of Skepticism and Believerism don't really know much about their respective philosophies. Most people find (through the course of ordinary social conversations) that one side or the other "seems to make a lot

more sense than those other guys." At that early point, people choose up sides, and align themselves as partisans in the ideological contest between Reason and Faith. Once aligned, most will only delicately argue their positions, unsure of their own knowledge and of the support they can expect from their party's reference sources. Perhaps with time, as each party's proponents gain more experience and receive more of the party dogma, they'll take on stronger and stronger opponents in debate. As their skill and knowledge becomes greater, members of both sides tend to take more solid stances for their party, and will more boldly assert their allegiances. During this process, proponents on both sides tend to lose patience for "those idiots on the other side," even as they step up and take on leadership roles and help to indoctrinate new initiates.

I'm not exactly sure where the full extrapolation of this idea will lead. I'm quite firmly stuck in my acceptance of Reason, logical philosophy, and the evidence of physical, natural reality, but this idea is leading me to more carefully evaluate the position of my own opposite number, perhaps at this very moment writing for some True Believer tract in approximately equivalent certainty that spirits/aliens/Atlanteans are revealing insights toward the betterment of his world. As I better learn the techniques of Critical Thinking and more thoroughly come to learn the philosophical and scientific underpinnings of the reality-based perspective, does my opposite number grow in his ability to recite myth/theology/pseudoscience? If we're actually both advancing our causes equally (or anything close to equilibrium), does our respective influence over the ongoing challenge balance out, essentially leaving our respective efforts a folly, pursued in vain?

I sometimes look around myself and wonder if I'm changing anybody's mind. Do my arguments win over new converts, or drive fence-sitters over to the other side? Preaching to the choir is valuable in its own way, but am I helping the choir to grow? How could I better express the philosophy of my chosen side, and win over more minds to the path of Reason? Is the cause of Skepticism better served with my continued efforts, or am I perhaps driving away new potential initiates by "being too critical of people with other views?"

I like to think that the Skeptical point of view, the approach of using Critical Thinking, and alignment of my opinions and arguments with what I understand to be the best findings of Science in the natural universe, are of greater benefit to the world around me than those efforts my opposite number might make to draw the credulous into fantasyland. I like to think that my efforts writing these many articles for *Phactum* have helped to share what I'm learning each and every week/month/year with you, my fellow Critical Thinkers. I hope that your interests grow along with mine, and that we all become better prepared to face the never-ending onslaught of magical thinking and prestidigitation in the society around us. I like to think that I am a humble, imperfect, but well-intentioned proponent of our cause, combating the revealed Certainty of Infallibility which my opposite number claims. I hope I help to make it OK to acknowledge

that science doesn't have "all the answers" (or, as sometimes accused, that we "have an answer for everything"), though we have THE VERY BEST means ever discovered for pursuing those answers (always subject to revision, if the evidence calls for that).

My resolution for this New Year, then, is to continue with my growth in Skeptical idealism, with my improvement in Critical Thinking, and with my efforts in sharing what I too am learning about the progress of that small sliver of the natural sciences which I think I can understand. I'll keep it up for as long as you'll have me, and I'll try to pursue this avocation of mine with reason and responsibility. Whether or not it reaches a growing audience of like-minded thinkers is pretty much up to you readers, so please be sure to pass along whatever you find of value within these pages. Please recruit people who seem to be inclined toward our perspective, so PhACT can grow, too. Welcome the curious, and help educate those who are struggling to make sense of the complicated world around us.

The political contest will reach a zenith in under a year, and we'll have a new U.S. President to lead our country, wherever that may take us. I hope you'll vote your philosophical and rational best choice among imperfect options, rather than blindly follow a party nominee, or leave your vote unmade. When you go to the polls, proudly wear your "Skeptic" pin!

As for PhACT and *Phactum*, I hope you'll increase your involvement and support in some manner. Participation is a measure of your own degree of alignment. If you can also help our cause by adding your voice to the fray, then 2016 will be the better for it! Happy New Year!

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**"Lovers and madmen have such seething brains,  
Such shaping fantasies, that apprehend  
More than cool reason ever comprehends.  
The lunatic, the lover and the poet  
Are of imagination all compact:  
One sees more devils than vast hell can hold,  
That is, the madman: the lover, all as frantic,  
Sees Helen's beauty in a brow of Egypt:  
The poet's eye, in fine frenzy rolling,  
Doth glance from heaven to earth, from earth to  
heaven;  
And as imagination bodies forth  
The forms of things unknown, the poet's pen  
Turns them to shapes and gives to airy nothing  
A local habitation and a name."**

**~ William Shakespeare,  
A Midsummer Night's Dream**





## A Visit to the Glendive Dinosaur and Fossil Museum

by Linda Blythe

Last summer we visited the town of Glendive in eastern Montana. We stopped in to visit the nearby Makoshika State Park, where we saw interesting rock formations and a small science based fossil museum. However, we also noticed a beautiful new museum right at the highway exit, the Glendive Dinosaur and Fossil Museum. It had an enticing exterior with a great looking Tyrannosaurus that appeared to be bursting through the front wall of the museum. However, we found that once inside this was not your average dinosaur science museum. Our first clue should have been the bible camp bus parked outside. The very friendly employee at the admission desk explained that this museum would be offering biblical explanations for the fossils.

The two story museum had beautifully displayed dinosaur bones and dinosaur models. It looked like a very well funded fossil museum. It was only when you read the explanations that you find that you had entered an alternate science universe where evolution and radioactive dating of rock strata do not exist and everything can be explained by Noah's ark and the great flood. Although they often state things like "Some scientists believe that these bones are very old", they then go on to state the position that the great flood of the bible explains how dinosaurs were buried and turned into fossils. They use the recent discovery of dinosaur tissue samples as "proof" that dinosaurs cannot be very old. They also have displays showing that genes cannot mutate, so evolution cannot be true. They show various "evidence" that people lived at the same time as dinosaurs such

as legends about dragons. They also show an extremely detailed scale model of Noah's ark with the animals entering two by two, including dinosaurs. There's no explanation of how people managed to gather and herd dinosaurs or all those other animals. Although, they hypothesize that the animals hibernated while on the ark and that Noah gathered about 16,000 animals!

The museum also has a theater where short videos explaining their beliefs are continually shown. I watched one that showed how the different races of people all descended from the eight people on the ark. There was also a video showing ancient pictures of dragons in various cultures that were shown as proof of recent dinosaurs.

So who is behind this strange museum and where are the obviously generous donations coming from? The museum, which opened in 2009, is run by a non-profit Christian ministry called **FACT**, the Foundation Advancing Crea-



A view of the gallery at Glendive Dinosaur and Fossil Museum.



**Behemoth**  
The most famous dinosaur in the Bible

Argentinosauros

GLENDIVE MUSEUM OF SCIENCE & FOSSIL MUSEUM

Columbian Mammoth  
African Elephant  
Mastodon  
(displayed in exhibit to left)

Argentinosauros (Behemoth) The largest of the dinosaur kind	Biblical description of Behemoth from Job 40:15-24	Columbian Mammoth The largest of the elephant kind
Yes	Made along with you	Yes
Yes	Feeds on grass like an ox	No
Yes	Strength in its loins	No
Yes	Power in the muscles of its belly	No
Yes	Tail sways like a cedar	No
Yes	Sinews of its thighs are close-knit	No
Yes	Bones are tubes of bronze	No
Yes	Limbs like rods of iron	No
Yes	It ranks first among the works of God	No

**Clearly the animal God is describing to Job is not an elephant but is a dinosaur!**

tion Truth. It is not affiliated with a specific church. They get their statement of belief from another organization, the Institute for Creation Research. You can see the museum website at [creationtruth.org](http://creationtruth.org). According to the Billings Gazette, the museum was founded by Otis E. Kline Jr., who is the museum’s director. The museum cost \$1.4 million and took four years to build. Mr. Kline was a banker and real estate developer, who apparently financed much of the museum himself. He received generous amounts of free labor for parts of the construction and also received money for fossil purchases from other local wealthy supporters.

Mr. Kline was inspired by Dennis Petersen the author of “Unlocking the Mysteries of Creation” and the founder of the Creation Resource Foundation. Both the book and foundation describe a creationist view of nature and the world.

Although it’s easy for us skeptics to just dismiss such obvious non-science nonsense, others with less developed critical thinking skills can be convinced by such authoritative looking museum displays that conveniently leave out any science that contradicts their view. I overheard a boy at the museum asking his mother if what he was reading was really true. He was reading the display about humans and dinosaurs being alive at the same time. As long as places like the Glendive Museum exist, we skeptics have our work cut out for us to give people the tools to question fake science and pseudo scientific beliefs.

**Linda Blythe** is an adventurous traveler who resides in Philadelphia. She is a long time member of PhACT.

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**Editor’s note:** It is a bit humorous that **FACT** (Foundation Advancing Creation Truth) is pronounced **PhACT** (Philadelphia Association for Critical Thinking) thereafter losing all similarity of mission and world view.



# Natural vs. Supernatural

by Paul Schlueter III



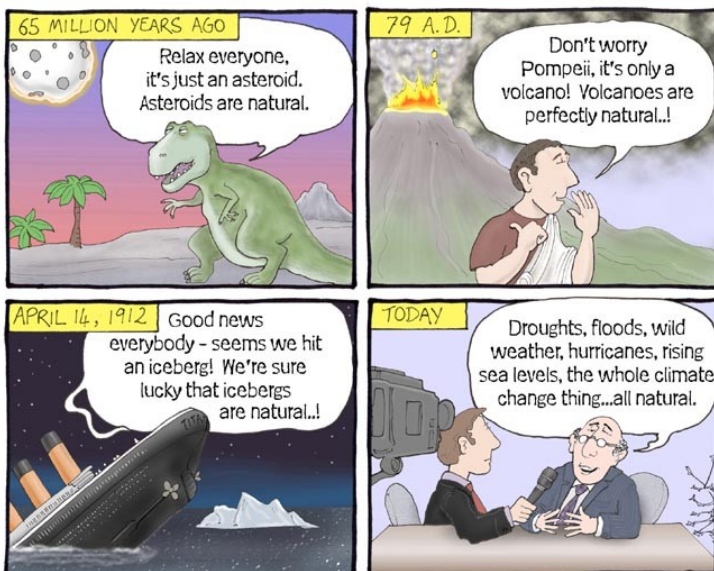
Much of what people address in the process of Critical Thinking or Skepticism involves contention over what is "Natural" vs. what is "Supernatural." The prefix "super-" means above or beyond the subject which is named by the word's root (here, "nature"). This is often misconstrued to imply greater value or provenance, but in the semantic sense intended by these words, "supernatural" is actually that which supposedly exists OUTSIDE the ordinary boundaries of that which is considered "natural."

I've prepared a chart which accompanies this article, listing many of the defining factors which identify a subject as falling into one category or the other. The chart is not a complete list by any means, but it covers many of the points of contention between these philosophical perspectives. There is sometimes some small degree of legitimate semantic overlap, but most of the apparent confusion between what is natural and that which is a claim of the supernatural comes from deliberate distortion of language in order to muddle the matter in the minds of the uncritical. It is unfortunate (but revealing) that the practice of muddling falls almost\* exclusively within the supernatural school of thought. The natural philosophy aims very specifically at clarifying and standardizing definitions and distinctions in as fine and precise a degree as possible. Against this, muddlement is the offensive attack.

Though some may argue that it is inappropriate to define these as "philosophical perspectives," I propose that they are exactly that. The proponents of "natural thinking" and of "supernatural thinking" are exactly the parties who are in contention, and these ideas are intrinsically based in each group's preferred "way of thinking" about values, priorities, policies, and social conduct. Both perspectives claim to have "Reason" on their side (another example of muddled semantics from supernaturalists, seeking to redefine that value-loaded term in the manner best suited to their perspective). "Reality" is another term which is "claimed" by both sides, and again it is the supernaturalists who insist on redefining the term to mean the opposite of its usual meaning. "Truth," "proof," "evidence," "authority," "knowledge," and many other core terms are equally value-loaded, and

wherever they are used to establish where the line of demarcation between philosophies lies, supernaturalists invert their definitions, and claim these terms as their own exclusive domain. At the same time, terms such as "fantasy," "myth," "illusion," and even "distortion" are vehemently denied by supernaturalists, even though these are truthfully the basis of their entire philosophy!

However, one of the few remaining clear distinctions is the general acceptance of what does (or doesn't) belong to the category of "the Laws of Nature." Quite basically, when one thinks of Newtonian physics, one is considering laws of nature. Quantum Mechanics also involves the laws of nature, but they are poorly understood by nearly everyone, so supernaturalists swoop in to claim the quantum realm as "proof" of their own conceptual weirdness. When one discusses food, poisons, and medicines, s/he is dealing with laws of nature (though the definitions of these, especially of medicine, can again become rather fuzzy around the edges when supernaturalists muddle matters in support of supernatural claims).



Experts through the ages.

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

A more-rigid distinction belongs to the domain of Mathe-



matics; very few people are belligerent enough to assert that any degree of "belief" is sufficient to overcome such rules of math as  $2 + 2 = 4$ . Anyone who proclaims that the answer is instead some other number is clearly joking, or out of his/her mind. It is purely a matter of courtesy, however, that naturalists do not ridicule a person who proposes that  $\text{God} + \text{Eden} + (\text{Adam} \ \& \ \text{Eve}) = \text{Creation}$ ; such muddlement is no more than an attempt to falsely appropriate the integrity of mathematics in support of supernatural belief.

The muddlement efforts of those who have made a practice of appropriating the terminology of science, reason, and logic in support of the very ideas which categorically defy those natural philosophical approaches are proof enough, in and of themselves, that persons who practice those semantic methods are knowingly dishonest in their argument(s). The hypocrisy of their tactic should disqualify such persons from engaging in this debate, yet such proponents offer the loudest voices demanding "equal time" and "fair consideration" for their own distortions. Then, blindly oblivious to the irony of it, they have the gall to proclaim that the natural philosophers are attacking THEM if any defense is raised!

There is actually no need to enter debate, most of the time. The natural philosophy is distinct from the supernatural philosophy, and if parties are honest and have the integrity of their perspectives, they should readily admit their distinct approaches to defining their mental universes, according to their perspectives. There is no need for skepticism or critical thinking when someone honestly admits "I choose to believe in this impossible thing, simply because I prefer it on an ideological basis." There can be, in fact, no useful argument between that supernatural thinker and one who accepts only Reality as being real.

The greater duty for skeptics, then, is to confront and expose those instances when someone is muddling the definitions and confusing the distinctions between natural and supernatural. Nobody is harmed by a person's decision to adopt some supernatural ideology within their own mind and life; only when they try to impose those adopted ideologies on others (through social exclusion, public policy, legislation/litigation, violent force/intimidation, etc.), or to misguide others about the veracity of their impossible beliefs (whether to proselytize or to con) does an individual's choice to accept supernaturalism require defense and debunking by people who accept and acknowledge the reality of Naturalism.

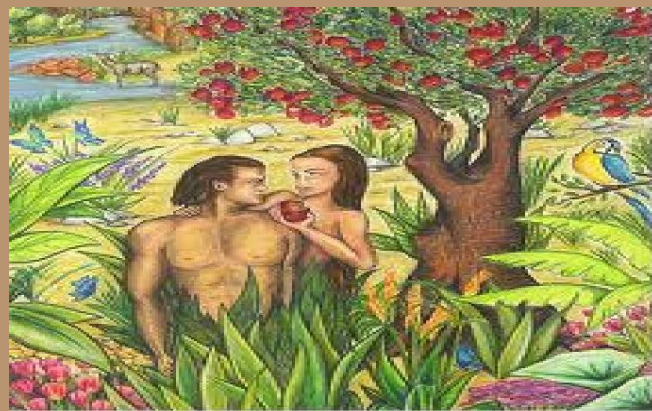
\*NOTE: There is a disturbing class of people who are trained in the natural sciences, yet insist on muddling knowledge from their scientific bully pulpits to promulgate supernatural ideologies. One ready example of such is a Biology professor at Lehigh University (Penna.), Michael Behe, who is largely responsible for promoting the false idea of "irreducible complexity" in opposition to biological evolution. Behe's obvious purpose is to support Creationist belief in special creation, and the teaching of Creationism in public school science classes. LU continues to permit Behe to teach, (perhaps) rather than face a protracted and expensive legal battle should they dismiss him for scientific and intellectual turpitude. Behe, and others of his ilk wherever they may hold positions of abused Authority (see also the numerous programs that offer accreditation to Acupuncturists, Chiropractors, Homeopaths, etc.), persevere solely because they have successfully manipulated our fears of financial reprisals through an unpredictable civil legal system, which thereby ends up protecting the right of charlatans to promote their bunkum.

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# Natural

# vs

# Supernatural



**NATURAL**

Complies with Laws of Nature

Testable/Subject to disproof (falsifiable)

Supportable by repeatable evidence

Derived from facts and/or logical conjecture

Relies on "proof" and/or evidence

Discovered by processes subject to repetition, testing, measurement, deliberate manipulation, etc.

Subjectable to scientific study and experimentation

Able to interact with Technology

Hypotheses follow on logical extension of provable factual realities and/or logic

Available to anyone's research

Of this world/universe, within reality

Science, Technology, Engineering, & Math

Admits incomplete knowledge, revisable when contradicted by further evidence/new information

**SUPERNATURAL**

Defies/violates Laws of Nature

Cannot/"Must not" be subjected to testing/critique

Lacks repeatable evidence

Derived from Myths, Legends, Fantasy, lacking logical consistency

Relies on "belief" and/or devotion

Revealed through purely mental conception, "feelings," illusory "visions" and/or sensations; may only be manipulated by prayer and/or intervention by unprovable forces

Subject only to unproven declaration and assertion by Authority

Immune/invisible to Technology

Prophecies follow on unexplainable, untestable concepts which defy logic and/or experiment

Available only to "the gifted," who proclaim unprovable abilities

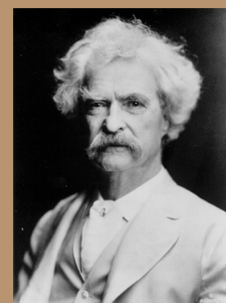
From "beyond/outside" this reality

Religion, Theology, Mythology, & Folk Wisdom

Asserts absolute, perfect knowledge; refuses to change to conform to new information

**“When even the brightest mind in our world has been trained up from childhood in a superstition of any kind, it will never be possible for that mind, in its maturity, to examine sincerely, dispassionately, and conscientiously any evidence or any circumstance which shall seem to cast a doubt upon the validity of that superstition. I doubt if I could do it myself.”**

~ Samuel Langhorne Clemens a.k.a. Mark Twain (1835 - 1910), from *Is Shakespeare Dead?* (1909)



# PHACT CALENDAR

## Upcoming PhACT Events

**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., Parking is easily available on the free parking garage on 17th street on the left hand side before Callowhill Street. It opens at 1:00 PM and closes at 6:00 PM. 17th Street is one way south bound. This meeting site is handicap accessible. **PhACT Meetings are Free and open to the public unless otherwise noted.**



**Saturday, April 16, 2016 - Lecture**

**Dr. Tom Delworth will discuss “Global Warming”.**

**See Page 3 for more details.**

**Saturday, May 21, 2016 - PhACT Expedition to Haycock Mountain**

**See Page 4 for more details.**

**Sunday, July 31, 2016 - PhACT Annual Picnic**

**See Page 4 for more details.**

**Saturday, September 17, 2016 - Lecture**

**Dr. Rob Brotherton will speak on The Psychology of Conspiracy Theories**

**See Page 5 for more details.**

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](mailto: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. *Phactum* does not accept paid advertising.





**The Philadelphia Area Center for the History of Science (PACHS)** maintains an extensive calendar of events about the history of science, technology and medicine that may contain some interesting events not listed in the *Phactum* Calendar. Check out their website at:

<http://www.pachs.net/events>

**Tuesday, April 5, 2016 - 6:00pm - 7:00pm** at Eastern State Penitentiary, 2027 Fairmount Avenue, Philadelphia, PA 19130

<http://www.easternstate.org/home>

**The Searchlight Series: Discussion Topic TBA.**

This event is part of Eastern State's ongoing Searchlight Series of events addressing issues in contemporary corrections. The Searchlight Series discussions take place the first Tuesday of every month, free and open to the public. No reservations required.

Free. Reception to follow

**Tuesday, April 5, 2016 at 6:00 PM** at **World Cafe Live, 3025 Walnut Street, Philadelphia**

<http://www.upenn.edu/pennnews/science>

**PENN Lightbulb Café**

**Michael Horowitz**, associate professor of political science in the School of Arts & Sciences "**Why Leaders Fight**" Michael Horowitz is the co-author of *Why Leaders Fight* and will discuss how world leaders engage in different types of military decision-making, depending on their personal experiences in life. Compiling the biographies of nearly 2,500 dictators, presidents, kings, heads of state and prime ministers from around the world since the 1800s, *Why Leaders Fight* uses the largest set of data on leader backgrounds to create a scale for risk-aversion and propensity for violence. The researchers used this scale to see if it can predict the leaders' behavior when it comes to military aggression, and it worked.

Free and Open to the Public.

**Tuesday, April 5, 2016 at 7:00 PM** at Washington Memorial Chapel, on Route 23 in Valley Forge.

Friends of Valley Forge Park

<http://www.friendsofvalleyforge.org/speaker-series.shtml>

**Mount Vernon during the Revolutionary War**  
Speaker: **Mary Thompson**

The research librarian at Mount Vernon gives us a behind-the-scenes look at what was happening at Washington's Virginia home during America's long fight for freedom.

Free and Open to the Public.

**Wednesday, April 6, 2016 at 6:00 PM** at University of Pennsylvania Museum, 3260 South Street, Philadelphia, PA 19104

<http://www.penn.museum/events-calendar>

**Dr. Megan Kassabaum**, Weingarten Assistant Curator, American Section and **Dr. Simon Martin**, Associate Curator / Keeper, American Section

**Great Myths and Legends Lecture Series: THE QUEEN OF SHEBA IN HISTORY AND LEGEND**

**Dr. Annette Y. Reed**, Associate Professor of Religious Studies, University of Pennsylvania

Best known from the Bible's account of her marriage to the wise king Solomon, the Queen of Sheba has attracted the curiosity of Jews, Christians, and Muslims for millennia. The lecture traces tales about her from Israel to Ethiopia, and explores how traditions about her have traveled between different religions and connected different regions.

**Thursday, April 7, 2016 at 7:30PM** at the Free Library of Philadelphia, 1901 Vine Street, 19103

<http://libwww.freelibrary.org/authorevents/> 215-686-5322

**Buzz Aldrin | No Dream Is Too High: Life Lessons From a Man Who Walked on the Moon**

Best known for the 1969 Apollo 11 moon landing, retired Air Force Colonel Buzz Aldrin holds a doctorate in astronautics; developed the orbital rendezvous technique critical to America's lunar landings; and founded the ShareSpace Foundation, a nonprofit organization devoted to opening the doors of space tourism for all people. In *Magnificent Desolation: The Long Journey Home from the Moon*, Aldrin told the tale of the historic moon landing, as well as the story of his later struggle with and triumph over depression and alcoholism. He is also the author of three other nonfiction books, two scientifically accurate novels, and two children's books. In *No Dream Is Too High*, Aldrin illustrates the finely honed principles and lessons taught by his extraordinary life.

Cost: \$15 General Admission, \$7 Students

Buy tickets online |

**Thursday, April 7, 2016. Lecture at 6:00 PM** at the **Wagner Free Institute of Science**, 1700 West Montgomery Avenue, Phila. PA 19121

[www.wagnerfreeinstitute.org](http://www.wagnerfreeinstitute.org)

**Weeknights at the Wagner**

**The Biology of Bedtime** with Dr. Amita Sehgal, University of Pennsylvania.

Free and Open to the Public

**Saturday, April 9, 2016 at 10:00am** at **Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

**LAUREL HILL: THE HOT SPOTS and STORIED PLOTS**

In life and in death, we all have stories to tell and what better place to hear tales of wonder than Philadelphia's most famous home of the dead? Join Laurel Hill Cemetery for an informative overview of Laurel Hill's long and colorful history, which will include many of the marble masterpieces, stunning views and legendary stories that afford the cemetery its WOW factor. This is the perfect tour for first-time visitors to Laurel Hill, and anyone else who enjoys beautiful art, scenic nature and fascinating history. "The Hot Spots and Storied Plots" will be presented monthly as part of Laurel Hill Cemetery's Fourth Friday and Second Saturday tour series.

The cost is \$12/person general admission. Tickets can be purchased at the door or online.

Tour Guide: Nancy Wright

**Saturday, April 9, 2016 at 1:00pm** at **Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

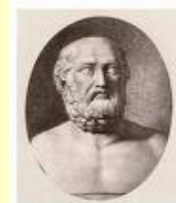
**YOU GIVE ME SPRING FEVER: THE LOVE STORIES OF LAUREL HILL**

Every April, Laurel Hill's vast, expressive landscape comes alive again. The bloom of her flowers, the song of her birds and, soon enough, the buzz of her bees signal the dawn of another springtime. We, too, are emerging from winter's slumber, our senses heightened by the heat of



**SOCRATES CAFE** is nationwide network of philosophical discussion groups. Free and open to the Public. All are welcome.

- At 7:00 PM every Monday evening except holidays (on Tuesdays after a Monday holiday) at the Springfield Township Public Library (215-836-5300) at 1600 Papermill Mill Road, Wyndmoor, PA. 19038.
- At 2 PM on the first Thursday of each month and at 7 PM on the third Thursday of each month at Glenside Free Library, 215 S. Keswick Avenue, Glenside, PA.
- At 10:30 AM to Noon on the second Wednesday of each month at Abington Free Library, 1030 Old York Road, Abington, PA.



vernal breezes, a new “spring” in our step, perhaps a flutter in our heart. “It’s spring fever,” once explained Mark Twain, and “it just fairly makes your heart ache.” Indeed, writers spanning eras and oceans have waxed poetic about the seemingly innate connection between springtime and love. Even Shakespeare observed that “Sweet lovers love the spring.”

What better place to fall in love with springtime all over again than amid the natural wonders of Laurel Hill Cemetery? Let sun warm your bones and love stories warm your heart in this walking tour celebrating the season. The program will feature tales of love as varied as the souls from which they sprung. Some love stories are eternal, while some must end. Still, others end badly. After all, devotion and desire sway destinies as much as greed and betrayal. Laurel Hill’s love stories can be moving, tantalizing and entertaining all at once.

Join us for a reception following the program, and toast to the enduring promise of springtime. Sip on a refreshing tonic of Spring Love Punch prepared for the occasion, while delighting in a vibrant array of hors d’oeuvres and sweets. The cost is \$20/person general admission. Tickets can be purchased at the door or online. Guide: Gwen Kaminski

**Sunday, April 10, 2016 at 1:30 to 3:30 PM** at Marple Public Library, 2599 Sproul Road, Broomall, PA 19008

Delaware Valley Mensa will host a program meeting open to the public.

Barbara Mancini and Ethan Andersen

**“From Accused to Advocacy”**

See Page 8 for more details.

**Monday, April 11, 2016 at 12:00 to 1:00 p.m.** at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

<http://www.chemheritage.org>

**Brown Bag Lecture:**

**“Small Lies for Big Truths: Color Standards in American Industry, Education, and Government, 1890–1930”**

Free and Open to the Public

**Monday, April 11, 2016 at 6:00 PM** at National Mechanics, 22 S. Third Street, Philadelphia, PA 19106

### Science on Tap

A monthly gathering that features a brief, informal presentation by a scientist or other expert followed by lively conversation. Good food and beer.

This month’s Science of Tap is brought to you by the American Philosophical Society.

Must be 21 or accompanied by parent. Free and open to the Public.

<http://scienceontaphilly.com/>

**Wednesday, April 13, 2016 at 7:15 PM** at the Fels Planetarium, The Franklin Institute, 222 North 20th Street, Philadelphia, PA 19103

**The Rittenhouse Astronomical Society**

Astronomy lecture open to the General Public. See website for more details:

[www.rittenhouseastronomicalsociety.org/](http://www.rittenhouseastronomicalsociety.org/)

**Thursday, April 14, 2016 at 6:00PM - 8:00PM** at University of Pennsylvania Museum, 3260 South Street, Philadelphia, PA 19104

<http://www.penn.museum/events-calendar>

**A REPORT FROM SYRIA: NEW HERITAGE PRESERVATION PROJECTS AND THE SYRIAN CIVIL WAR**

Staff members from the Penn Museum’s Penn Cultural Heritage Center present an update on the organization’s efforts to aid heritage preservation in Syria and Iraq. Speakers include Dr. Richard Leventhal, PennCHC Executive Director; Dr. Brian Daniels, Director of Research and Programs; and Dr. Salam Al Kuntar, Visiting Assistant Professor, University of Pennsylvania. Rainey Auditorium.

Free admission.

**Thursday, April 14, 2016 at 2:30 PM** at College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103

[http://www.coliphil.org/prog\\_calendar.htm](http://www.coliphil.org/prog_calendar.htm)

**The Yellow Wallpaper Symposium**

Informed by Charlotte Perkins Gilman’s story The Yellow Wallpaper, panelists will offer views grounded in literary criticism, psychiatry, history, feminist studies, or other field within the medical humanities.

Pre-registration for all programs and events is strongly urged. For further information regarding events and registration, please e-mail

[info@collegeofphysicians.org](mailto:info@collegeofphysicians.org) or call 215-399-2341.

## PhACT Lecture

**Saturday, April 16, 2016  
at 2:00 PM**

**Dr. Tom Delworth will discuss  
“Global Warming”.**

**See Page 3 for more details.**

**Saturday, April 16, 2016 at 1:00pm** at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

**TAILS FROM the CRYPT: ANIMAL LOVER’S TOUR and DOG WALK**

In 1867, the Pennsylvania Society for the Prevention of Cruelty to Animals was only the second humane society to have organized in the nation. The group was formed in Philadelphia, and paved the way for dozens of other rescue organizations dedicated to the city’s furry friends. Pet-friendly Laurel Hill Cemetery encourages the public to bring their animals along for this springtime walking tour. Stories and stops will include one of the first court cases to rule against animal cruelty, pets memorialized in stone, and the woman who bestowed a portion of her will to her dearest dogs.

Don’t have a dog to bring with you? PAWS has one for you! They will be bringing an adoptable to the tour and can answer any questions you might have about rescue animals and adoption. Bonejour Pet Boutique will be supplying treats to all canine attendees.

The cost is \$12/person general admission. Tickets can be purchased at the door or online.

Tour Guide: Paul Sookiasian

**Sunday, April 17, 2016 at 1:00pm** at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

**LIBERTY OR DEATH: THE REVOLUTIONARY WAR PATRIOTS of LAUREL HILL**

The American Revolution began with the first exchange of fire between British and American forces at Lexington on April 19. Tensions building between the colonists and the British authorities had finally boiled over. “Give me liberty or give me death!” is the now famous line often attributed to Patrick Henry and his 1775 speech. But what about the Founding Fathers and patriots who truly did give their lives for that freedom we hold so near and dear to our hearts? Join us as we hear their rousing stories of victory, tragedy and revolution from their final

at Eastern State Penitentiary, 2027 Fairmount Avenue Philadelphia, PA 19130

Phone: (215) 236-3300



**The Searchlight Series: Conversations About Crime, Justice, and the American Prison System**

Eastern State Penitentiary Historic Site partners with nationally recognized penologists and educators to present an ongoing discussion series about crime, justice, and the American prison system. The Searchlight Series discussions take place the first Tuesday of every month, free and open to the public. No reservations required. See website at:

<http://www.easternstate.org/searchlight-series>

places of rest here at Laurel Hill.

The cost is \$12/person; \$10/students and seniors; or \$9/members. Tickets can be purchased at the door or online.

Tour Guide: Russ Dodge

**Sunday, April 17, 2016 1:30 pm – 3:30 pm** at Commonwealth Chateau, Chestnut Hill College, 9230 Germantown Avenue, Philadelphia, PA 19118

**The Institute for Science and Religion**

<http://www.irands.org>

**Laudato Si: Reflections on Pope Francis' Encyclical**

**Thomas Reese, SJ, Senior Analyst for National Catholic Reporter**

Free and Open to the Public. A free will donation is requested.

**Monday, April 18, 2016 at 12:00 to 1:00 p.m.** at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

<http://www.chemheritage.org>

**Brown Bag Lecture: "Material Literacy and the Role of Reconstruction in History of Science Scholarship: 'Making and Knowing' in the Lab"**

Free and Open to the Public

**Tuesday, April 19, 2016 - 7:00pm to 8:30pm** at The Franklin Institute Science Museum, located in Center City Philadelphia, at the intersection of 20th Street and the Benjamin Franklin Parkway.

<http://www.fi.edu>

**THE FRANKLIN INSTITUTE SPEAKER SERIES**

**Hunting for Another Earth**

**Are we alone in the universe?**

The Franklin Institute's Chief Astronomer Derrick Pitts will discuss the search for exoplanets with NASA's Bill Borucki, recipient of the 2016 Bower Award and Prize for Achievement in Science and lead investigator of NASA's Kepler mission, which has discovered more than 1,000 planets beyond our solar system since its launch in 2009.

Free and open to the Public.

Pre-registration is requested.

**Tuesday, April 19, 2016 at 6:00 PM at World Cafe Live, 3025 Walnut Street, Philadelphia**

<http://www.upenn.edu/pennnews/science>

**PENN Science Café**

**Lauren Sallan**, assistant professor in Earth and Environmental Science Department in the School of Arts & Sciences.

**"The Rise of Tiny Fish"**

The 64,000 living species of vertebrates dominate ecosystems on land (as tetrapods, including humans) and in the sea (as ray-fn fishes and sharks). The rise of vertebrates in the Paleozoic (542-250 million years ago) is usually cast as a gradual march towards bigger and better things. Paleontologist Lauren Sallan will show that new, 'Big Data' approaches to the early fossil record have shown that modern vertebrate biodiversity is the unlikely, but predictable, result of global change, environmental challenges, ecological interactions and even mass extinction.

Free and Open to the Public.

**Thursday, April 21, 2016 at 7:30PM** at the Free Library of Philadelphia, 1901 Vine Street, 19103

<http://libwww.freelibrary.org/authorevents/215-686-5322>

Historians Annette Gordon-Reed and Peter S. Onuf are two of the world's leading authorities on America's enigmatic and paradoxical third President. Gordon-Reed is most noted for the Pulitzer Prize-winning *The Hemingses of Monticello*, a history of the African American family whose close blood ties to Jefferson had theretofore been redacted from the pages of history. A professor of law and history at Harvard, her many honors include the National Humanities Medal and a prestigious MacArthur "Genius Award." Onuf was the longtime Thomas Jefferson Foundation Professor of History at the University of Virginia, known for his profound Jeffersonian scholarship. His books include *The Mind of Thomas Jefferson*, *Jefferson's Empire*, and a score of works about this man and his era. In *Most Blessed of the Patriarchs*, Gordon-Reed and Onuf present a revealing character study that definitively clarifies the philosophy of the man from Monticello.

Cost: \$15 General Admission, \$7 Students

Buy tickets online.

**Friday, April 22, 2016 at 10:00am at Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurehillcemetery.org>

**THE HOT SPOTS and STORIED PLOTS**

In life and in death, we all have stories to tell and what better place to hear tales of wonder than



Philadelphia's most famous home of the dead? Join Laurel Hill Cemetery for an informative overview of Laurel Hill's long and colorful history, which will include many of the marble masterpieces, stunning views and legendary stories that afford the cemetery its WOW factor.

**Friday, April 22, 2016. Gates open at 7:30pm at Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurehillcemetery.org>

**ASTRONOMY NIGHT: STARGAZING from the CEMETERY (a Philadelphia Science Festival Event)**

Grab a blanket and take a tour of the cosmos with local astronomers. As part of the Philadelphia Science Festival ([www.philasciencefestival.org](http://www.philasciencefestival.org)), over 20 venues in and around the city will play host to astronomy night star parties with amateur

astronomers coming out en masse with their telescopes to show locals the wonders of the night sky. If you have your own telescope or binoculars, bring them along! Don't forget to bring your own blankets, beach chairs, beverages and/or snacks! Laurel Hill will also offer a raffle, and an array of merchandise for sale. Relaxing and stargazing from Philly's most ethereal site = a perfect way to end the week!

Admission is FREE and open to the public. For additional information, phone (215) 228-8200.

**Saturday, April 23, 2016 at 9:30 AM to 2:30 PM at the 1696 Thomas Massey House in Broomall, PA.**

An 18th century hearth-cooking workshop

Making 18th century pickles.

Cost: \$35.00

For information call Clarissa Dillon ... 610-642-4269

**Sunday, April 24 from 1:00-3:00pm at Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurehillcemetery.org>

**BLOODLETTING and BANDAGES: 19th CENTURY MEDICAL HISTORY (a Philadelphia Science Festival Event)**

Philadelphia has long been on the "cutting edge" of some of our greatest advances in history and the medical field is no exception. This walking tour will highlight not only various members of the 19th century medical community, but Philadelphia's role in pioneering practices and innovations that influenced medicine throughout the world up until the present day.

As part of the Philadelphia Science Festival's ([www.philasciencefestival.org](http://www.philasciencefestival.org)) Explorer Programs, this hands-on, interactive tour is recommended for children ages 10 and up.

The cost is \$5/person at the door; or FREE for those who register in advance. Tickets can be purchased at the door or online.

Tour Guide: Russ Dodge

**Saturday, April 24, 2016 at 12:00 p.m. to 3:00 p.m.** at Pennsylvania Hospital, 800 Spruce Street (Enter at the Archway on 8th Street), Philadelphia, PA 19107

**What was medicine like in 1776?** Travel back in time at Pennsylvania Hospital's historic Pine Building and explore just how much has changed (or stayed the same) throughout American medical history. Visit the original surgical amphitheater, where surgeries took place before the development of anesthetics and sanitation standards, and take a tour of the Physic Garden to learn about herbal medicine. Peer through antique microscopes and uncover the intrigue surrounding Benjamin Franklin and Dr. Thomas Bond's establishment of the first chartered hospital in the nation.

Free and Open to the Public

RSVP Online: No Registration Required

**Sunday, April 24, Noon-4 PM** at the **Wagner Free Institute of Science**, 1700 West Montgomery Avenue, Philadelphia, PA 19121

[www.wagnerfreeinstitute.org](http://www.wagnerfreeinstitute.org)

**Wagner on the Weekend**



### Symmetry, Sequence, and Starfish: Exploring Math in Nature

A 2016 Philadelphia Science Festival Explorer Sunday program.

Free and Open to the Public

**Monday, April 25, 2016 at 12:00 to 1:00 p.m.** at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

<http://www.chemheritage.org>

**Brown Bag Lecture: "Segmentation of Issues as Process of Invisibilization: The Case of Pesticides"**

Free and Open to the Public

**Monday April 25, 2016 at 7:00 PM** at MaGerks Pub and Grill, 582 South Bethlehem Pike, Fort Washington, Pennsylvania 19034.

**American Revolution Round Table of Philadelphia**, <http://arrtop.com/>

**Don Glickstein on his book After Yorktown: The Final Struggle for American Independence**

Free and Open to the Public.

**Wednesday, April 27, 2016 at 6:00-8:00 PM** at the Wagner Free Institute of Science, 1700 West Montgomery Avenue, Philadelphia, PA 19121

[www.wagnerfreeinstitute.org](http://www.wagnerfreeinstitute.org)

**Special Weeknight Event**

**Science Expo 1866** - Travel back in time to examine Philadelphia's cutting edge science that changed the world. A 2016 Philadelphia Science Festival event hosted by the Wagner Free Institute of Science.

Free and Open to the Public

**Saturday, April 30, 2016 at 1pm at Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

**A RURAL MASTERPIECE: LAUREL HILL CELEBRATES 180 YEARS**

In 1836 a young Scottish architect by the name of John Notman won a competition to design the very first garden cemetery of its kind in the United States. His winning plan drew inspiration from the nearby Schuylkill River and surrounding rural landscape—some of the very characteristics that Laurel Hill's founders sought when selecting a suitable location to build a city for the dead. The newly designed site blended incredible scenic views with art and nature, rendering it a peaceful respite for the living and a sacred burial space for the dead.

180 years later, Laurel Hill continues to maintain its identity as a historic site, arboretum, classroom, park, sculpture garden, and of course, the final resting place of over 75,000 notables and ordinary citizens who have impacted local and national history.

In celebration of Laurel Hill's 180th anniversary in 2016, this commemorative walking tour of the grounds will highlight the cemetery's unique history, landscape and beauty. A reception with light refreshments will be held in the Medallion Garden following the tour, along with special activities and a photo booth. The cost is \$35/person general admission.

Tickets can be purchased at the door or online.

**Monday, May 2, 2016 at 12:00 to 1:00 p.m.** at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

<http://www.chemheritage.org> **Brown Bag**

**Lecture: "Plant to Plant to Plant or Some Modes of Chemo-Capital Succession"**

Free and Open to the Public

**Tuesday, May 3, 2016 at 7:00 PM** at Washington Memorial Chapel, on Route 23 in Valley Forge.

Friends of Valley Forge Park

<http://www.friendsofvalleyforge.org/speaker-series.shtml>

Free and Open to the Public.

**Reporting the Revolutionary War**

Speaker: **Todd Andrlik**

Revolutionary War news coverage, as reported in the eighteenth century newspapers of Britain and the United States, and shared by the award-winning author of Reporting the Revolutionary War.

Special Location: Park Theater • Tickets required

Friends Members and WM Chapel donors:

FREE • Non-members: \$20

**Tuesday, May 3, 2016 - 6:00pm - 7:00pm** at Eastern State Penitentiary, 2027 Fairmount Avenue, Philadelphia, PA 19130

<http://www.easternstate.org/home>

**The Searchlight Series: Discussion Topic TBA.**

This event is part of Eastern State's ongoing Searchlight Series of events addressing issues in contemporary corrections. The Searchlight Series discussions take place the first Tuesday of every month, free and open to the public. No reservations required.

Free. Reception to follow

**Saturday, May 7, 2016 at 10:00am at Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

**NATURE in the NECROPOLIS**

Few sites have more appreciation for its "earth," and all of the stories and secrets that lie beneath it than Laurel Hill. The resting place claims status as the first garden cemetery in the United States, boasting 78 acres of green space in the middle of the city. Start off your morning at Laurel Hill, taking in its gorgeous river vistas, and learning of its history as a world-renowned arboretum. Participants will also aim to identify the many bird species, trees and horticultural specimens that still populate the site. Share your knowledge or just enjoy nature and the blooming springtime. Bring binoculars if you wish.

The cost is \$12/person general admission; or \$9/ members. Tickets can be purchased at the door or online.

Guides: Steve Maurer and Bob Berghaier

**Monday, May 9, 2016 at 6:00 PM at National Mechanics, 22 S. Third Street, Philadelphia, PA 19106**

### Science on Tap

A monthly gathering that features a brief, informal presentation by a scientist or other expert followed by lively conversation. Good food and beer.

This month's Science of Tap is brought to you by the American Philosophical Society.

Must be 21 or accompanied by parent. Free and open to the Public.

<http://scienceontaphilly.com/>

**Wednesday, May 11, 2016 at 7:15 PM** at the Fels Planetarium, The Franklin Institute, 222 North 20th Street, Philadelphia, PA 19103

**The Rittenhouse Astronomical Society**

Astronomy lecture open to the General Public. See website for more details:

[www.rittenhouseastronomicalsociety.org/](http://www.rittenhouseastronomicalsociety.org/)

**Thursday, May 12, 2016 at 7:30 PM** at the Free Library of Philadelphia, 1901 Vine Street, 19103

<http://libwww.freelibrary.org/authorevents/>

**Nathaniel Philbrick | Valiant Ambition: George Washington, Benedict Arnold, and the Fate of the American Revolution**

"Popular history at its best: a taut narrative with a novelist's touch, grounded in careful research" (Miami Herald), Nathaniel Philbrick's works include the National Book Award-winning *In The Heart of the Sea* and Boston Globe Horn Book Award recipient *Revenge of the Whale*, which both recount the mythically tragic 19th-century sinking that inspired Melville's *Moby Dick*. His many other books include *Mayflower*, a Pulitzer Prize finalist; *The Last Stand*, a chronicle of the iconic clash at Little Bighorn in 1876; and *Bunker Hill*, a fresh take on the first major battle of the American war for independence. In *Valiant Ambition*, Philbrick returns to the American Revolution, evincing a surprising and complex account of the tragic relationship between the greatest war hero and villain of the young United States.

Cost: \$15 General Admission, \$7 Students

Buy Tickets Online | Ticket and Subscription Packages

**Friday, May 13th and Saturday May 14th, 2016 at 8:00 PM at Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

**THE GHOSTLY CIRCUS: FIRE and AERIAL THEATRE in the CEMETERY**

From the Anastenaria performed in villages in Northern Greece and Southern Bulgaria, to the Native American healing ceremony of the Sacred Fire, to Letuli Olo Misilagi and the Samoan Fire Knife dance; the addition of fire to performances and ceremonies has been a part of many different cultures for centuries. Fire dancing became popular in the United States in the mid-nineties and now this unique art form is coming to Laurel Hill Cemetery.

On Friday, May 13th and Saturday May 14th the Cemetery will partner with 7textures, a creative group of styling and event design, to bring The Ghostly Circus to life. Somewhere between the clouds, the tombs, and Dante's



## Calling All Astronomers! Rittenhouse Astronomical Society

**Monthly Meetings! Bring all of your out-of-this-world questions!** Join The Rittenhouse Astronomical Society the second Wednesday of each month at 7:30 p.m. in the Fels Planetarium at the Franklin Institute. The society offers all persons an opportunity to participate in the activities of an astronomical group at the laymen's level. They aim to spread knowledge, awareness and enjoyment of astronomy and astronomical issues. It is a popular science club that keeps its members up-to-date on the latest developments. No experience is necessary to attend the FREE meetings. Come with your astronomy questions!

[www.rittenhouseastronomicalsociety.org/](http://www.rittenhouseastronomicalsociety.org/)

rings, the artists will build their stage evoking and encompassing the spirit of Laurel Hill with a dance on fire and in the air. This unique, other-worldly show will include fire dancing, aerial performers, theatrical sideshow, and a Dance with the Dead After-Party. Bring your own blankets or beach chairs and enjoy an evening under the stars.

The cost is \$25/person in advance, or \$35/person on the day of the event. Advance reservations are strongly requested. Tickets can be purchased at the door or online.

**Saturday, May 14, 2016 at 10am (with a pre-scheduled rain date of Sunday, May 15 at 10am), at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200**  
<http://www.thelaurelhillemetery.org>

### The ART of LAUREL HILL CEMETERY

Presented in conjunction with The Barnes Foundation, this unique walking tour will examine the art and aesthetics of historic Laurel Hill Cemetery. Participants will be encouraged to look beyond surnames, dates and history, and focus instead on the designed landscape as an aesthetic statement. Join tour guide Ross Mitchell, director of Barnes-de Mazia Education and Outreach Programs, on an exploration of the art found within the cemetery's most incredible architecture, monuments and mausoleums.

The cost is \$25/person general admission and \$22/members. Tickets can be purchased at the door, or in advance or online.

Guide: Ross Mitchell

**Sunday, May 15, 2016 at 1:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200**  
<http://www.thelaurelhillemetery.org>

### 150 ANNIVERSARY of the GRAND ARMY OF THE REPUBLIC (Tour and Exhibit Opening)

The Grand Army of the Republic (GAR) was founded in April, 1866 and quickly became among the largest veterans' organization in US history. The group instituted Memorial Day (Decoration Day), supported voting rights for African American veterans, and developed into a formidable force for veterans' pensions, patriotism, and the interpretation of Civil War history. Laurel Hill contains the graves of many founders and men killed in action, for whom GAR Posts were named after. Join us for a commemorative walking tour and exhibit opening as we mark the 150th anniversary of the organization's founding.

The cost is \$12/person; \$10/students and seniors; \$9/members. Tickets can be purchased at the door or online.

**Monday, May 16, 2016 at 12:00 to 1:00 p.m.** at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

<http://www.chemheritage.org>

### Brown Bag Lecture: "Olet's Order: Intellectual Property and the Bibliographical Imagination"

Free and Open to the Public

**Wednesday, May 18, 2016 at 5:30pm** at College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103, (215) 563-3737 x304 [http://www.colphyphil.org/prog\\_calendar.htm](http://www.colphyphil.org/prog_calendar.htm)

Pre-registration for all programs and events is strongly urged. For further information regarding events and registration, please e-mail [info@collegeofphysicians.org](mailto:info@collegeofphysicians.org) or call 215-399-2341.

### Public Health Grand Rounds: The Substance Abuse Epidemic in Philadelphia

The Substance Abuse Epidemic in Philadelphia viewed from the perspectives of chronic disease, local epidemiology, the courts, and prevention.

Pre-registration for all programs and events is strongly urged. For further information regarding events and registration, please e-mail [info@collegeofphysicians.org](mailto:info@collegeofphysicians.org) or call 215-399-2341.

**Thursday, May 19, 2016. Lecture at 6:00 PM** at the Wagner Free Institute of Science, 1700 West Montgomery Avenue, Phila., PA 19121

[www.wagnerfreeinstitute.org](http://www.wagnerfreeinstitute.org) **Weeknights at the Wagner**

**How to See Science: A Media History** with Dr. Oliver Gaycken, University of Maryland.

Followed by the Annual Wagner Member Reception at 7:30 PM in the museum.

Free and Open to the Public

**Saturday, May 21, 2016 at 9:30 AM to 2:30 PM** at the 1696 Thomas Massey House in Broomall, PA.

An 18th century hearth-cooking workshop. A mid-spring meal. Cost: \$35.00

For information call Clarissa Dillon ... 610-642-4269

**Saturday, May 21, 2016 at 1pm** at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

### CRYPTIC CRYPTS: EGYPTIAN SYMBOLISM at LAUREL HILL

Hades, Heaven, Valhalla, She'ol, Xibalba—religions, philosophies, mythologies, and cultures all have a name for it: The Afterlife. Humans have been trying to rationalize death since the beginning of time. Ritual and commemoration help the living come to terms with the passing of a loved one. Some of these rituals have survived for thousands of years and can be seen in subtle ways, thousands of miles away from their origination. The Ancient Egyptians were one of the first cultures to establish funerary rituals to help usher the deceased into the afterlife. Though proceeding cultures formed their own beliefs and practices, they sometimes adapted those from earlier religions and mythologies. Fast forward to America in the 1800s; Victorians experienced a resurgence in the popularity of funerary ritual along with a renewed interest in the classics. Walk through any cemetery founded in the 1800s and on monuments and mausolea you may be able to recognize Greek, Roman, and Egyptian influences.

On this walking tour through Laurel Hill's historic tombs, discover ancient symbols and architectural styles that have survived since the time of the pharaohs. Along the way, meet the individuals who revered such symbols enough to eternally memorialize them: like a former defamed Egyptologist, the founder of the Penn Museum of Archaeology, and even Indiana Jones. Afterwards, sip on the drink of the Gods and enjoy Mediterranean-inspired fare in the Cemetery's historic Gatehouse.

The cost is \$12/person. Tickets can be purchased at the door, in advance by phone (215) 228-8200, or online.

Guide: Beth Savastana

**Sunday, May 22, 2016 at 10:00 am** at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

### <http://www.thelaurelhillemetery.org> MEMORIAL DAY VOLUNTEER FLAG PLACEMENT

The General Meade Society of Philadelphia, in conjunction with the Friends of Laurel Hill Cemetery, call all Volunteers to assist in preparing for the nation's Memorial Day commemoration. Those assembled will be assigned to place American flags on the gravesites of Veterans that served in all of our nation's Wars. As time and manpower permit,

and in addition to Laurel Hill, cemeteries covered may include Mount Moriah, Mount Peace and St. James the Less. Free refreshments will be provided to all. Free.

## PhACT Expedition

Saturday, May 21, 2016

### PhACT Expedition to Haycock Mountain

See Page 4 for more details.

**Sunday, May 22, 2016 at 1pm at Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

**HISTORY HUNT, FAMILY HIKE and JOURNAL MAKING**

Details Forthcoming...

This program will take place on, departing from Laurel Hill Cemetery's Gatehouse entrance at 3822 Ridge Avenue, Philadelphia, PA 19132. Free parking is located in the lot across the street from the Gatehouse.

The cost is \$5/person. Tickets can be purchased at the door, or online.

Guide: Nancy Wright

**Monday, May 23, 2016 at 12:00 to 1:00 p.m.** at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

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

**Brown Bag Lecture: "Petroleum in the Modern Age: A Puzzle That Lasted Four Centuries"**

Free and Open to the Public

**Monday May 23, 2016 at 7:00 PM** at MaGerks Pub and Grill, 582 South Bethlehem Pike, Fort Washington, Pennsylvania 19034.

**American Revolution Round Table of Philadelphia**, <http://arrtop.com/>

**Monday May 23, 2016 - Don Hagist on his book The Revolution's Last Men: The Soldiers Behind the Photographs**

Free and Open to the Public.

**Thursday, May 26, 2016 at 6:00 p.m. to 7:30 p.m.** at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

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

**Cain Conference Public Lecture: "Life in the Universe: Past and Present"**

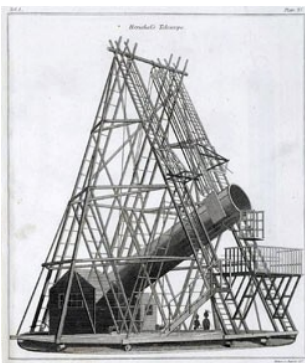
Over the past two centuries what has stimulated belief that life exists elsewhere in the

universe? What factors have detracted from that belief? Are these factors at play today? Our panel of experts will portray astronomers past and present to address these questions and to explore the motives that compel us to search for extraterrestrial life.

David DeVorkin, from the Smithsonian Institution, will introduce and moderate a panel consisting of three astronomers: William Herschel, from the late 18th century (represented by Woodruff T. Sullivan, University of Washington astronomer and historian); Richard Proctor and his contemporaries in the late 19th century (represented by Josh Nall, University of Cambridge historian); and Sara Seager, from the 21st century, MIT professor of astrophysics and planetary science (representing herself).

Following the panel discussion we'll invite you to probe the underlying questions: what motivates us to continue the search for extraterrestrial life? And what does that tell us about ourselves? Free and Open to the Public

RSVP Online: Registration Required



**Friday, May 27, 2016 at 10:00am at Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

**LAUREL HILL: THE HOT SPOTS and STORIED PLOTS**

In life and in death, we all have stories to tell and what better place to hear tales of wonder than Philadelphia's most famous home of the dead? Join Laurel Hill Cemetery for an informative overview of Laurel Hill's long and colorful history, which will include many of the marble masterpieces, stunning views and legendary stories that afford the cemetery its WOW factor. This is the perfect tour for first-time visitors to Laurel Hill, and anyone else who enjoys beautiful art, scenic nature and fascinating history. "The Hot Spots and Storied Plots" will be presented monthly as part of Laurel Hill Cemetery's Fourth Friday and Second Saturday tour series.

The cost is \$12/person; \$10/students and seniors; \$9/members. Tickets can be purchased at the door, or online.

Guide: Terri Greenberg

**Sunday, May 29, 2016 at 12pm sharp at Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

**MEMORIAL DAY PARADE, SERVICE and RECEPTION**

The traditional Decoration Day service of the

Grand Army Meade Post #1 will be recreated at historic Laurel Hill Cemetery, the site of the first Memorial Day Observance in Philadelphia in 1868. The entourage will gather at the resting place of General George Gordon Meade, hero of the Battle of Gettysburg, to perform the traditional service honoring all veterans who fell defending the nation. A wreath-laying, speeches and honor guards will enhance the ceremony. The event is co-sponsored by the General Meade Society of Philadelphia, the Friends of Laurel Hill Cemetery, American Legion Post #405, Post #1 Society, Union League, and Anna M. Ross Camp #1, Sons of Union Veterans. Complimentary beer and refreshments will be served after the service.

Admission to the event is FREE and open to the public; a \$5 donation in support of Laurel Hill Cemetery's work and preservation is suggested and would be much appreciated. For additional information, phone (215) 228-8200 or visit us online.

**Wednesday, June 1, 2016 at 6:00PM** at University of Pennsylvania Museum, 3260 South Street, Philadelphia, PA 19104

<http://www.penn.museum/events-calendar>

**Great Myths and Legends Lecture Series THE ARABIAN NIGHTS: MEDIEVAL FANTASY AND MODERN FORGERY**

Dr. Paul Cobb, Professor of Islamic History, University of Pennsylvania

The Arabian Nights is probably the medieval Arabic book best known in the west, full of ripping yarns and vivid characters that have influenced film, music, and literature for centuries. But did you know that some of its most cherished tales, such as those of Ali Baba and the 40 Thieves, Sindbad, and even Aladdin, were added by modern European translators? Dr. Cobb offers a walkthrough of the fascinating history of this rambling book from its origins in ancient Middle Eastern myths to its status as European bestseller during the Enlightenment.

Full series subscriptions for the Great Myths and Legends Lecture Series (nine lectures) are \$40; \$15 for Penn Museum Members. Single lectures are \$5, or \$2 for Museum members in advance; \$10 for all at the door. All programs begin at 6:00 pm on the first Wednesday of the month.

**Tuesday, June 7, 2016 - 6:00pm - 7:00pm** at Eastern State Penitentiary, 2027 Fairmount Avenue, Philadelphia, PA 19130

<http://www.easternstate.org/home>

**The Searchlight Series: Discussion Topic TBA.**

This event is part of Eastern State's ongoing Searchlight Series of events addressing issues in contemporary corrections. The Searchlight Series discussions take place the first Tuesday of every month, free and open to the public. No reservations required.

Free. Reception to follow

**Wednesday, June 8, 2016 at 7:15 PM** at the Fels Planetarium, The Franklin Institute, 222 North 20th Street, Philadelphia, PA 19103



**The Rittenhouse Astronomical Society**  
Astronomy lecture open to the General Public.  
See website for more details:  
[www.rittenhouseastronomicalsociety.org/](http://www.rittenhouseastronomicalsociety.org/)

**Friday, June 8, 2016 at 8:00 PM**

**Delaware Valley Opera Company** at the Venice Island Performing Arts Center, located in the Manayunk section of Philadelphia. Turn onto Cotton Street from Main Street and use the Venice Island public



parking lot.

[www.dvopera.org](http://www.dvopera.org)

**2016 Summer Opera Festival**

**Merry Wives of Windsor (Sung in English)**

**Monday, June 13, 2016 at 6:00 PM at National Mechanics, 22 S. Third Street, Philadelphia, PA 19106**

**Science on Tap**

A monthly gathering that features a brief, informal presentation by a scientist or other expert followed by lively conversation. Good food and beer.

This month's Science of Tap is brought to you by the American Philosophical Society.

Must be 21 or accompanied by parent. Free and open to the Public.

<http://scienceontapphilly.com/>

**Tuesday, June 14, 2016 at 6:00 PM at World Cafe Live, 3025 Walnut Street, Philadelphia**

<http://www.upenn.edu/pennnews/science>

Penn Science Cafe

Program to be announced.

**Wednesday, June 15, 2016 at 8:00 PM**

**Delaware Valley Opera Company** at the Venice Island Performing Arts Center, located in the Manayunk section of Philadelphia. Turn onto Cotton Street from Main Street and use the Venice Island public parking lot.

[www.dvopera.org](http://www.dvopera.org)

**2016 Summer Opera Festival**

**Merry Wives of Windsor (Sung in English)**

**Saturday, June 18, 2016 at 8:00 PM**

**Delaware Valley Opera Company** at the Venice Island Performing Arts Center, located in the Manayunk section of Philadelphia. Turn onto Cotton Street from Main Street and use the Venice Island public parking lot.

[www.dvopera.org](http://www.dvopera.org)

**2016 Summer Opera Festival**

**Merry Wives of Windsor (Sung in English)**

**Monday June 27, 2016 at 7:00 PM at MaGerks Pub and Grill, 582 South Bethlehem Pike, Fort Washington, Pennsylvania 19034.**

**American Revolution Round Table of Philadelphia, <http://arrtop.com/> Free and Open to the Public.**

**Monday June 27, 2016 - Steve Elliot on his**

**Award Winning Article on his Master's thesis on Requisitioning by the Continental Army. He has been on the interpretive staff at Morristown National Park and is a PhD candidate at Temple University.**

Free and Open to the Public.

**Tuesday, July 5, 2016 - 6:00pm - 7:00pm** at Eastern State Penitentiary, 2027 Fairmount Avenue, Philadelphia, PA 19130 phone: (215) 236-3300

<http://www.easternstate.org/home>

**The Searchlight Series: Discussion Topic TBA.**

This event is part of Eastern State's ongoing Searchlight Series of events addressing issues in contemporary corrections. The Searchlight Series discussions take place the first Tuesday of every month, free and open to the public. No reservations required.

Free. Reception to follow

**Saturday, July 9, 2016 at 8:00 PM**

**Delaware Valley Opera Company** at the Venice Island Performing Arts Center, located in the Manayunk section of Philadelphia. Turn onto Cotton Street from Main Street and use the Venice Island public parking lot.

[www.dvopera.org](http://www.dvopera.org)

**2016 Summer Opera Festival**

**Così fan Tutte (Sung in English)**

**Tuesday, July 12, 2016 at 6:00 PM at World Cafe Live, 3025 Walnut Street, Philadelphia**

<http://www.upenn.edu/pennnews/science>

**PENN Lightbulb Café**

**Topic and speaker TBA**

**Wednesday, July 13, 2016 at 7:15 PM** at the Fels Planetarium, The Franklin Institute, 222 North 20th Street, Philadelphia, PA 19103

**The Rittenhouse Astronomical Society**

Astronomy lecture open to the General Public. See website for more details:

[www.rittenhouseastronomicalsociety.org/](http://www.rittenhouseastronomicalsociety.org/)

**Wednesday, July 13, 2016 at 8:00 PM**

**Delaware Valley Opera Company** at the Venice Island Performing Arts Center, located in the Manayunk section of Philadelphia. Turn onto Cotton Street from Main Street and use the Venice Island public parking lot.

[www.dvopera.org](http://www.dvopera.org)

**2016 Summer Opera Festival**

**Così fan Tutte (Sung in English)**

**Sunday, July 17, 2016 at 3:00 PM**

**Delaware Valley Opera Company** at the Venice Island Performing Arts Center, located in the Manayunk section of Philadelphia. Turn onto Cotton Street from Main Street and use the Venice Island public parking lot.



[www.dvopera.org](http://www.dvopera.org)

**2016 Summer Opera Festival**

**Così fan Tutte (Sung in English)**

## PhACT Picnic

**Sunday, July 31, 2016**

**PhACT Picnic at Mondauk Common Park**

**See Page 4 for more details.**

**Tuesday, August 2, 2016 - 6:00pm - 7:00pm** at Eastern State Penitentiary, 2027 Fairmount Avenue, Philadelphia, PA 19130

<http://www.easternstate.org/home>

**The Searchlight Series: Discussion Topic TBA.**

This event is part of Eastern State's ongoing Searchlight Series of events addressing issues in contemporary corrections. The Searchlight Series discussions take place the first Tuesday of every month, free and open to the public. No reservations required.

Free. Reception to follow

**Saturday, August 6, 2016 at 8:00 PM**

**Delaware Valley Opera Company** at the Venice Island Performing Arts Center, located in the Manayunk section of Philadelphia. Turn onto Cotton Street from Main Street and use the Venice Island public parking lot.

[www.dvopera.org](http://www.dvopera.org)

**2016 Summer Opera Festival**

**Lucia di Lammermoor (Sung in Italian)**

**Monday, August 8, 2016 at 6:00 PM at National Mechanics, 22 S. Third Street, Philadelphia, PA 19106**

**Science on Tap**

A monthly gathering that features a brief, informal presentation by a scientist or other expert followed by lively conversation. Good food and beer.

This month's Science of Tap is brought to you by the American Philosophical Society.

Must be 21 or accompanied by parent. Free and open to the Public.

<http://scienceontapphilly.com/>

**Wednesday, August 10, 2016 at 7:15 PM** at the Fels Planetarium, The Franklin Institute, 222 North 20th Street, Philadelphia, PA 19103

**The Rittenhouse Astronomical Society**  
Astronomy lecture open to the General Public. See website for more details:

[www.rittenhouseastronomicalsociety.org/](http://www.rittenhouseastronomicalsociety.org/)

Wednesday, August 10, 2016 at 8:00 PM  
Delaware Valley Opera Company at the Venice Island Performing Arts Center, located in the Manayunk section of Philadelphia. Turn onto Cotton Street from Main Street and use the Venice Island public parking lot.

[www.dvopera.org](http://www.dvopera.org)

2016 Summer Opera Festival

Lucia di Lammermoor (Sung in Italian)



Sunday, August 14, 2016 at 3:00 PM

Delaware Valley Opera Company at the Venice Island Performing Arts Center, located in the Manayunk section of Philadelphia. Turn onto Cotton

Street from Main Street and use the Venice Island public parking lot.

[www.dvopera.org](http://www.dvopera.org)

2016 Summer Opera Festival

Lucia di Lammermoor (Sung in Italian)

Tuesday, August 16, 2016 at 6:00 PM at World Cafe Live, 3025 Walnut Street, Philadelphia

<http://www.upenn.edu/pennnews/science>

PENN Science Café

Topic and Speaker TBA

Tuesday, September 6, 2016 - 6:00pm - 7:00pm at Eastern State Penitentiary, 2027 Fairmount Avenue, Philadelphia, PA 19130

<http://www.easternstate.org/home>

The Searchlight Series:

Discussion Topic TBA.

This event is part of Eastern State's ongoing Searchlight Series of events addressing issues in contemporary corrections. The Searchlight Series discussions take place the first Tuesday of every month, free and open to the public. No reservations required.

Free. Reception to follow.

Monday September 26, 2016 at 7:00 PM at MaGerks Pub and Grill, 582 South Bethlehem Pike, Fort Washington, Pennsylvania 19034.

American Revolution Round Table of Philadelphia, <http://arrtop.com/>

Elizabeth Beatty of Fort Mifflin, Philadelphia Free and Open to the Public.

Saturday, October 22, 2016 at 9:30 AM to 2:30 PM at the 1696 Thomas Massey House in Broomall, PA.

An 18th century hearth-cooking workshop

A mid-autumn meal.

Cost: \$35.00

For information call Clarissa Dillon ... 610-642-4269

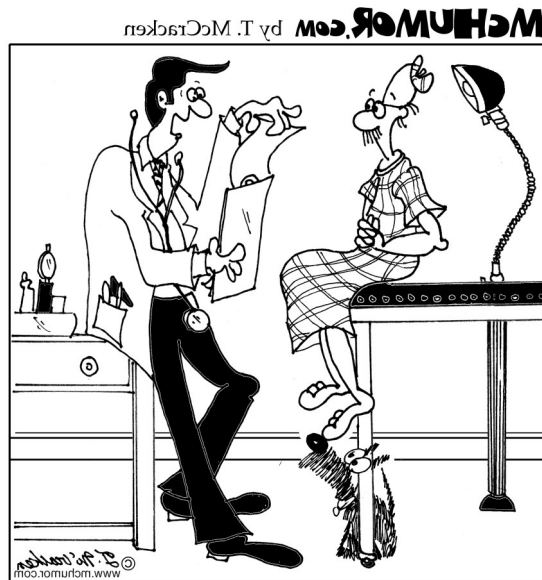
Monday October 24, 2016 at 7:00 PM at MaGerks Pub and Grill, 582 South Bethlehem Pike, Fort Washington, Pennsylvania 19034.

American Revolution Round Table of Philadelphia, <http://arrtop.com/>

John A. Nagy on his new book George Washington's Secret Spy War, The Making of America's First Spymaster Free and Open to the Public.

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**PhACT Lecture**  
**Saturday, September 17, 2016**  
**Dr. Rob Brotherton will speak on**  
**The Psychology of Conspiracy Theories.**  
  
**See Page 5 for more details.**



"This doesn't look good. I'm afraid you've developed an immunity to pesticides."

**Cartoon by T. McCracken**  
<http://www.mchumor.com/>

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.

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**Mail checks to:**  
**PhACT**  
**653 Garden Road**  
**Glenside, PA 19038**

or to pay online go to  
[www.PhACT.org](http://www.PhACT.org)

## 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 **premier** learning institution and PhACT is pleased to support this goal by having talks on wide ranging, engaging, and educational topics. Students and faculty are invited to be active participants in our activities.

### The PhACT Council 2015/16

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The PhACT website is: [www.phact.org](http://www.phact.org)

*Phactum* is distributed 4 times a year beginning January 2014 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. 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](mailto:phactpublicity@aol.com).

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*Phactum* Editor, Ray Haupt  
[phactpublicity@aol.com](mailto:phactpublicity@aol.com)



In science, fact can only mean confirmed to such a degree that it would be perverse to withhold provisional assent. I suppose that apples might start to rise tomorrow, but the possibility does not merit equal time in physics classrooms.

~ Stephen Jay Gould (1941 - 2002)