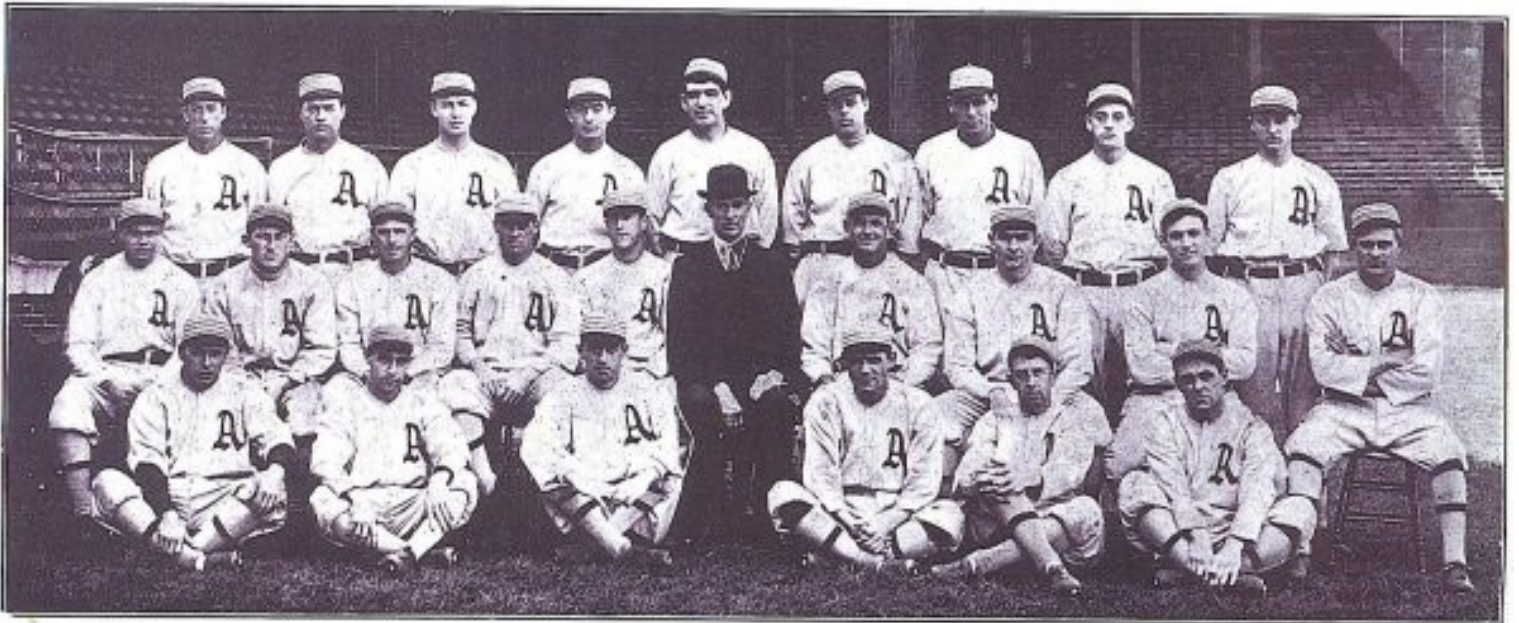


# *Phactum*

The Newsletter and AntiWoo Woo Organ of the  
Philadelphia Association for Critical Thinking  
October/November/December 2014

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Webmaster: Wes Powers <http://phact.org/>

PHILADELPHIA ATHLETICS, CHAMPIONS AMERICAN LEAGUE, 1914.



Top Row—Plank, Davis, Houck, Baker, Thomas, Brown, Bender, Wyckoff, Penneck  
Centre Row—Strunk, Lapp, Daley, Schang, Bush, Connie Mack, D. Murphy, Shawkey, Orr, Oldring  
Bottom Row—Walsh, Lavan, Barry, E. Murphy, Collins, McInnis

The Philadelphia Athletics, the American League Pennant winner in 1914, was the first team in baseball history to lose the World Series in a 4 game shut out. They played the National League champions, the Boston Braves at Fenway Park in Boston, the series ended on October 13.

While the Philadelphia Athletics and the Boston Red Sox were merrily competing in baseball on October 13 of 1914 a grim situation was developing in Europe. On that day in 1914 the Battle of Armentières commenced in northern France and would continue until November 2, 1914. Armentières was a relatively small battle by Great War standards, but other major troop movements and combats were occurring at the same time in France and Belgium. A few weeks earlier the bloody First Battle of the Marne had concluded in a German defeat with staggering casualty count on both sides and setting the stage for four years of trench warfare..

The German soldiers shown in the picture will eventually be deployed at the First Battle of Ypres fought during October and November 1914, the young soldier seated on the right just happens to be 25 year old Adolf Hitler, a private in the 16th Bavarian Reserve Infantry Regiment, who was decorated for bravery at that very bruising battle.

In December of 1914 one of the most extraordinary events of World War 1 took place as soldiers on both sides of the trenches often would converse with each other and trade cigarettes and wine. On December 24 there was an informal truce between opposing soldiers and for a time there was a lull in the war. Unfortunately the generals were not happy about this and in a few days hostilities energetically resumed, the temporary truce among front line soldiers dissolved in favor of grim trench warfare.



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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

New entry - **The Self-Editor's Error** - The common situation in which one makes an error which escapes his own notice when self-editing work product. The author confidently recalls what he MEANT to say, even if he actually misspoke or left out crucial logical steps of an explanation. But another person, not having the same cognitive image, will easily spot errors the author overlooked. Common in writing, math calculations, drawing up plans for a project, and even in critiquing the work of others (a.k.a., "foot-in-mouth disease.")

# 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 lot on 17th Street which is one way south bound. 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, October 18, 2014 at 2:00 PM - Lecture**

**Professor Barry Vacker will discuss his book "The End of the World — Again: Why the Apocalypse Meme Replicates in Media, Science, and Culture"**

**Barry Vacker** is a theorist who creatively and critically explores the intersection of art, media, science, technology, and contemporary culture. As an author, professor, and speaker, Vacker brings an uncompromisingly broad and existentialist perspective to many of the deepest issues presently shaping human destiny in the still very new millennium. Vacker teaches media and cultural studies at Temple University (Philadelphia), where he is an associate professor and the faculty teaching mentor for the School of Media and Communication. He received his PhD from The University of Texas at Austin in 1995.

Barry's books include:

- The second edition of the innovative text anthology, "Media Environments" (Cognella, 2014).
- "The End of the World Again: Why the Apocalypse Meme Replicates in Media, Science, and Culture" (The Center for Media and Destiny, 2012).
- "Slugging Nothing: Fighting the Future in Fight Club" (Theory Vortex Books, 2009).
- The text for Peter Granser's art-photography book, "Signs" (Hatje Cantz and the Chicago Museum of Contemporary Photography 2008).

Barry's recent articles include:

- "Space Junk and the Second Event: The Cosmic Meaning of the Zombie Apocalypse," *The Thinking Dead: What the Zombie Apocalypse Means*, edited by Murali Balaji (Lexington Books, 2013).
- "Yearning to Be the Center of Everything When We Are the Center of Nothing: Parallels and Reversals in Chaco, Hubble, and Facebook" (with coauthor Genevieve Gillespie) in *Telematics and Informatics*, vol. 30, no. 1 (February 2013), 35-46.
- "Black Holes in the Electronic Galaxies: Metaphors for Resistance in the Information Society" (with coauthor Agreeen Wang) in *The Unconnected: Social Justice, Participation, and Engagement in the Information Society*, edited by Paul M. A. Baker, Jarice Hanson, and Jeremy Hunsinger (Peter Lang, 2013).

*(Continued on page 4)*

**Wild, dark times are rumbling toward us, and the prophet who wishes to write a new apocalypse will have to invent entirely new beasts, and beasts so terrible that the ancient animal symbols of St. John will seem like cooing doves and cupids in comparison.**

~ **Heinrich Heine, "Lutetia; or, Paris", *Augsberg Gazette*, 1842**

## Saturday, November 15, 2014 at 2:00 PM - Lecture

### “Neuroethics: the Perils and Potential of Brain Science”

**Ted Schick, Professor of Philosophy at Muhlenberg College, will discuss Neuroethics: the Perils and Potential of Brain Science.**

Advances in neuroscience, biochemistry, and genetics have brought a new set of ethical questions to the fore. We now have the ability to not only monitor brain functioning in real time (through such devices as PET scanners and MRIs) but also to alter the structure of the brain (through drugs, surgery, implants, genetic engineering, etc.). But the brain is the seat of the mind; it directly affects how we think, feel, and act. Any change in brain structure can have a profound effect on the self. So what constitutes ethical uses of these technologies? For example: If we could identify people with brain structures that are highly correlated with criminal behavior, should we give people with those structures reduced sentences? Should we force them to undergo treatment? If we could use brain scans to reliably tell whether someone witnessed a crime or is lying, should we be able to force them to be scanned? Would that be like forcing someone to testify against themselves or like forcing them to give a DNA sample? If brain-altering procedures existed to erase memories, make people less shy or more intelligent, etc., should they be made available on the open market?

**Dr. Ted Schick** is Professor of Philosophy and Director of the Muhlenberg Scholars Program at Muhlenberg College. Born in Davenport, Iowa, he received his B.A. from Harvard University and his Ph.D. from Brown University. He has received the Lindback award for Distinguished Teaching as well as a Hoffman Research Fellowship. In addition to creating the Muhlenberg Scholars Program, he also created and directed Muhlenberg’s First Year Seminar Program and served as the Director of Academic Computing. He has authored three texts: *How to Think About Weird Things: Critical Thinking for a New Age* (with Lewis Vaughn), *Doing Philosophy: An Introduction Through Thought Experiments* (with Lewis Vaughn), and *Readings in the Philosophy of Science: from Positivism to Post-modernism*. He serves on the editorial board of *Philo* and has published numerous articles on the nature of knowl-

## "The End of the World Again: Why the Apocalypse Meme Replicates in Media, Science, and Culture"

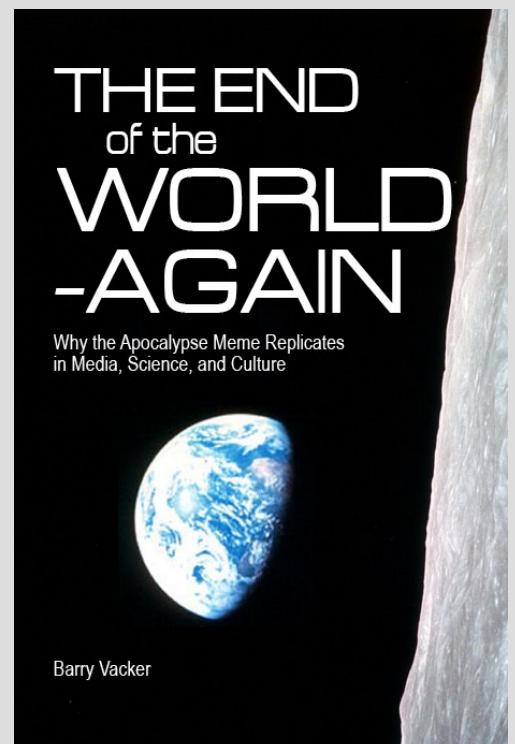
by Barry Vacker

**Publisher: Center for Media and Destiny; 1st edition (December 21, 2012)**

**ISBN-10: 0979840465 ISBN-13: 978-0979840463**

**Paperback: 171 pages**

Doomsday scenarios. They proliferate in our culture, from economics to ecology, theology to technology, biology to cosmology, James Bond to Slavoj Zizek, Plato's Atlantis to Lars von Trier's *Melancholia*. With creativity and critical insight, Barry Vacker shows why apocalyptic memes replicate and have built-in survival advantages. He also explains how the doomsdays reveal the deeper challenges facing human existence -- the philosophical apocalypse effected by our lack of cosmic meaning in the vast universe. Have we really embraced our true existence on Spaceship Earth floating in the cosmos of the new millennium? Our calendars say we have passed the year 2000, but have we really entered the new millennium? *The End of the World -- Again* offers an original, exciting, and (for some) terrifying critique of culture in 2012 and beyond.



edge, reality, and value. His work also appears in a number of volumes of Open Court's Philosophy and Popular Culture series including: Seinfeld and Philosophy, The Matrix and Philosophy, The Lord of the Rings and Philosophy, More Matrix and Philosophy, Star Trek and Philosophy, Led Zeppelin and Philosophy as well as Blackwell's Beer and Philosophy. His articles have been reprinted in a number of publications including: Toward a New Political Humanism, edited by Barry Seidman and Neil Murphy; God edited by Timothy Robinson; The Improbability of God, edited by Michael Martin, Science, Religion, and Society: an Encyclopedia of History, Culture, and Controversy, edited by Arri Eisen and Gary Laderman, The Skeptic Encyclopedia of Pseudoscience edited by Michael Shermer; Culture Wars, edited by Mary E. Williams, Philosophy and Contemporary Issues, edited by Burr and Goldinger, and Introduction to Philosophy: Knowledge, God, Mind, Morality, edited by David Ohreen. His current teaching interests include, philosophy of science, philosophy of mind, and biomedical ethics.

## How to Think about

## Weird Things:

## Critical Thinking for a New Age

by Ted Schick and Lewis Vaughn



**Publisher: McGraw-Hill Humanities/Social Sciences/Languages;**  
**7th edition (January 28, 2013)**

**ISBN-10: 0078038367 ISBN-13: 978-0078038365**

**Paperback: 352 pages**

This brief, affordable text helps students to think critically, using examples from the weird claims and beliefs that abound in our culture to demonstrate the sound evaluation of any claim. It explains step-by-step how to sort through reasons, evaluate evidence, and tell when a claim (no matter how strange) is likely to be true. The emphasis is neither on debunking nor on advocating specific assertions, but on explaining principles of critical thinking that enable readers to evaluate claims for themselves. The authors focus on types of logical arguments and proofs, making How to Think about Weird Things a versatile supplement for logic, critical thinking, philosophy of science,

or any other science appreciation courses.

**Saturday, January 17, 2015 at 2:00 PM - TBA**

**Saturday, February 21, 2015 at 2:00 PM - TBA**

**Saturday, March 21, 2015 at 2:00 PM - TBA**

**Saturday, April 18, 2015 at 2:00 PM - TBA**

## Saturday, May 16, 2015 at 10:00 AM - PhACT Expedition to the Mullica River

James F. McCloy and Ray Miller, Jr in *Phantom of the Pines* (1998) wrote that in 1928 not far from Batsto “William Bozarth encounters the Jersey Devil along the Mullica River”. And in 1936 at Batsto he “sees the Jersey Devil again.” Henry Charlton Beck in *Jersey Geneses: The Story of the Mullica River* (1945) had noted that the obituary for Fire Warden Bozarth stated that he “was the last man known to have seen The Jersey Devil.”

Our guide, Don Nigrone, will trace two folkloric traditions concerning the Jersey Devil, namely, the witch tradition, dating back to at least 1859, and the curse tradition, from at least 1887, to the present day. Accompanying the expedition will be Robb Kerr and Jeff Cooney, who will be providing zoological and botanical information about the Pine Barrens, and professional photographer Ned Levi, who will be photo-



**Fowler's toad along the Tom's Pond Trail.  
Photo by Kim Sheridan**

documenting the day's activities. We will meet at the Visitor Center at Historic Batsto Village (<http://www.batstovillage.org/>) at 10:00 AM. After walking through the village, where scenes for *13<sup>th</sup> Child: Legend of the Jersey Devil* (2002) were filmed, we will hike the Tom's Pond Trail (1.8 miles) which proceeds over the Mullica River. After lunch, participants can take a self-guided tour of Batsto Village.

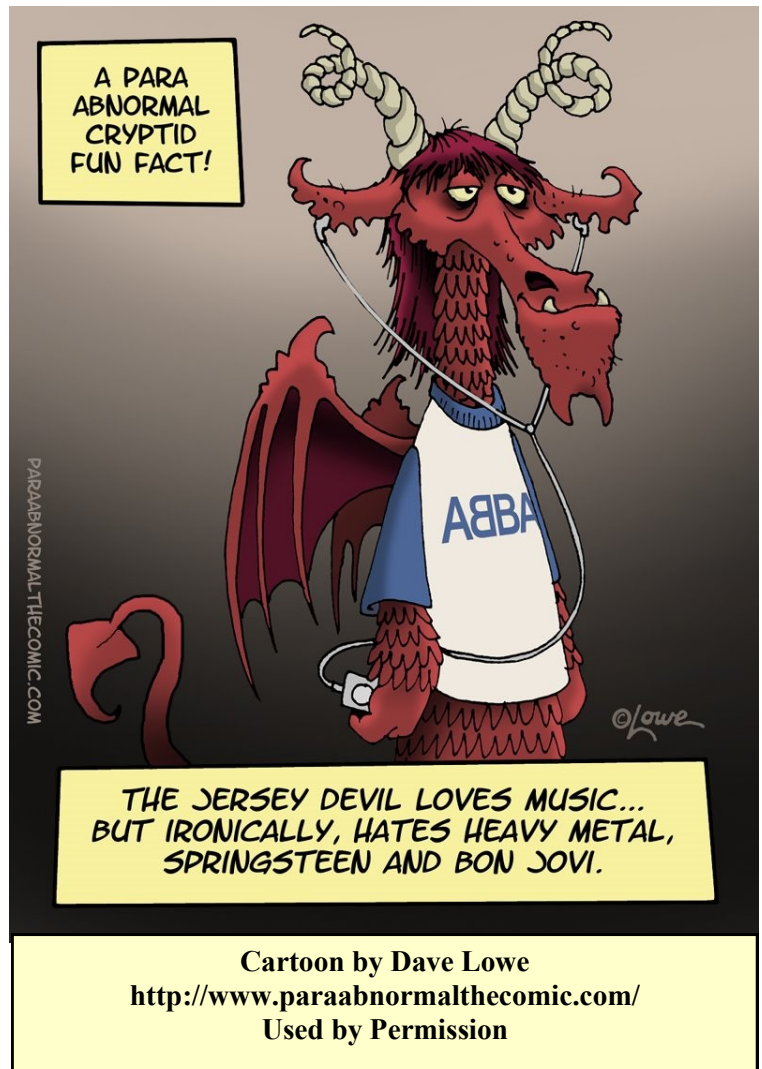
Although we may not find any monsters, we will learn about the history of the bog iron era in the 18<sup>th</sup> and 19<sup>th</sup> centuries in the Pine Barrens and see pink lady's slippers and carnivorous plants like sundews and pitcher



**The Batsto Mansion in Historic Batsto Village, residence  
of Batsto ironmasters.  
Photo by Kim Sheridan**

plants. Bring insect repellent, sturdy shoes, lunch, and a camera. The event is free and open to the public.

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

# Letters to the Editor

## Letters to the editor are encouraged

Editor: There's another aspect of the story of the Ship of Theseus you might want to think about. What at least *was* Theseus's ship, you will recall, was repaired, replaced plank-by-plank, until none of the original wood remained. The question is, is it still Theseus's ship?

Thomas Hobbes added, suppose someone had kept all the discards and rebuilt, to the original design, a ship using all the original wood. *Now* which is the Ship of Theseus?

I wrote that *you* might want to think about it because as far as I'm concerned, the answer is obvious. Understand that the fundamental physical facts are not in dispute – this is a question about how we use language. To me what's most relevant to which is the Ship of Theseus is the continuity of the designation, so that the Ship of Theseus is the ship with none of the original wood remaining. The other ship? It's a ship built exclusively from parts that came from the Ship of Theseus, including planks that Theseus actually stood on, unlike any of the planks of the Ship of Theseus.

Here's a related example: Henry Ford moved what all agree *at least had been* the Wright Brothers' house (and their bicycle shop, too) from Dayton, Ohio to Dearborn, Michigan. I would say that what's in Greenfield Village now is the Wright Brothers' house, but not their home!

Howard J. Wilk

Philadelphia

Editor's note: See Phactum of July 2014 to better understand the context of this letter.

Editor: I'm reading two semi-popular math books right now, *Four Colors Suffice: How the Map Problem Was Solved*, which is pretty much self-explanatory, and *How Round Is Your Circle: Where Engineering and Mathematics Meet*, which requires some explanation. The title refers to the question of how do you know what you think is a circle is really a circle? The issue came up during the investigation of the space shuttle *Challenger* disaster. Richard Feynman found out that the roundness of the sections of the solid rocket boosters was determined by measuring just three diameters, but he points out in his book *What Do You Care What Other People Think?* that any number of equal diameters isn't sufficient to determine roundness – you can have

## Four Colors Suffice: How the Map Problem Was Solved

### Paperback

by Robin Wilson

**Publisher: Princeton University Press (November 7, 2004)**

**Paperback: 280 pages**

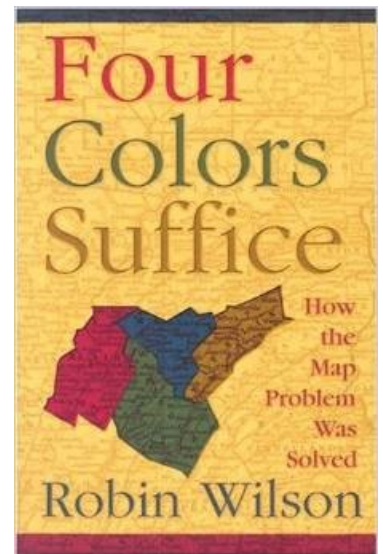
**ISBN-10: 0691120234 ISBN-13: 978-0691120232**

On October 23, 1852, Professor Augustus De Morgan wrote a letter to a colleague, unaware that he was launching one of the most famous mathematical conundrums in history--one that would confound thousands of puzzlers for more than a century. This is the amazing story of how the "map problem" was solved.

The problem posed in the letter came from a former student: What is the least possible number of colors needed to fill in any map (real or invented) so that neighboring counties are always colored differently? This deceptively simple question was of minimal interest to cartographers, who saw little need to limit how many colors they used. But the problem set off a frenzy among professional mathematicians and amateur problem solvers, among them Lewis Carroll, an astronomer, a botanist, an obsessive golfer, the Bishop of London, a man who set his watch only once a year, a California traffic cop, and a bridegroom who spent his honeymoon coloring maps. In their pursuit of the solution, mathematicians painted maps on doughnuts and horseshoes and played with patterned soccer balls and the great rhombicuboctahedron.

It would be more than one hundred years (and countless colored maps) later before the result was finally established. Even then, difficult questions remained, and the intricate solution--which involved no fewer than 1,200 hours of computer time--was greeted with as much dismay as enthusiasm.

Providing a clear and elegant explanation of the problem and the proof, Robin Wilson tells how a seemingly innocuous question baffled great minds and stimulated exciting mathematics with far-flung applications. This is the entertaining story of those who failed to prove, and those who ultimately did prove, that four colors do indeed suffice to color any map.



non-circular shapes that nonetheless have the same diameter wherever they're measured. It was a failure in a seal between sections that led to the disaster.

How do you draw a straight line if you don't have a straightedge? Or in other words, how do you make something straight or determine that something's straight if you don't have something straight to compare it to? *How Round?* describes devices such as the Peaucellier Linkage, which can be constructed without a straightedge, by which you can draw a straight line using rotary motion. You could use it to make the world's first straightedge. In more practical terms, you could have a mechanism that's supposed to move straight (like a piston) without something straight to guide it (like a cylinder). But of what use is a piston without a cylinder? So that's really not practical at all. But the authors assure me the Linkage did find some use in 19th-century steam engines.

Useful or not, it's kinda cool, and I made a few. Except that there's a limit to the precision you can get with scrap wood and screws and nuts. So I really can't draw a line that's very straight with it. What, me worry? I used a ruler to draw a straight line on a piece of paper and stuck that under my linkage so that the photo of it I sent to a friend seems to show

that the line was drawn by the linkage. Not too different from some of the illustrations in fraudulent scientific papers.

I knew about the Peaucellier Linkage beforehand and it was totally expected by me that I would encounter it in the *How Round?* book. But then I came across it in the *Four Colors* book. That was totally unexpected. Why would something about creating straight lines be in a book about coloring maps whose borders don't have to be straight, and even if they did, why wouldn't you just pick up the straightedge on your desk instead of creating what on another world could be that world's first straightedge?

The linkage here turns out to be that the same mathematician (Alfred Bray Kempe) who wrote some sort of something entitled "How to draw a straight line" also proved the four-color map theorem – at least came up with a proof that in the 19th century was thought to be correct for 11 years.

So the "coincidence" has an explanation, but I didn't know the background, so it was no less a coincidence for me. Howard J. Wilk  
Philadelphia

Editor: A few minutes ago I was working on a potential consumer product I intend to call "Nero". Not because of the

## Reader Participation Wanted!!

Writing Letters to the Editor and Articles for Phactum is reputed to be more a more pleasant activity than pulling teeth, especially if it is your tooth in question. So why not take pen to hand and express your opinions on various matters that might be of interest to skeptics, things that have bugged you, things where you have a distinct point of view. Everyone has something to contribute if one can overcome stubborn writer's block or fear of self-expression. Phactum is a friendly forum (mostly) to express ideas and opinions.

We invite articles and letters on almost any matter except partisan politics and unduly harsh criticism of religion. Great topics include human evolution, free energy, alternative medicine and all sorts of mystical quackery. The End of the World is a great topic as is the flatness of the Earth, and one can hardly have too many tales of Nessie and Bigfoot. Original poetry is invited and please send in a great recipe for Lasagna. Suggestions to improve Phactum are very desired.

We do appreciate participation by readers and at this time in history we especially seek help in revealing news of quackery in the realm of alternative medicine potions, cures, and misinformation as it relates to the **Ebola Epidemic** in Africa and possibly elsewhere. Epidemics are certainly issues where critical thinking and encouragement of science are of great importance and perhaps small organizations like PhACT can help raise awareness, even if only on a small scale.

Please send submissions to the editor by email at: [phactpublicity@aol.com](mailto:phactpublicity@aol.com)







Roman emperor, but because it's black, nero meaning black in Italian, black being a relevant characteristic of the product. Although the fact that it's also the name of an emperor suggests that I could call further products in this line "Nero II", etc.

This working on the product involved going through a big box of papers that had been inconveniently stashed in a closet under a bunch of other things, so I immediately looked around my office room for a more convenient place to put it. I saw a spot already taken up by another box, of whose contents I had no recollection. So I went through this other box, which turned out to be computer-related stuff from, like, the turn of the century. There were papers and disks, and one of the disks was called "Nero Express", from [www.nero.com](http://www.nero.com). I had no idea what it was for; it turned out to be some multimedia software.

So I was using "Nero" and then came across it, with no connection between the two (my application has nothing to do with computers), and with neither having anything to do with the Roman emperor.

Howard J. Wilk  
Philadelphia

Editor: After reading Howard Wilkes's (first) letter in the July/August/September 2014 issue, I ran across the latest developments in the fight against malaria across the world, so I thought I'd share.

Once again, the news comes from Science News (Sept. 6, 2014), in an article by Nathan Seppa titled "Resistance to key malaria drug spreads." The news, while bad, is not yet especially worrisome for our continent.

The trouble centers in Cambodia, and has spread throughout the SE Asian peninsula for the last decade or so. *Plasmodium falciparum*, the protozoan which causes the worst strain of malaria, is evolving a resistance to the main drug used to fight malaria, called artemisinin. The drug was originally one of those "ancient herbal remedies," but in the '70s it was "rediscovered" and developed into a pharma pill which initially had strong effect in killing the infection. In an effort to forestall drug resistance, doctors routinely prescribe artemisinin along with some other anti-malarial, so that the two drugs will deliver a one-two knockout punch to the disease, killing it off before it can develop resistance. The method works so well that half the malaria parasites in a victim's blood are "cleared" within five hours of the first treatment! However, recent indications are that the protozoan is taking a median time between 6.9 and 9.6 hours to reach the "half load" die-off point, which is a clear indication that resistance to artemisinin is developing. Researchers have linked this resistance to a mutation in a protozoan gene called *kelch13*, but they don't yet know how that mutation is creating resistance to the drug treatment.

As a result, patients are now being prescribed a six-day

treatment (rather than the older three-day run), in the hope that the resistant strains can be eradicated before they spread further.

Here's the basic fact: When taking prescribed medications, be sure to TAKE THE FULL COURSE OF TREATMENT. If you stop taking the drugs mid-course, simply because you're feeling better, you're probably leaving the hardest survivors of the infectious organism alive; they, in turn, go right back to breeding a strain of bug which is just a little better at surviving the drug, leading to drug resistance. Malaria is only one disease which is winning the battle, one patient's shortcut at a time. Staph infections are swiftly becoming resistant to Methycillin, their strongest antibiotic enemy (you've heard of MRSA!) A few of the STDs are making comebacks these days as well, thanks to growing resistance to the drugs which had almost eradicated them. Measles is making a dramatic comeback, either because of non-vaccination or insufficient vaccination (the latter of which has the potential to breed resistant strains).

FYI, there is no currently approved vaccine against malaria. Consult your doctor before traveling to tropical areas where mosquitoes may transmit the protozoan to YOU.

Paul Schlueter III, Dallas, PA

Editor's note: See page 11 for more on malaria.

Editor: I'm working on a project that might eventually appear in *Phactum* or elsewhere. There's something hush-hush about it, so I can't go into details yet.

Pursuant to the project, I need some lab work done, and maybe McGill University in Montreal will do it. In an effort to change that "maybe" into a "" (plug it into the sentence), I've offered to donate to them four photos of Watson and Crick with their double-helix model of DNA. You've probably seen at least one of the photos in, for example, Watson's *The Double Helix*. If you haven't read that book, you must. I mean **now**, as Richard Feynman ordered David Goodstein.

The four photos are each signed by both Watson and Crick and are valuable. McGill is mostly interested in items that are somehow connected to the school, so I reminded them of the Avery-MacLeod-McCarty experiment that established that DNA is the carrier of genetic information: Avery and MacLeod were born in Canada, and MacLeod went to McGill. The singular fact that MacLeod was Canadian was all I had known before. The rest I recently discovered from that font of infallible information, Wikipedia.

I had known MacLeod was Canadian because I had seen the very good movie *Glory Enough for All*, which is about the discovery, in Canada, of insulin. It was only because MacLeod was Canadian and I wanted to know more about him, the experiment, and the experimentalists that I went to Wikipedia in the first place. I looked up MacLeod and, sure enough, Colin MacLeod (I had forgotten his given name) was Canadian, and I learned also that he went to McGill. But it was the "wrong" MacLeod! The MacLeod (actually Macleod) who codiscovered insulin turned out to be J. J. R.

Macleod. It was only because I was wrong about knowing that MacLeod of the DNA experiment was Canadian that I knew he was Canadian when I made the offer to McGill. A coincidence by mistake.

Howard J. Wilk  
Philadelphia

Editor: My dog, Glacier, is tremendously strong (he's a Frisian Shepherd). He snagged the heavy-duty key ring with his tags that was attached to his collar on something, and pulled it into a perfect Jesus fish. I believe!

Howard J. Wilk  
Philadelphia



**Kelpius' Cave**  
Photo by Don Nigroni, May 2014

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## Various Ruminations

of Woo Woo and Real Science  
and some Gossip

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

### Rosicrucians in Philadelphia

PhACT's intrepid explorer, Don Nigroni, had been on an expedition in the Wissahickon section of Philadelphia's Fairmount Park and came upon Kelpius' Cave also known as the Hermit's Cave. This artifact is not really a cave at all but was a structure supposedly used by a 17th century German mystic named Johannes Kelpius who in 1694 migrated to the Province of Pennsylvania with a band of about 40 followers. This was a well educated group, versed in botany, astronomy, languages, and the Bible, especially the Book of Revelations. They held a belief based upon Biblical Interpretation that the world would end in 1694. Disappointed that World End did not transpire, Kelpius and his followers remained in Philadelphia living as celibate monks.

In 1961 local Rosicrucians set up a monument to Kelpius claiming him to be the Original Rosicrucian.

Also in the Delaware Valley, in Buck's County, there are a set of pyramids built by the Rosicrucians in a formal garden that is no longer open to public access, the property abundantly marked No Trespassing signs. There is an at-



**Rosicrucian Pyramids of Bucks County, PA**  
Photo by Don Nigroni, May 2014

mosphere of mystery about this display now getting overgrown and seemingly without purpose.

For more about the cave and pyramids see this Youtube video which tries to connect the Rosicrucians to alchemy and aliens: <http://www.youtube.com/watch?v=1qwBIyuocuc>

### Analysis of MLM complaints published

The ever reliable Dr. Stephen Barrett presented this little item in Consumer Health Digest of September 7, 2014 about MLM (Multi-Level Marketing) schemes that are common in the United States and other countries as well. MLM's are often the marketing vehicle used by scamsters to peddle bogus medical gadgets, potions, and advice and thus have

aroused interest and scrutiny by Dr. Barrett.

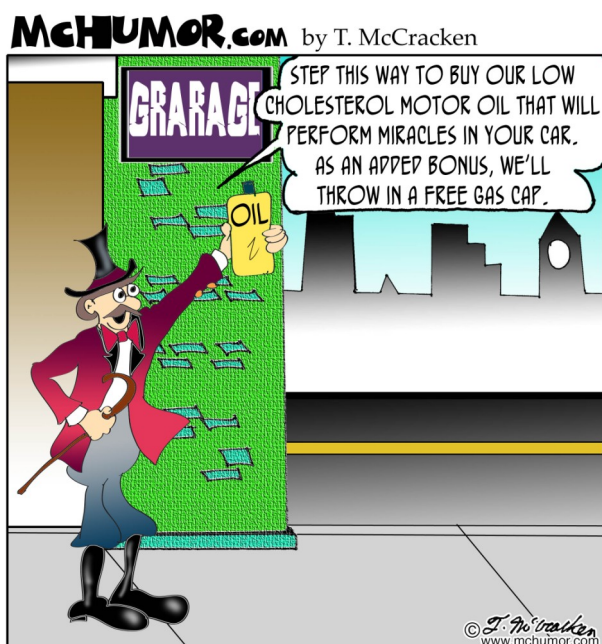
John M. Taylor, MBA, Ph.D., who operates [MLM-thetruth.com](http://MLM-thetruth.com), has published a 356-page analysis of complaints about multilevel marketing firms sent to the FTC in 2013. The report concludes:

*More than 900 complaints were filed regarding more than 100 companies. The complaints—which include "channel stuffing" (pressuring participants to buy products they have a hard time selling); overpricing; grossly exaggerated health claims; and high churn rates—are indicators of widespread deceptive and unfair trade practices, which the FTC is charged with investigating.*

*MLM as an inherently flawed business model. Typically, prospects are lured with exaggerated product and income claims. And because the pay plan is heavily stacked in favor of those at the highest levels in the pyramid, the vast majority of participants spend more than they receive and eventually drop out, only to be replaced by a stream of similarly misled recruits, approximately 99% of whom are likewise destined to experience loss and disappointment.*

*The FTC does not have the resources to prosecute the hundreds of MLMs that violate the FTC Act. Consumers have expressed anger at the abuses they experienced and provided a large body of evidence that points to specific areas in which the FTC could take preventive action. Although the agency could establish rules that will provide some protection to consumers, it has exempted MLMs from industry wide regulation under its Business Opportunity Rule in favor of case-by-case reviews that are rare and fail to protect against abuses that are common throughout the industry.*

See Dr. Barrett's website at: [www.quackwatch.com](http://www.quackwatch.com)



Local garage owners questioned corporate's new marketing strategy

## Malaria

*Plasmodium falciparum* (*P. falciparum*) is a tropical parasite that is transmitted to humans by the bite of an infected *Anopheles* mosquito. After an incubation period of about two weeks a bite victim will likely suffer fever, joint pain, severe headaches, diarrhea, and other symptoms. There are three other known malaria parasites: *P. malariae*, *P. ovale* and *P. vivax*, but in the unhappy world of this disease *P. falciparum* is the most common and is thought to be the worst, accounting for an overwhelming percentage of malarial sickness and death.

The World Health Organization (WHO) reported that in 2012, there were an estimated 207 million cases of malaria which caused approximately 627,000 deaths. Of those deaths in 2012 an estimated 482,000 were children under five years of age. Around 80% of malaria cases occur in Africa but the disease is common in tropical parts of Asia, and South and Central America.



Adult female common malaria mosquito, *Anopheles quadrimaculatus*

Malaria was a serious medical problem in the United States in the early years of the country until large scale mosquito control programs were effective. Of over 3,000 varieties of mosquito only about 40 are of the *Anopheles* variety. In the United States the major malaria vector is *Anopheles quadrimaculatus* in the east and *Anopheles freeborni* in the west.

The first known case of malaria in the New World was after Columbus' first voyage. The disease is thought to have been transported first to the Caribbean by African slaves and then went on to become common in Central America. During his second voyage, Columbus contracted malaria. By the 16th century malaria had become common in England and other parts of Europe. Infected European immigrants provided meals for mosquitoes and thus a disease had spread across an ocean. Malarial outbreaks had been recorded in Boston in 1634, 1647, 1650 and 1668. There was an epidemic of malaria in the Jamestown settlement in 1607. In 1775 Congress provided George Washington's troops with \$300 worth of quinine in order to protect troops against malaria. It is thought that malaria caused sickness among General Cornwallis' troops at Yorktown, thus causing a British defeat and the end of the Revolutionary War.

In the "Diary of Elizabeth Drinker" (Elizabeth Drinker,



**Ouecha Indians teaching Jesuits about Cinchona, a medicinal bark to cure malaria c. 1630 AD**

1735 - 1807, kept a 50 year diary of great value to historians) we learn that in 1768 Elizabeth describes her daughters as being ill with a variety of symptoms that may well describe malaria. She notes that they were given “the bark” and attended by Doctors Redman and Evans, both well respected Physicians in Philadelphia. The bark is explained in a footnote by historian Elaine Foreman Crane as being the bark of

the chinchona tree which is native to Peru. It is also known as Peruvian bark, red bark, yellow bark, and Jesuit’s bark and is the source of quinine, a substance used to this day to treat malaria.

It seems then that malaria was a part of life in 18th century Philadelphia although diagnosis was uncertain and the symptoms may have easily been interpreted to have been for other diseases such as yellow fever.

The origin of malaria in the New World is debated but it does appear that it is a relatively new arrival. Peruvian Indians knew about cinchona as a remedy but one wonders how they came upon it so fast after the arrival of the Spaniards. Possibly cinchona was a local remedy well known at that time as a remedy for other ailments.

Malaria has had hundreds of millions of victims, some quite modern, including many figures of fame, fortune, and power. Here is a depressingly long short list of famous sufferers ... there are plenty more.

- Alexander the Great is believed to have died of malaria in 323 BC
- Ghengis Khan, the Mongol overlord of the 13th Century is believed to have suffered from a malaria like illness in the spring of 1227
- Dante, Italian poet, died of malaria 1321

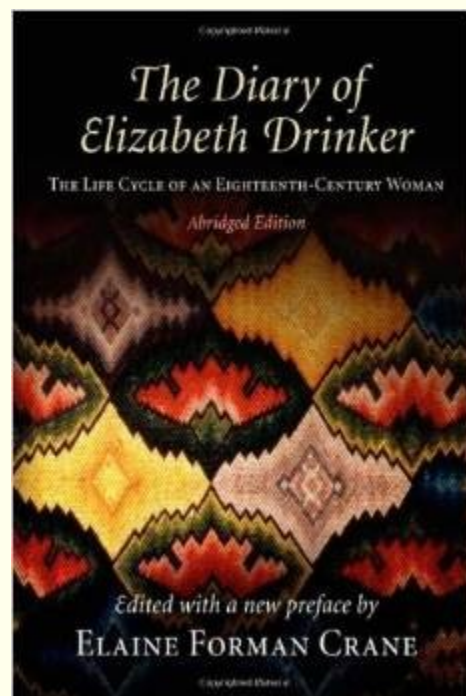
## **The Diary of Elizabeth Drinker: The Life Cycle of an Eighteenth-Century Woman by Elaine Forman Crane (Editor)**

**Publisher: University of Pennsylvania Press;  
Abridged Edition (January 6, 2010) Paperback: 352 pages**

**ISBN-10: 0812220773 ISBN-13: 978-0812220773**

The journal of Philadelphia Quaker Elizabeth Sandwith Drinker (1735-1807) is perhaps the single most significant personal record of eighteenth-century life in America from a woman's perspective. Drinker wrote in her diary nearly continuously between 1758 and 1807, from two years before her marriage to the night before her last illness. The extraordinary span and sustained quality of the journal make it a rewarding document for a multitude of historical purposes. One of the most prolific early American diarists—her journal runs to thirty-six manuscript volumes—Elizabeth Drinker saw English colonies evolve into the American nation while Drinker herself changed from a young unmarried woman into a wife, mother, and grandmother. Her journal entries touch on every contemporary subject political, personal, and familial.

Focusing on different stages of Drinker's personal development within the domestic context, this abridged edition highlights four critical phases of her life cycle: youth and courtship, wife and mother, middle age in years of crisis, and grandmother and family elder. There is little that escaped Elizabeth Drinker's quill, and her diary is a delight not only for the information it contains but also for the way in which she conveys her world across the centuries.



- Oliver Cromwell, Lord Protector, died of malaria in 1658
- Lord Byron died of malaria in Greece in 1824
- Commodore Oliver Hazard Perry supposedly contracted malaria in Venezuela and died of the disease in 1819
- George Washington, developed his first bout with malaria in Virginia in 1749 at age 17. He had periodic attacks, recorded in 1752, 1761, 1784, and 1798
- James Monroe (5th President, 1817-1825) caught malaria while visiting a swampy area along the Mississippi in 1785. He continued to have bouts for many years.
- Andrew Jackson (7th President, 1829-1837) is thought to have contracted malaria in Florida swamps during the Seminole campaigns of 1818-1821.
- Abraham Lincoln (16th President, 1861-1865) had periodic bouts of malaria when growing up.
- Ulysses S. Grant (18th President, 1869-1877) had malaria throughout the 1850's.
- James A. Garfield (20th President, 1881) developed malaria in 1848 in Ohio at age 16.
- Theodore Roosevelt (26th President, 1901-1909) acquired malaria during a visit to Brazil in 1914.
- John F. Kennedy (35th President, 1961-1963) acquired malaria during World War II, about 1943.
- Christopher Columbus, cut short his fourth voyage to the new world in 1503, due to malaria
- Sir Arthur Conan Doyle, surgeon and writer of Sherlock Holmes fame.
- Alfred Russell Wallace, co-discoverer along with Charles Darwin of the concept of Natural Selection.
- Meriwether Lewis, explorer
- Henry Morton Stanley and Dr. David Livingstone
- Jefferson Davis, Politician and Provisional President of the Confederate States of America
- George B. McClellan, Civil war general
- Ho Chi Minh, Vietnam revolutionary leader
- Jesse James, notorious outlaw
- General John J. Pershing, American general
- Mahatma Gandhi, Indian politician
- Ernest Hemingway, celebrated author
- Lord Horatio Nelson, British admiral
- Leon Trotsky, politician
- Eugene O'Neill, Playwrite
- Don Adams, actor and director
- Errol Flynn, actor
- Audie Murphy, actor and war hero
- Michael Caine, actor
- Christopher Lee, actor
- Al Jolson, entertainer
- Jane Goodall, naturalist
- Davy Crockett, outdoorsman and congressman
- Steve Reeves, Body builder, played Hercules
- Chris Matthews, news correspondent
- Anderson Cooper, news correspondent)
- Roberto Clemente, Baseball player
- Mother Teresa, saint, hospitalized with malaria in 1993.

### And now Ebola

At the time of this writing a world wide ebola scare is one of the most prominent stories in the news having displaced the Kardsahian's and the dubious antics of other tasteless stars and starlets of questionable talent. The story is a big one and rather scary.

The CDC at its website <http://www.cdc.gov/vhf/ebola/about.html> states that: *Ebola, previously known as Ebola hemorrhagic fever, is a rare and deadly disease caused by infection with one of the Ebola virus strains. Ebola can cause disease in humans and nonhuman primates (monkeys, gorillas, and chimpanzees).*

*Ebola is caused by infection with a virus of the family Filoviridae, genus Ebolavirus. There are five identified Ebola virus species, four of which are known to cause disease in humans: Ebola virus (Zaire ebolavirus); Sudan virus (Sudan ebolavirus); Tai Forest virus (Tai Forest ebolavirus, formerly Côte d'Ivoire ebolavirus); and Bundibugyo virus (Bundibugyo ebolavirus). The fifth, Reston virus (Reston ebolavirus), has caused disease in nonhuman primates, but not in humans.*

*Ebola viruses are found in several African countries. Ebola was first discovered in 1976 near the Ebola River in what is now the Democratic Republic of the Congo. Since then, outbreaks have appeared sporadically in Africa.*

*The natural reservoir host of Ebola virus remains unknown. However, on the basis of evidence and the nature of similar viruses, researchers believe that the virus is animal-borne and that bats are the most likely reservoir. Four of the five virus strains occur in an animal host native to Africa.*

On another page the CDC lists symptoms of ebola: Fever (greater than 38.6°C or 101.5°F), Severe headache, Muscle pain, Weakness, Diarrhea, Vomiting, Abdominal (stomach) pain, Unexplained hemorrhage (bleeding or bruising).

The symptoms of ebola sound quite similar to those of malaria (Fever, Chills, Sweats, Headaches, Nausea and vomiting, Body aches, General malaise) although the severity of the disease usually is much worse.

It will be interesting to observe the progress of the disease and hopefully of its containment over the next few years. Interesting too will be treatment of the news and other media on the matter of this health menace. There is little doubt that there will be an abundance of information and disinformation dispensed at various venues and one can expect an avalanche of unfounded ideas and cures designed to extract money from unsuspecting fearful people.

Malaria had rapidly spread from the Old World to the New in an era when diagnosis was difficult and the cause was unknown. Today, with ebola, the cause is known but diagnosis may still be a bit difficult as the symptoms in early stages are not terribly unlike a common flu. Hopefully containment will be effective and quickly accomplished.

The editor of this newsletter requests letters and articles about this epidemic, especially relating to matters of pseudoscience, quackery, and medical fraud.

# Meeting Reports - September 2014

Reported by: George Oster, Zachary Hughes, Sophia Mayne-DeLuca, Teweldeberhan Misghina who are Physics students of Dr. David Cattell at Community College of Philadelphia.

## Back Off, Man --- I'm A Scientist A lecture by Dr. Paul Brewer of University of Delaware Saturday, September 20, 2014

### Report by George Oster

Paul Brewer's lecture on the effects of media messages on public perceptions of paranormal research and phenomena was enlightening. Some of the results of his research confirmed my own suspicions and assumptions, while others surprised me. Overall, I greatly enjoyed it.

His research was focused on discovering the effects of paranormal researcher's use of the trappings of science on the public's perception of their scientific legitimacy. Not surprisingly, his research showed that when the paranormal researchers used the trapping of science -- by means of various gauges and meters monitoring lord knows what -- people tended to perceive them as more scientifically legitimate. This confirmed what I already suspected.

He then researched what effect having an actual scientist explain why the paranormal researcher's tools and methods were in fact not scientific would have on the public's opinion. His research showed that the boost to the paranormal researcher's scientific legitimacy due to the use of seemingly scientific instruments and methodology was negated by having an actual scientist explain why they were not actually scientific. This surprised me. I assumed that the type of person who believed in things like ghosts or other paranormal phenomena would not be dissuaded by a scientific authority pointing out that the methodology employed to influence their opinion was essentially smoke and mirrors.

This result in particular gave me pause. I have always felt that it is best to not enter into debate or even discussion with people who hold what I consider to be silly or childish ideas about the world. I essentially wrote them off as either incapable or unwilling to examine the technical intricacies of why their belief had no legitimacy. Dr Brewer's research suggests I should rethink this approach. Whether or not his findings can be extrapolated beyond the realm of the paranormal researcher to things like intelligent design or climate change deniers remains to be seen.

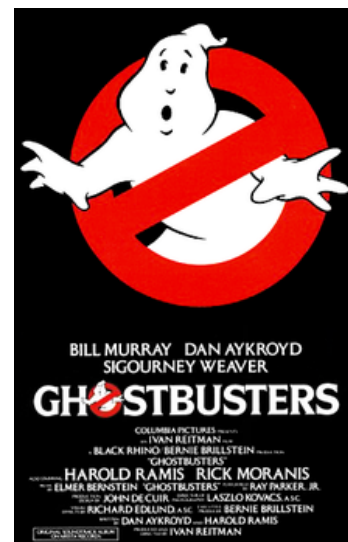
### Report by Zachary Hughes

Paul R. Brewer, professor of Communication at the University of Delaware, presented on the effects of media messages on public perceptions of paranormal research and phenomena. He started off the presentation on a comedic note by showing a short video clip of the movie *Ghostbusters* where Bill Murray reassuringly says, "Back off man - I'm a scientist." But there is no "science" in ghost hunting or paranormal phenomena. However, some of the paranormal investigators you see on TV, similar to the characters in *Ghostbusters*, use technical lingo and "advanced" ghost hunting tools (such as EMF detectors and infrared cameras) that could make them seem like a paranormal "scientist," or at least an authoritative scholar of the subject. This interested Brewer who wanted to see if this would cause the average American to more likely believe in paranormal activity.

In his first study, 525 persons each read two out of the following four stories:

- Control: unrelated topic
- Scientific: paranormal investigation story with scientific trappings
- Spiritualist: paranormal investigation story with spiritualist trappings
- Rebuttal: paranormal investigation with scientific trappings BUT a one-paragraph rebuttal by a University professor

Brewer found evidence that suggested if one uses scientific words to seem like an authority on the subject of paranormal investigation, the reader/viewer is more likely to have a surge in belief of paranormal activity. The study also showed that if an



established scientist/professor rebukes these paranormal theories, the public would be more apprehensive towards their belief of paranormal activity.

This caused the young Delaware professor to conduct another study to test if media is capable of undermining or destroying scientific research. Using a controversial research study of ESP by Professor Daryl Bem (Cornell), Brewer found that media messages invoking scientific authority can create perceptions for ESP research as scientific. He also found that treating paranormal activity as a joke can be just as powerful as a scientific rebuttal.

### **Report by Sophia Mayne-DeLuca**

This month the Philadelphia Association for Critical Thinking invited Dr. Paul Brewer to speak on his research regarding how the media can influence the public's perception of paranormal phenomena and paranormal research. Merriam-Webster's dictionary defines paranormal as an adjective meaning "not scientifically explainable." Ironically, Dr. Brewer's research looked at whether people would be more likely to believe in paranormal phenomena if it were presented in the context of scientific research. Dr. Brewer spoke on two experiments he conducted that examined this question. The first study examined how the media could influence people's belief in ghosts and haunted houses. The second study examined how the media could influence people's belief in the existence of ESP (extrasensory perception)/psychic abilities.

In the first study, Dr. Brewer researched if people are more likely to believe in ghosts and haunted houses if they read an article in which ghost hunting was described with scientific jargon. The test subjects read an article about ghost hunters that described them using an electromagnetic field (EMF) detector and the science of how EMF detectors work. It turns out that subjects who read an article with this sort of scientific language were more likely than the other subjects to believe in ghosts and haunted houses.

In the second study, Dr. Brewer researched which sort of rebuttal techniques were most effective in refuting ESP research. The subjects were split in to three groups. One group read a one-sided article on ESP research, another group read an article on ESP research with a scientific rebuttal, and another group read an article on ESP research that poked fun at this research and made a humorous rebuttal. Again, the findings were similar to the findings in the first study in that people were least likely to believe in ESP research if they read a scientific rebuttal. Not surprisingly, the group that was given the one-sided article on an ESP study was even more likely than the average person to believe in ESP.

Dr. Brewer's findings imply that people will trust scientists and scientific research. It seems that when an argument is framed scientifically people are more likely to believe it on the basis that it is "scientific." As several audience members pointed out, this has dangerous implications for the possibility of abusing this power, such as when the tobacco industry used doctors in lab coats advertise their cigarettes. Dr. Brewer's research further supports the necessity to always think skeptically, and not be deceived by something just because it is presented as "science."

### **Report by Teweldeberhan Misghina**

The effects of media messages on public perceptions of paranormal research and phenomena

Ever since their existence, human beings have managed to understand nature better with every passing generation. At the present time, thanks to science, man's discovery is at its climax. Science is affecting humans to the extent of dictating their lives. Meanwhile, human beings have never believed that the physical world or this earth is the only place sheltering life. Ever since history was recorded, humans have fantasized and believed that the physical world has an inseparable shadow in the spiritual realm. Consequently, almost every generation has strived to discover this spiritual realm, and portrayed it in their respective religions. No religion in the world hesitates about the existence of the spiritual world. In fact, the spiritual understanding is the foundation of all religions. The only difference is the emphasis given and the way people communicate with the spiritual beings. In the 21<sup>st</sup> century, media and science are also engaged in the subject, and they are affecting public perceptions of paranormal phenomenon in a different dimension.

Science, being a field of study that involves observation, hypothesis, experiment and theory, no wonder gains credibility wherever it is introduced. No movies have gained as much popularity, in recent years, as those involving ghosts. The lack of a concrete proof to deny or accept the presence of ghosts has increased the eagerness towards this kind of movie. The use of scientist characters and scientific gadgets, in movies involving ghosts, has increased the public perception of paranormal phenomenon. A research conducted by Paul Brewer, a Political Science Professor at University of Delaware, on the issue of public perception about ghosts and extra sensory perception (ESP), has proved that the media and science are affecting public opinion on the subject.

The research conducted on more than 500 college students was divided into two. First, the participants were made to read three types of books: books not related to ghosts, books related to ghosts but no science involved, books related to ghosts that have scientific content. The result showed that those who read books which have science content dealing with ghosts bolstered the participants' perception about ghosts. The second research was conducted to see how media affected public perception on the issue. In this experiment, participants read three reports. The first report involved a famous psychologist asserting that ESP is real. The second participants read the same report with a rebuke to the report by another scientist. The third participants read the same report and a scientist rejecting the report as a joke. In this research the participants who read only the psychologist's report were swayed towards believing in ESP more than those who heard a scientist rebuking the report, or humorously rejecting it. The way the scientist rejected the report didn't have much influence.

According to the research, although many people already believe in ghosts and ESP's, the involvement of the media and science in the matter is playing a role in increasing public perception of the matter.



## 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>

### Weeknights at the Wagner

#### Wednesday, October 8, 2014, 6-8PM - Philadelphia Lantern Slide Salon - Held in conjunction with Archives Month Philly

Lantern slides were widely used in the 19th and early 20th century for entertainment and to illustrate educational programs and courses. This Salon will highlight slide collections from some of the region's most significant cultural and educational institutions, including: The Athenaeum of Philadelphia, the Barbara Bates Center for the Study of the History of Nursing, the Historical Society of Frankford, the Historical Society of Pennsylvania, the Pennsylvania Horticultural Society, McLean Library, and the Philadelphia Museum of Art.

The Salon will be held in the Wagner's unchanged Victorian lecture hall using an original 1914 projector. In addition to local landmarks, the evening will feature an eclectic mix of subjects that includes: Philadelphia-area estate gardens of the 1930's, life in the city's Frankford neighborhood, images important to nurses and nursing in the early 20th century, and frigid scenes from a mission to rescue a crashed airship in the North Sea. Wagner's National Historic Landmark building & collections will be open for exploration before the program.

Registration link: <https://www.eventbrite.com/e/philadelphia-lantern-slide-salon-2014-registration-12583310019>.

Admission is free with suggested donation of \$10

#### Saturday, October 18, 2014, 12-4 PM - Family Open House - Animals in Costumes! A Spooky Creature Feature - A Halloween-themed family open house. Come in Costume!! Featuring live animals from the Elmwood Park Zoo at 1PM.

#### Thursday, October 30, 2014, 6 - 7:30 PM - Diagnosis, Madness: The Photographic Physiognomy of Hugh Welch Diamond A Weeknights at the Wagner illustrated presentation given by Dr. Sharrona Pearl

Victorian asylum doctor Hugh Welch Diamond believed photographs could revolutionize his psychiatric practice. As both a psychiatrist and photographer, he used pictures as a method of diagnosis and therapy, attempting to change the nature of treatment and nurture patients to health without physical restraints. Join Penn Communications Professor Dr. Sharrona Pearl on this Halloween

Eve to explore not just what pictures of asylum patients tell us about the past, but what they tell us about ourselves.

Registration link:

<https://www.eventbrite.com/e/diagnosis-madness-the-photographic-physiognomy-of-hugh-welch-diamond-registration-13132524735>

Admission is free with suggested donation of \$10.

#### Save the Date - Friday, November 14th, 2014 - A Sip of Science - Honoring Dr. Peter Dodson for his groundbreaking work on dinosaurs and vertebrate paleontology.

### Adult Education Course Schedule - Fall 2014 Courses are now in session

#### Extinction: Life on Earth and Human Impact, Professor Greg Cowper.

6 Tuesdays, September 30 - November 4, 2014, 6:30-7:45 PM. Fishtown Community Branch of the Free Library, 1217 E. Montgomery Ave.

#### Beyond Ben: Science, Technology, & Medicine in Philadelphia, 1700-1900, Professor Jane E. Boyd.

7 Wednesdays, October 1 - November 12, 2014, 6:15 - 7:30 PM. Independence Branch of the Free Library, 18 S. 7th Street (between Market and Chestnut).

#### FIELD COURSE - Fall Flora of Fairmount Park, Professor Alfred E. Schuyler.

First class: Thursday, September 18, 2014, 6:30 - 8:00 PM, Academy of Natural Sciences.

5 Saturdays: September 20, 27, October 11, 18, & 25, 2014, 10AM - 1PM in Fairmount Park.

**The Wagner Free Institute of Science provides an educational experience for over 20,000 school children each year for no charge what-so-ever. All programs at the Wagner are free, paid for by a dwindling endowment, by grants, and donations. All Wagner programs are free to the public, but obviously are not "free" of cost. Donations are appreciated.**



# Off the Beaten Path

By Kim A. Sheridan



## Fire on the Plains

“Only YOU can prevent forest fires!” Smokey Bear’s familiar admonition rings in our ears, and we grow up believing



Lost Lake Rd. in the Spring Hill Pine Plains, June 2014. Photo by Kim Sheridan

that wildfire is disastrous. But is that always true? Driving along Route 72 to the Jersey Shore, travelers pass through the Pine Barrens, a pitch pine forest dependent on frequent fire for its existence. What travelers may not know is that not all pitch pine forests are created equally. In fact, some of the habitat along Route 72 is a distinct community, the globally rare pygmy pine forest. Pitch pine (*Pinus rigida*) is the predominate tree of the Pine Barrens, inhabiting dry sandy uplands and swampy areas alike. It’s a crooked tree that stands 40-70’ tall, and bears its needles in bundles of three. Not infrequently, these needles sprout directly from the trunk. Thick bark of irregular plates protects the pitch pines. If the main trunk is damaged, they are able to sprout new shoots from buds lying dormant underneath the bark, a trait unique among pines. Within the Barrens lie four plains of pygmy pines totaling 12,500 acres: the Spring Hill, Little, East and West Plains. Pygmy pines stand 4-12’ tall. They are more crooked than their taller cousins, sometimes bent almost double. They reproduce earlier and bear more cones than tall pitch pines. It is important to note that these dwarf pines are not simply young trees. Scientists have shown that these adult trees have

evolved genetically to be small at maturity [Ledig, Hom & Smouse, 2013].

The question of why the pines are so small hasn’t been adequately answered. The soil in the Plains is the same as that of the Pine Barrens, as is the water table level. However, the Pine Plains stand at 145’ above sea level, while the Pine Barrens lie below 100’. That small difference makes the Plains drier, windier and more fire-prone, with no bogs or streams to act as natural firebreaks. In addition, the short stature and bent form of the trees enhance their flammability. Historically, the frequency of fires in the Plains is twice that of the Pine Barrens.

The cones of dwarf pines are serotinous. They remain tightly closed and do not open for seed dispersal until exposed to temperatures of 108°F to 135°F. (In contrast, the non-serotinous cones on tall trees in the Pine Barrens open when the temperature is 77°F or below.) Serotinous cones require fire to spread their seeds, and when they do, they find a welcoming seedbed where fire has eliminated the competition. The pygmy pines live in close proximity to tall pitch pines, and pollen from the tall trees easily intrudes upon the Plains. Frequent fire enabled the dwarf pines to outcompete the in-



Pitch Pine cones. Non-serotinous cones on tall trees (left) will open to disperse seed at temperatures below 77°. Serotinous cones on pygmy pines (right) require temperatures above 108° and only open when burned. Photo by Kim Sheridan

vaders. Due to fire suppression, however, some parts of the Pine Plains haven't burned since 1963, and taller trees are



**Fence lizard (female) on the path in the West Penn Pygmy Forest, August 2014.**  
**Photo by Kim Sheridan**

becoming more common.

Controlled burns are used in Pine Barrens management, but they don't quite do the job. By necessity they are low-intensity ground fires meant to burn off duff, not the high-intensity crown fires needed to open serotinous cones, eliminate competition and create forest openings. Allowing fires to burn naturally would be healthier for the forest, but places lives and property at risk. In the pygmy Pine Plains, fire suppression may someday lead to the loss of this globally rare ecosystem.

What would Smokey Bear say about that?

Going to see the pygmy pines? Use common sense on sand roads, especially if you don't have 4-wheel drive. While much of the road will be hard-packed and easily passable, there are areas of soft sand known as "sugar sand". It's im-

portant to maintain a continuous speed here. Slowing or stopping will get you stuck. Don't drive through it if you are unsure.

The West Penn Pygmy Forest is along Route 72. As you approach Coyle Field, you will see pygmy pines mixing with tall pitch pines. At Mile Marker 12, (across from Barnegat Auto Wreckers), there is an unmarked sand road on the right. This is Stephenson Road. Most vehicles will not have difficulty on this hard-packed wide road; sugar sand patches are few, small and shallow. Near the top of the hill, there is a walking trail on the right that leads deeper into the pygmy forest.

The Spring Hill Plains are along Lost Lane Road in Penn State Forest. There's more sugar sand here; it might not be for everybody.

Be safe: take a cell phone, bug spray (avoid July and August altogether), water, sunscreen and a hat. There's a lot to see in the Pine Barrens if you're properly prepared.

West Penn Pygmy Forest map showing location and boundaries:

<http://www.openstreetmap.org/way/35004350>

Penn State Forest (including a good map)

<http://www.njparksandforests.org/parks/penn.html>

Pinelands Preservation Alliance

<http://www.pinelandsalliance.org/ecology/>

*The Evolution of the New Jersey Pine Plains* by F. Thomas Ledig, John L. Hom and Peter E. Smouse is available here:

<http://www.amjbot.org/content/100/4/778.full>

**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://thewildededge.net/>

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**Don Nigrone among the pygmy pines and dwarf blackjack oaks, on a trail off Stephenson Rd. in the West Penn Pygmy Forest, August 2014.**  
**Photo by Kim Sheridan**

## Whatchu Mean I'm WRONG?

by Paul Schlueter III

There's a problem with people, especially MALE people: we don't like it when somebody tells us that we're wrong!

I think (in my haze of amateurish armchair psychiatry) that this is somehow linked to the hormone testosterone. The first response of most kids, when told that they're wrong, is that they'll wonder what the right answer is, and pester you with a thousand questions to try to get a satisfactory explanation of the correct answer. How am I wrong? Why is the other answer better? How do YOU know the difference? But once puberty makes its inevitable appearance, boys (and the occasional girl, perhaps) tend to offer excuses for their wrong opinion, for their errors in judgement, for their bad choices - they believe that they have all the answers, and the LAST thing they want is correction. Adolescents also begin to assert their "right" to maintain their perspectives, and if challenged, their response may well be aggressive.

These conditions are most prevalent among those individuals who have dropped out of the educational system. I don't have the research to cite, so I can't declare which is the cause and which is the effect, but there's definitely a correlation between truncated education and belligerent response to being corrected. That particular sort of person takes correction as a challenge, takes being told he's wrong as a personal insult, and takes argument as a call to physical battle. Is it that dropping out of school leaves a person so generally ignorant that correction becomes annoyingly common in his life? Or, is it that the same sort of person was so often corrected in school that he found it unbearable, and felt compelled to drop out (and thus, left himself ignorant as an unfortunate consequence)?

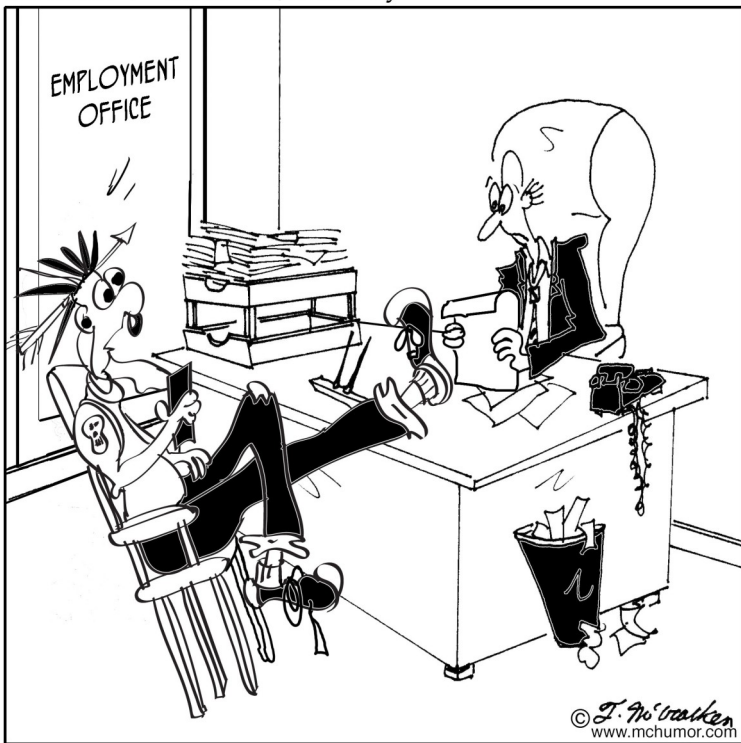
I personally think that the root of the problem lies a little in both of those realms, but more deeply in a failure of the earliest phases of education in a person's life. I think the deepest roots grow from the time when children are first corrected for mistakes and errors in life, and the way in which that correction is offered. Some people are simply punished for being wrong, while others are more-pleasantly shown the benefits of being corrected and learning something new in the process.

Some of this undoubtedly comes from a child's parenting; face it, not everyone has patient parents who are qualified to teach their own kids in the first years of life! But, part of the responsibility falls on professional teachers in the

school system, too. A Kindergartener is still young enough to adapt to different teaching styles, and even if the home environment is unsuitable to learning, the school environment can (and should) be structured so that learning becomes rewarding and pleasant, in its own right. Just as important, I think, is the need for educators to desensitize children to being called "wrong."

You've seen the teacher who calls on a student (who wasn't volunteering to answer, in the first place), sneers or belittles the wrong answer, then pulls his attention away and leaves the incorrect student stewing in embarrassment (perhaps even being ridiculed by the other kids in class for his "stupidity"), only to turn to the favored "smart kid" for the correct answer, which is then met with praise. It's a hurtful experience if it only occurs once. But each time it happens, that kid is turned off just a bit more to the teacher (and by extension, to the subject, and perhaps even to the process of education overall). Over time, the pat-

**McHUMOR.com** by T. McCracken



"I just don't get it. I've applied for over 200 jobs, but I've never even got a call back."

tern of such insensitivity accumulates, leaving the kid sensitive to being asked a question, and even more sensitive to being called "wrong" if he doesn't have the answer which is sought.

Instead, there are teachers who will stay with the erring student, and without belittling that student they'll guide the student through the production of the correct answer. These better teachers will silence snickering from the class, if necessary (hopefully, not by pointing out the ignorance of the bullying kid, which HE would then take as negative correction). Those teachers recognize that it's not the "smart kids" who need reinforcement and supportiveness - those needs are strongest in the students who are struggling the hardest with the material at hand! Those teachers are not impatiently only looking for a correct answer; they are instead doing their primary job, which is to educate children.

I have had many occasions to call upon a student (I have tutored adult literacy, trained tutors in that topic, taught music theory, and taught electronics theory), and there are clearly students who are seeking attention and extra explanation, so they'll deliberately feign a mistaken answer. Giving that student the review needed and guiding him through the process of determining the correct answer is not only serving his need for attention, but also reinforcing his understanding of the topic, AND reviewing the topic for the benefit of all the other students in the group. Most important of all, that student is provided with the opportunity to reach the correct answer, and to be SEEN doing so by his peers! Instead of receiving a negative rebuff and "being kicked to the curb," the guided student is a.) shown the PROCESS of reaching the correct answer, and b.) rewarded for participation in the learning process itself. Yes, this process takes extra time, but education based on shortcuts is of no use to anyone.

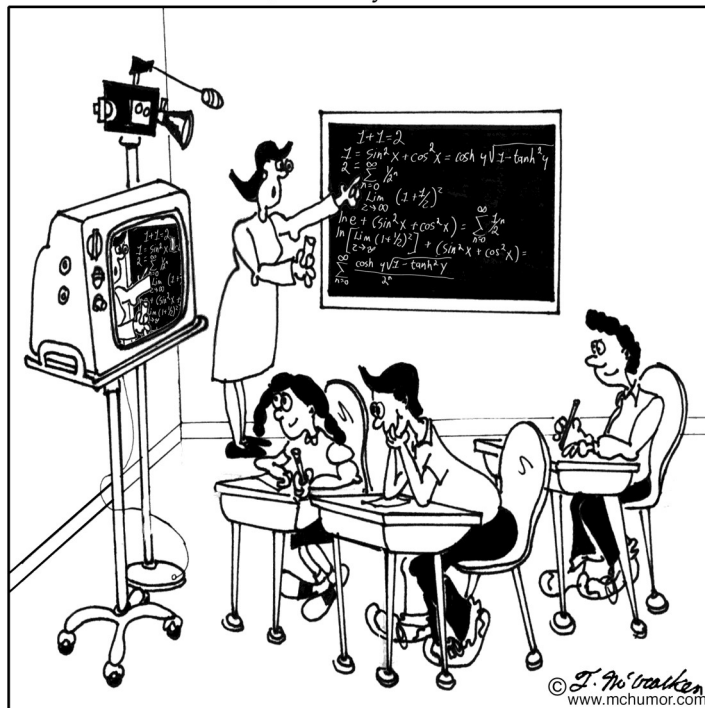
The chalkboard is one of the greatest inventions for education I know. The process of reaching an answer can be laid out there, with appropriate circles and arrows, so that an entire class can follow along (and the taking of notes can be encouraged by offering opportunities for other students to reproduce the steps for a similar inquiry, with subtly-changed parameters). Jargon can be presented as "slang," which boosts its coolness factor immensely. When the students begin to pick up "the vernacular" of the subject, asking them to reinforce it with definitions is yet another opportunity to teach "the process."

Do you need something to do with the "smart kids" while all this attention is being given to the slower ones? Begin calling upon the smart kids to guide their more needful peers through the problems; this serves double purpose, not only teaching the nerdy sorts how to slow down their thoughts enough to bring along others, but also allowing the slower students to gain appreciation for people who understand things a little better. Eventually, even the middling students can be brought in to help one another through the process of obtaining the correct answer, so it's not just the "smart kids" who get the leadership roles. Education is not just about learning subject material, but also about learning how to express that material to others around us.

Part of the educational goal is to leave students hungry for continued learning. Another part is to foster bonds between students (future members of a larger society) so they appreciate the fact that we all have our talents and value; I might be able to fix your microwave, but maybe you're better at cooking up something tasty IN that microwave! If we learn to find and support the strengths of our peers as well as ourselves, don't we all benefit?

I think the takeaway point of this is the idea that we need to find ways to desensitize each other to the personal "hurt" of being found wrong. This is especially needed in raising and educating kids, but also very important in the ongoing education of so-called "grown-ups," who often get the answers wrong, too. It doesn't help the cause of Reason and Critical Thinking to reinforce aggression or intolerance against our efforts to educate our own peers about the many misconceptions, cognitive errors, and misguided conclusions we encounter every day. If it "hurts" less to be called "wrong," then we're more likely to be receptive to the correct facts that can lead to better information processing.

**MCHUMOR.com** by T. McCracken



Employing technology  
to keep students' attention.



## GUITARS FOR EVERYONE

by Paul Schlueter III

It might be an unusual topic for a Critical Thinkers' newsletter, but perhaps some readers will concede that thinking need not be negative to be critical; can we not critique something many of us enjoy, as well?

I personally find guitars to be endlessly fascinating, and there is a great deal of variety among these instruments to invite comparison of their usefulness and other characteristics. Let's begin with the older varieties, and work forward in time.

Guitars are stringed instruments, and so they owe some degree of heritage to the ancient Greek Lyre, and to the harps of old tradition. Eventually, they took on the form of lutes in western Europe, and to this day a builder of guitars is called a luthier. Over centuries, many forms have been tried, and the number of strings (and tunings) have varied as different builders and players tried out new ideas. The building of these portable instruments followed traditions, passed along by craftsmen and artisans to generation after generation, with changes coming along the way.

During the Classical Orchestral period, there was a family of stringed instruments which gradually took a form and variety still familiar to every music enthusiast; violins, violas, cellos, and the bass viol (sometimes called the upright bass) all share a basic design plan, and have long traditions of construction which arguably peaked in centuries past (think of the esteem with which Stradivarius violins are held to this day). However, this distant relative of the guitar is difficult for a player to master, is often difficult to play in any position other than seated, and for these reasons they have been primarily used for professional Classical music. The violin enjoyed some popularity among commoners (in America's Appalachian mountains, it came to be known as a fiddle), but the larger viol family members never really caught on in the ordinary household.



**The lute was a significant musical instrument from the Medieval to the late Baroque era (5th to 17th century).**

Lutes had the benefit of frets, thin strips of metal pressed into the neck at precise intervals, which allow even the tone deaf to play a note perfectly on pitch (viol players, lacking frets, must place their fingers with uncanny precision, one reason those instruments are so difficult to master). The spacing of frets is progressive, according to a mathematical formula that determines the tuning of notes in the Even Tempered Scale (a Western artifice which forces notes into tuning that allows the Octave to be divided into twelve equal intervals, which is somewhat contrary to natural [harmonic] tuning). It's difficult to imagine early luthiers performing advanced mathematics (Algebra) to establish the correct fret spacing, and since they lacked the sort of precision equipment modern computerized industry can achieve, it's likely that spacing guides were developed and used over the years by each builder, and closely guarded from competitors' eyes. Today, a school kid's calculator can perform the computations to decimal precision far beyond any practical need, but still the "average" guitar is only fretted with approximate precision. Few players notice any difficulty in tuning caused by this. Only a handful of high-tech manufacturers place frets with computer-controlled precision, accurate to the thousandth of an inch. An experienced buyer can check fret placement with a pencil and a business card, using a simple technique to mark the spacing intervals from a common reference point, resulting in a display which is

more than adequate for visualizing the accuracy of the instrument's construction in this critical area.

The instrument we today call a "Classical guitar" is still an acoustic instrument, with a design based on intensive development by Spanish builders. The influence of this design is so pervasive that the term "Spanish guitar" has come to refer to most of the acoustic (and even many electric) guitars in use today. The Classical guitar is distinguished by a wide neck with good spacing between strings, and a specific bracing pattern within the hourglass-shaped body often called "ladder bracing" (because it vaguely resembles the form of a workman's ladder). Classical guitars traditionally had strings made of natural material, and one such material was the gut of cats (gut was used for many centuries to package sausage, so let's try not to be emotional about this). Though the material usually used today is actually nylon (or a related artificial plastic), Classical guitar strings are

still often called "catgut," or simply gut. These strings have low tension, easily stretch out of tune with use, and produce a relatively low volume, but their benefit is that they are relatively easy on the fingertips of novice players (and kids), and many people find their tone quite lovely. Classical guitarists (who, incidentally, often actually play Classical music) have developed a very advanced and technical playing technique which includes a particular manner of holding the instrument in the lap, and the use of all five fingers of the right hand in plucking/strumming the strings. Many of the world's most adept guitarists are Classical players. Also, most Classical guitarists are trained in and regularly practice the sight-reading of musical notation, a skill usually absent among other guitarists.

In an argument familiar to Critical Thinkers, many guitarists hold that learning to read music, or indeed to even study music theory, would somehow "ruin" their natural, intuitive playing technique. Pride in ignorance (or in laziness) is widespread among guitarists, and arguably contributes to the general low esteem held for "popular musicians" among the overall society.

No proof exists that learning the theory and notation techniques of any art, trade, or skill causes the practitioner's work to suffer. However, many of the world's favorite guitarists are proudly unable to read music at all. Serious students of the instrument generally find that music theory and some skill at reading musical notation is a benefit to learning, even if they generally don't use music while performing memorized selections.

Over time, guitars became popular among a broad segment of the general public, and the ease with which it can be learned and played was a major factor in its popularity. Standardized tuning (E, A, D, G, B, E) came into use, and most players found

that there were a number of ways to play a vast variety of chords on the instrument, while strumming rhythmically. The better players learn to also play melodic lines. Largely because of the influence of Classical guitarists, the finest players can play a chord progression, a bass line, and melodic notes, all simultaneously. However, players found that gut strings weren't loud enough to compete in band situations, so late 19th and early 20th century luthiers gradually developed an adapted guitar design which allowed the use of steel wire strings.

Steel strings changed the instrument substantially. They make a guitar far louder, but they also exert far more tension on the face and neck of the instrument, requiring different bracing inside. The so-called "X-brace" was found to be much stronger, and so



**A dreadnought acoustic guitar**

was a method of carving "archtop" guitars (which visually resemble the viol family, right down to "f" shaped soundholes). Necks were built using a steel rod for extra support, and eventually the rods became adjustable for precise balance against string tension ("truss rod" adjustment is one of the first techniques learned by guitar repairmen today). Guitar bodies grew substantially, allowing them to produce fuller bass response (though many people today find that the "balance" of tone is nicer in smaller-bodied guitars). The most common body size/style of acoustic guitar today is the "Dreadnought" (named after a class of WWI battleship!), and a Dreadnought acoustic with steel strings is the first thing that comes to mind when most people think of a guitar.

Around the turn of the 20th century, a variety of the guitar became popular in Hawaii, and quickly developed into an instrument held horizontally on the lap, face-up. Instead of fretting several individual notes simultaneously to play a chord, "open chord tunings" were developed which allowed players to simply slide a bar or rod up and down the neck.

The Hawaiian guitar caught on quite rapidly, and it soon came to be known as the steel guitar, or the lap steel. Some models were mounted on a special stand, with pedals for different playing functions. The typical lap steel no longer has frets, but some have inlaid lines to mark where frets would be (as a visual aid for the player); the typical playing technique slides from chord to chord, or note to note, in a smooth transition of pitch. The sound has become a definitive characteristic of Classic Country music, but is rarely used in other genres of popular music. The importance of the steel guitar on the rest of guitar technology was a different characteristic that first appeared on steel guitars, and then was adopted by many other instruments: the magnetic pickup.

In the ongoing effort to make guitars louder, clever developers of early amplification technology found that steel strings, vibrating within the field of an electromagnet, caused a current to flow through the wires of the magnet which were an analog of the strings' acoustic tone. Though very crude at first, the electromagnets were mounted to Hawaiian steel guitars, and connected to amplifiers and speakers. A major German guitar manufacturer, Rickenbacker, then mounted "pickups" to a guitar made of solid wood (no hollow, resonant body was needed when the guitar was amplified electronically!), and a new instrument was born: the electric guitar.

**During an interview, Ravi Shankar was asked "How is it that you are so more technically advanced than other players?" Shankar replied matter-of-factly, "Well; it's my third lifetime playing the instrument."**

The earliest pickups had a single coil of wire; their bright tone was very successful and loud, but it also picked up electromagnetic interference generated anywhere near the instrument (which also got amplified and projected at the audience). Electronics wizards realized that they could wire dual, matched coils in opposite polarity, which inverted the signal of half the interference noise and cancelled the rest out, while still allowing the desired string signal through. These so-called "humbucking" pickups also had a deeper, more powerful tone that many players liked. Today, there are uncounted varieties of winding, magnet material, physical mounting, etc., but the two types of pickup, single-coil and humbucker, can be had on any body style of guitar, even including hollow-bodied acoustics. Aftermarket manufacturers produce replacement pickups, clip-on accessory pickups, and even try to reproduce "classic" old pickup designs which have found popularity because of their use by favorite players from bygone decades.



**A somewhat flamboyant electric guitar**

Most "electric guitars" today are made of solid wood bodies, but they can be had in literally any imaginable shape, size, and color, and many are made hollow (for light weight, not tonal resonance), or of a broad variety of experimental materials. Different body styles have become standards in their own right (the Les Paul and SG from Gibson, as well as the hollow- or semi-hollow "Jazz" guitars of their ES series; the Stratocaster and Telecaster from Fender, among other famous models; etc.). Models may come with one, two, or three pickups, and sometimes the onboard electronic controls include an internal amplifier (called "active electronics") to give the player even more volume and tonal versatility. Some models have been produced

with on-board special effects, but most electric guitars simply have volume and tone controls. Electric guitars often receive extraordinary paint jobs, or are stained with a wide variety of colors that still allow the grain to show through; some, in a nod to tradition, are merely finished with clear, to retain a natural look.

Acoustic guitars have also been mated with (optional) pickups. Many purists refuse to electrify an acoustic guitar, insisting instead upon the use of external microphones to record or amplify the acoustic tone. Still, convenience alone has led many players to adopt onboard pickups (usually accompanied by on-board active pre-amps) of several types. These include internal mics, contact devices that sense the vibration in wood surfaces, electromagnetic pickups (both single-coil and humbucking), and other exotic styles. By far the most common, though, is the piezo-electric pickup.

A certain type of crystal is known to respond to pressure/bending by emitting a voltage when stressed. Piezo pickups comprise a group of these crystals in a sealed strip, connected to a lead wire which carries the signal voltage to an amplifier. In order to match the pickup's extremely high source impedance to ordinary guitar amp inputs, most piezo pickups require the use of a buffering pre-amp, which today is usually installed right into the acoustic guitar along with the pickup (which is hidden beneath the bridge, near the player's right hand). There is an ongoing argument about whether or not it will ever be possible to accurately reproduce the tone of an acoustic guitar with any type of pickup, but the undeniable standard has become a piezo pickup with proprietary pre-amp electronics (which usually offer volume, EQ, and other controls in a position handy to the player). These guitars are defined as "acoustic-electric," although they are of course neither one, in the strictest sense.

Acoustic-electric guitars generally retain their resonant bodies and can be played without amplification; piezo pickups have no audible effect on the guitar's acoustic tone. However, the resonance of the body cavity leaves acoustic-electrics highly prone to "feedback" (the loud, howling tone so many hate) when amplified. Some guitars are made with shallow bodies to combat this resonance. Other guitars can be fitted with a cap to cover their sound hole, which substantially reduces feedback. Electronic methods are sometimes used to "notch filter" the most troublesome frequency, while leaving the rest of the tone there to be amplified (notch filters are often part of the on-board pre-amp). Generally, musicians have come to accept that the use of acoustic-electric guitars onstage requires lower amplification levels, and considerate players adapt accordingly.

This clearly leaves the electric guitar as the volume leader of the guitar world. While electric guitars CAN be forced into feedback (as Jimi Hendrix so famously demonstrated with his national anthem at Woodstock), it is quite easy to just make an electric guitar very loud (the "clean," amplified tone is popular among Jazz guitarists). Electric guitarists are also able to "distort" the sound of their instruments by applying so much amplification in early stages of their systems that they overdrive (and "clip") successive stages - this produces the famous screaming tone that has been compared to saxophones, or to cats be-

**“Sometimes you want to give up the guitar, you’ll hate the guitar. But if you stick with it, you’re gonna be rewarded.”**

**~ Jimi Hendrix**

ing gutted for Classical guitar string manufacture. It's a matter of personal taste whether or not distortion sounds "good."

Electric guitarists have also patronized the development of a broad variety of electronic special effects, including Reverb (the sound you get when you sing in the shower), Chorus (an effect which appears to multiply the voice of one guitar into many), Wah-Wah (which sounds like that word, read aloud), Tremolo/Vibrato (variation in pitch and/or volume, at variable speeds), Echo/Delay (just what they imply), Pan (which sweeps from side to side in a stereo field), and many more. The "talk box" uses a rubber tube to send amplified guitar sound into the player's mouth, where he uses his cheeks, lips, and tongue to form words around the sound which originated in his guitar! In all truth, the electric guitarist plays BOTH his guitar, and his effect/amp system, simultaneously.



A typical 12-string guitar

Most guitarists are able to switch back and forth between acoustic and electric guitar, depending on the sort of sound they seek for a song. The bass guitar (usually electric, but now also available as an acoustic instrument) uses only the E, A, D, and G strings of the guitar (all one octave lower in tuning) to fill in the lower tonal spectrum; many guitarists are also able to play bass guitar (and vice versa), though each instrument has special playing techniques that create an incentive to specialize in one or the other. There are also Baritone guitars (tuned just a little lower than ordinary guitars), Treble guitars (tuned a little higher), and guitars and basses with more than the typical number of strings. A 12-string guitar uses strings in closely-spaced pairs (called "courses") to add pitches one octave higher than each played note, for a richer and more complex tone. A 12-string bass does something similar, except it uses three strings per course, and adds yet another octave to the mix. Harp guitars are built with a whole separate body arch, which provides several extra "drone" strings that add a pitch to each note played through sympathetic vibration; they are quite bulky looking, but have a mysterious and unique tone.

There's even a sort of guitar that uses something resembling a steel hubcap to amplify its acoustic tone; the company best known for these instruments is called National Resophonic. The tone is most associated with Delta (Louisiana) Blues and Cajun music.

No matter what sort of music you'd like to play, there's probably a guitar made that is widely associated with the sort of sound you're looking for. Many players eventually buy several guitars, to enable the production of several specialized sounds. Most local guitar stores will allow potential customers to try out their in-store selection, as well as a variety of amplifiers and effects, to find just the combination the player seeks. It is possible to buy stage-worthy acoustic or electric guitars for as little as around \$400 - \$500 (lower prices exist, but those guitars are generally of such low quality and poor sound that their economy is pointless), but most professional instruments fall in the "mid-price" range which runs from around \$1,000 to around \$7,500 (depending largely on brand name, features, and aesthetics). Used instruments can be much cheaper (and can be found in any locale), but they can instead fall into the "vintage or collectible" category and cost far more (pricing goes as high as auction customers are willing to pay, and top out at around \$1 Million!)

Eastern Pennsylvania has an internationally famous manufacturer of acoustic guitars, just 75 miles or so north of Philly, in Nazareth. The company is C.F. Martin Guitar Co., and they hand-build an all American product in their factory (tours, including group tours, are available). The factory has an outlet store (The 1833 Shoppe) attached, where they'll happily sell you a genuine Martin guitar ("Finger-pickin' good!"), or their Asian-made sister brand, Sigma. For electric guitars, you'll need to shop elsewhere, but Martin has made Nazareth a pilgrimage destination for generations of famous (and not so famous) lovers of the acoustic guitar.

A simple internet search will also yield a variety of individual luthiers throughout the region (and across the country), each of whom has his own line of specialized instruments, some of which can be built to order. Ditto for "boutique" amplifier builders. Some of each are right within Philadelphia itself. There are also schools which offer courses in building your own guitar or amplifier, which can be located online. So, if you have an interest in the guitar, there's one out there calling your name!

What are you waiting for?

*Paul Schlueter III has been a guitarist/songwriter/performer for over 35 years, and currently has a 12-string electric guitar in his prison cell. He has taught music theory and guitar technique, led several bands, and still searches for anyone interested in a few good original songs to enjoy. See [www.jaylbird.org](http://www.jaylbird.org) for more info, and a dozen of his songs (MP3 format) that can be downloaded FREE! His book of 21 original songs (in guitar sheet music), "Schlueter's Songs," can be downloaded/printed out FREE at [prisonsfoundation.org](http://prisonsfoundation.org).*



## Book Review

# DNA USA: A Genetic Portrait of America

by Bryan Sykes

**Publisher: Liveright Publishing Corporation 5/6/2013**  
**ISBN 978 - 0 - 87140 - 358 - 2 \$17.95**

After reading Sykes' "Saxons, Vikings, and Celts" (in which he researched the genetic heritage of the British Isles), I was interested in seeing him work closer to where I live. It was only natural for me to get a copy of DNA USA, and yet it wasn't exactly what I expected.

I probably had unrealistic expectations. Sykes would have spent a ridiculous period of time trying to do here the same sort of in-depth, valley-by-hill-by-vale sampling and analysis work that he had previously done for the Isles. And to what benefit? As his map in DNA USA shows, there are thousands of counties in the USA, and well over half of them seem to be populated by a majority of people who self-report German ancestry. It would be unreasonably tiresome (and yet, STILL not representative) to sample a handful of individuals from each county and try to sum up the American populace from those results.

Instead, Sykes embarked on an epic road trip with his young-adult son, crossing the USA from East to West, then returned with his Scandinavian wife along a different route to the East coast again. Along the way, he tested many volunteers, and he presents some of the results with great detail. But perhaps more interestingly, he also tells the varied stories of how Americans relate to the science of genetics.

Native Americans, with good cause (some of which Sykes details), have grown to distrust the intentions of geneticists. For one thing, DNA evidence demonstrates that native Americans didn't originate in the Americas, which falls into stark conflict with Native American origin beliefs. As we are well aware, belief stubbornly refuses to adapt to even the best rational evidence, and the mere conflict inspires strong antagonism. Even so, scientists have abused their subjects' trust in horrific ways, and genetic testing is just one more scientific venture in which Native Americans have found a substantial portion of their trust displaced.

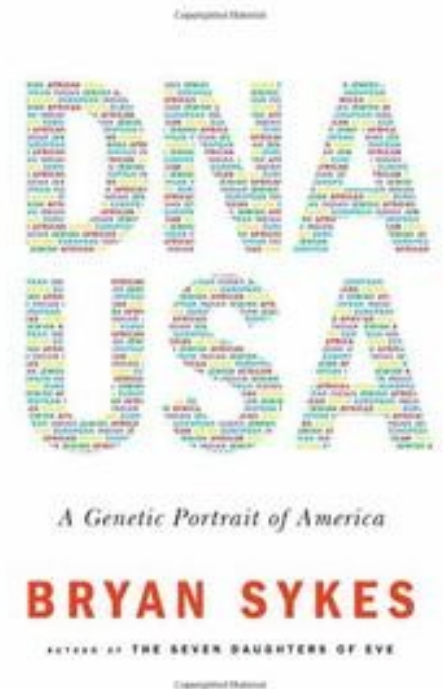
African Americans, on the other hand, have displayed mixed emotions to genetic testing. DNA portraits (now available in vivid color!) can offer African Americans a long-missing link to their African heritages, and Sykes pulls no punches in his depiction of the history of Africans in the Americas (and in fact, across the world). On the other hand, the use of genetic medical screening to help eliminate the genetic disease of sickle-cell anemia cannot even get off the ground, because African Americans (again, with arguably good cause) insistently suspect the scientific community of some eugenic subterfuge.

European Americans have also had some mixed reactions. Although a group of New Englanders tested to have extraordinarily "pure" European DNA, it turns out that a substantial proportion of Southern whites actually carry some "Black" DNA (Sykes himself displays a splash of African, and another of Native American/Asian, DNA in his own portrait, which he displays among those of his other subjects).

If there's a generic "message" here, it's that none of these distinctions matter; people with contorted blends of all three major genetic groups (African, European, and Asian) have fully-functional, healthy bodies, which is precisely because the genes of all three groups are so similar that they easily cooperate within our cells to produce fine, healthy "mutts" all over the world. But, since we have the ability to identify the extremely-subtle differences with contrasting colors, why not embrace that?

Sykes shows off his chops as the historian once again, and this time his "road trip" storytelling adds yet another dimension to his highly-readable and educational prose. His subject is probably one of the most arcane sciences, yet he keeps it simple enough that even this reviewer (who nearly flunked High School Biology) could easily follow. Sykes gives just enough detail to let the reader know that there's a vast pool of knowledge behind this work, yet he presents it with humility and humanity that only draw the reader in deeper.

Along the way, the reader is introduced to several of the American scientists, academics, and businesspeople who are build-



ing both public and commercial organizations which are studying the uniquely-mixed American genome in all its complexity. We read of people either famous or unknown, of professionals or of paupers, and of the heritages that each human person recognizes as the root of his/her own existence. The reader rides Amtrak across the country, and takes side-trips by SUV into some of the most sacred spiritual landmarks of the Native American Southwest (Devil's Tower is one feature you'll recognize, as is the killing field at Little Big Horn). It's both a book on genetics, and an adventure story.

DNA USA should be read by every family genealogist, by every curious school kid, and by every thinking adult who realizes that we're all connected, even if only through distant links. While showing how we are all subtly different, Sykes also manages to prove that we're all pretty much the same, too.

-Review by Paul Schlueter III



# PHACT CALENDAR

## 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 lot on 17th Street which is one way south bound. This meeting site is handicap accessible. **PhACT Meetings are Free and open to the public unless otherwise noted.**



**Saturday, October 18, 2014 at 2:00 PM - Lecture**

**Professor Barry Vacker will discuss his book “The End of the World — Again: Why the Apocalypse Meme Replicates in Media, Science, and Culture” See Page 3.**

**Saturday, November 15, 2014 at 2:00 PM - Lecture**

**“Neuroethics: the Perils and Potential of Brain Science”**

**Ted Schick, Professor of Philosophy at Muhlenberg College, will discuss Neuroethics: the Perils and Potential of Brain Science. See Page 4.**

**Saturday, January 17, 2015 at 2:00 PM - TBA**

**Saturday, February 21, 2015 at 2:00 PM - TBA**

**Saturday, March 21, 2015 at 2:00 PM - TBA**

**Saturday, April 18, 2015 at 2:00 PM - TBA**

**Saturday, May 16, 2015 at 10:00 AM - PhACT Expedition to the Mullica River to search for the Jersey Devil.**

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, October 7, 2014 at 7:00 PM** at Washington Memorial Chapel, on Route 23 in Valley Forge.

Friends of Valley Forge Park

**Searching for the Continental Powder Works on French Creek**

Wade P. Catts, an Associate Director of Cultural Resources with John Millner Associates, tells about the search for this important industrial complex, which was put to the torch by the British.

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

Free and Open to the Public.

**Tuesday, October 7, 2014 at 5:30 PM** at Serafina Restaurant, 130 South 18th St. at Sansom, Philadelphia, PA 19103

<http://www.sciencecafe.phila.org/calendar.html>

**Café Scientifique Philadelphia**

**NEURO-ECONOMICS: DECISION-MAKING AND THE BRAIN**

Joe Kable: Baird Term Assistant Professor of Psychology, University of Pennsylvania  
Recent discoveries are shedding light on the neural mechanisms that underlie decisions. We will discuss the new field of neuroeconomics and how neuroscience can inform the study of decision-making and may have practical implications for business and public policy.

5:30 PM - 8:00 PM

6:00 PM: Science Trivia

6:30 PM: Talk & Discussion

Free Admission—Bar Menu: Bring a friend

Wednesday, October 8, 2014, 6-8PM at the **Wagner** Free Institute of Science, 1700 West Montgomery Avenue, Philadelphia, PA 19121

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

**Philadelphia Lantern Slide Salon - Held in conjunction with Archives Month Philly**

Lantern slides were widely used in the 19th and early 20th century for entertainment and to illustrate educational programs and courses. This Salon will highlight slide collections from some of the region's most significant cultural and educational institutions, including: The

Athenaeum of Philadelphia, the Barbara Bates Center for the Study of the History of Nursing, the Historical Society of Frankford, the Historical Society of Pennsylvania, the Pennsylvania Horticultural Society, McLean Library, and the Philadelphia Museum of Art.

The Salon will be held in the Wagner's unchanged Victorian lecture hall using an original 1914 projector. In addition to local landmarks, the evening will feature an eclectic mix of subjects that includes: Philadelphia-area estate gardens of the 1930's, life in the city's Frankford neighborhood, images important to nurses and nursing in the early 20th century, and frigid scenes from a mission to rescue a crashed airship in the North Sea. Wagner's National Historic Landmark building & collections will be open for exploration before the program.

Registration link: <https://www.eventbrite.com/e/philadelphia-lantern-slide-salon-2014-registration-12583310019>.

Admission is free with suggested donation of \$10

**Wednesday, October 8, 2014 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: <http://www.rittenhouseastronomicalsociety.org/>

**Wednesday, October 8, 2014 at 7:00 PM** at Frankford Hall on Frankford Avenue just north of Girard Avenue.

**Philadelphia Nerd Nite ... be there and be square, yo.**

**Science discussions, good food, good company, and plenty of beer!**

For more information see the website at

<http://philadelphia.nerdnite.com/updates/>

Open to the Public. Admission \$5.00

Email us at: [nerdnitephilly@gmail.com](mailto:nerdnitephilly@gmail.com)

**Thursday, October 9, 2014 - 7:00pm to 10:00pm** 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>

**Night Skies in the Joel N. Bloom Observatory**

Hosted by Franklin Institute Chief Astronomer Derrick Pitts, Night Skies in the Observatory is a monthly stargazing event held in the Joel N. Bloom Observatory. View celestial objects in the night sky, including stars, planets, nebulae, and if conditions are right, a galaxy or two, from 5 different rooftop telescopes in the Observatory. The evening includes a Fels Planetarium show and a lecture or presentation (appropriate for ages 8 and up) on an astronomical or space science topic. The Observatory is staffed with knowledgeable observers and free star maps are provided.

Ticket Prices: \$5.00 Per Person, Free for Members

**Thursday, October 9, 2014 at 7:00pm** at **Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

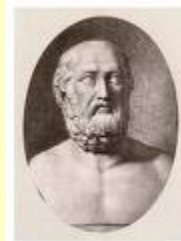
<http://www.thelaurelhillemetery.org>

**OVER MY DEAD BODY: MURDER MYSTERY IN THE CEMETERY**

This Halloween season, the tombs of historic Laurel Hill Cemetery become a stage with an interactive theatre performance. The Candlelight Murders, inspired by real stories from the Cemetery's history; has been written and produced by Philadelphia playwright, Loretta Vasile. In it, the untimely death of an heiress leads to her family gathering at Laurel Hill Cemetery to have her memorial and hunt for her missing will, but an unexpected guest brings evidence that her death was far from natural. Whodunnit? Audiences will have a chance to don their detective caps and search for clues on the cemetery grounds. Before the end of the show, they can submit their best guess about the criminal's identity. Was it a greedy family member, desperate for an inheritance? A mysterious guest who showed up uninvited to the memorial? Or the black sheep of the family, angry after years of being shunned? The final scene will reveal the answer and things are not always what they seem.

One performance of The Candlelight Murders is scheduled at Laurel Hill Cemetery: Thursday,

**SOCRATES CAFE** is moderated by: Lewis Mifsud, Ph.D., P.E., a member of PhACT and of The American Academy of Forensic Sciences. 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. This philosophical discussion group is free and open to the public. Join us and share your critical thinking, questions and opinions.



October 9 at 7:00pm (with a prescheduled rain date of Friday, October 10 at 7:00pm). The cost for the show is \$35/person general admission and includes wine, beer and refreshments. Advanced Reservations are requested and seating is limited. Tickets can be purchased by phone, (215) 228-8200 or online.

Upon arrival, check in at Laurel Hill Cemetery's Gatehouse entrance, 3822 Ridge Avenue, Philadelphia PA, 19132. Free parking is located in the lot directly across the street from the Gatehouse.

**Friday, October 10, 2014 at 7:00 PM** in the Radnor Township Municipal Building, 301 Iven Ave, Radnor, Pennsylvania 19087

**Delaware Valley Amateur Astronomers**  
**"Exploring the Most Powerful Particle Accelerators in the Universe with Gamma Rays"**

**Professor Jamie Holder, U. of Del., Dept. of Physics & Astronomy.**

(Prof. Holder is the VERITAS spokesman at University of Delaware.)

VERITAS: Very Energetic Radiation Imaging Telescope Array System

<http://dvaa.org/php/page.php?body=Events>

Free and Open to the Public.

Refreshments are provided. A sales table and library are also available.

**Sunday, October 12, 2014 at 1:00pm** at **Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA 19132. 215-228-8200

<http://www.thelaurelhillcemetery.org>

**SINNERS, SCANDALS and SUICIDES**

Laurel Hill has its brave military heroes like George Gordon Meade, its uplifting reformers like Sarah Josepha Hale, and selfless philanthropists like Robert Carson. But what about the less than pure spirits?... The South Philly gangster who got whacked when he tried to infiltrate the Schuylkill County numbers racket? The Civil War hero who made his fortune from white lightning and who, because of his many illicit affairs, was referred to by the local press as "a slayer of innocence and a robber of chastity"? The chemical heiress who lost her money in an infamous Broadway bomb starring the producer's talentless girlfriend? The noted artist who committed suicide during the Depression when his priceless book and art collections were sold at auction for a few thousand dollars? The final resting places of

these troubled souls will be among the many stops on our walking tour of Laurel Hill's scandalous, sinful and sordid side.

The tour will take place on Sunday, October 12 at 1:00pm, 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 \$12/person; or \$10/students and seniors. Reservations are suggested. Tickets can be purchased at the door, in advance by phone (215) 228-8200 or online.

Guide: Tom Keels

**Monday, October 13, 2014 at 6:00 p.m** 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 hosted by the Mutter Museum

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

<http://scienceontaphilly.com/>

**Tuesday, October 14, 2014 at 12:00 to 1:00 PM** at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

<http://www.chemheritage.org> Tel: 215-925-2222

**Brown Bag Lecture: Stefano Gattei**

**A talk by Stefano Gattei**

Stefano Gattei is an Edelstein Postdoctoral Fellow at CHF and an assistant professor at the IMT Institute for Advanced Studies in Lucca, Italy. His lecture will focus on the project he is currently researching: "Beyond Galileo: Medicine, Alchemy, and Natural Philosophy at the Lyceum Academy."

**Tuesday, October 14, 2014 at 6:30 pm** 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)

**Radiation Exposure From Medical Imaging-Issues, Controversy, & Evidence : A Physician's and Patient's Guide**

The issue of the potential harmful effects of

radiation doses received during medical testing has been the topic of many recent publications, both in the scientific literature and lay press. Editorials have appeared in national newspapers with claims of tens to hundreds of thousands of cases of cancer being caused by radiation exposure during diagnostic imaging, particularly computed tomography or CT, which has resulted in confusion among patients and physicians about whether they should undergo medical imaging. We will examine the basis for these claims and the evidence supporting them, including the current best science regarding the effects of the radiation doses to which patients are exposed during diagnostic imaging tests. Finally, a framework for discussing the risks and benefits of medical imaging for patients and the physicians caring for them.

FREE. 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.

**Wednesday, October 15, 2014 at noon** 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)

**Food & Thought Lecture: "S. Weir Mitchell and Civil War Shock Therapy"**

The College's new permanent exhibition "Broken Bodies, Suffering Spirits: Injury, Death, and Healing in Civil War Philadelphia," acknowledges the pioneering neurological work by physicians S. Weir Mitchell, William W. Keen, and George R. Morehouse at Turner's Lane Hospital in Philadelphia to study diseases and wounds of the nerves. Among the unusual and innovative therapies for recovering Civil War soldiers was electrotherapy. Mitchell published two treatises on his wartime treatments in which electrical devices feature in case histories as innovative and indispensable devices. This illustrated presentation explores the link between Mitchell's experimental electrical technology and the creation of a new medical discipline. See why sick soldiers feared electrocution when they saw Dr. Mitchell in their ward!

Speaker: Robert Hicks, PhD, Director of the Mutter Museum and the Historical Medical Library, and William Maul Measey Chair for the History of Medicine. He has worked with museum-based education and exhibits for over three decades, primarily as a consultant to historic sites and museums.

Cost: \$13 includes lunch. 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, October 16, 2014 at 6:0030 pm** at College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103, (215) 563-3737 x304

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>



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

### "Bite My Paintings": A Conversation with Two Roberts

"I like to feel that you could bite my paintings. Not to eat them, to hurt them. I like to feel like I'm painting with my teeth." - David Lynch

David Lynch's art evokes absurdities, nightmares, strange visions, tense moments, and intense memories. What better meditation on Lynch's combination of the human body with strange ideas than to throw an art historian at a director of a pathological anatomy museum to see what happens. Enjoy an evening of conversation between Robert Cozzolino, PAFA Senior Curator and Curator of Modern Art, and Robert Hicks, Director of the Mütter Museum, as they take their cue from Lynch's art to match wits about ideas in art, things not to do with a human body, really, really disturbing narratives, and even pica, or eating things you shouldn't (including paintings).

**This lecture will be held at the Historic Landmark Building at PAFA, 118 North Broad Street, Philadelphia, PA 19102.**

Tickets are \$15 each. 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, October 16, 2014 at 12:30 pm** at University of Pennsylvania Museum, 3260 South Street, Philadelphia, PA 19104

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

#### Brown Bag Lecture

#### Strategies for the Management of Traditional Cultural Properties: A Navajo Perspective

The Navajo Nation is the largest Indian reservation within the U.S. and contains hundreds of Traditional Cultural Properties. These properties are sources of power that are used for protection, healing, stability, and the continued existence of harmony and balance of all Navajo people. Traditional Cultural Properties may or may not exhibit evidence of human activity and may simply be embedded in the landscape. In this talk, Roy Maldonado, Tribal Historic Preservation Officer, Navajo Nation Preservation Department, and Jon Berkin, Principal, National Resource Group, LLC, focus on conflicts over the management of Navajo Traditional Cultural Properties, looking at case studies from the Navajo Nation Historic Preservation Department. Presented by the Penn Cultural Heritage Center. Free admission.

**Friday, October 17 and Saturday, October 18 at 7:00pm** at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurehillcemetery.org>

#### SOUL CRAWL: HAUNTED HALLOWEEN HISTORY TOURS

Behold the return of Laurel Hill Cemetery's annual Halloween flashlight tours of yore. No longer featuring the actors, the program will return to its roots as extended nighttime walking tours of the cemetery, focusing on its rich

history, and covering its enchanting art and landscape. Tours will last approximately two hours, and will be followed by complimentary cookies and cider aside blazing fire pits. Bring your own flashlights.

Two evenings of the Soul Crawl: Haunted History Halloween Tours are scheduled at Laurel Hill: Friday, October 17 and Saturday, October 18 at 7:00pm.

The cost for Soul Crawl is \$20/person general admission. Purchasing tickets in advance is suggested. Tickets can be purchased at the door, by phone (215)228-8200 or online.

Upon arrival, register at Laurel Hill Cemetery's Gatehouse entrance, 3822 Ridge Avenue, Philadelphia PA, 19132. Free parking is located in the lot directly across the street from the Gatehouse.

## PhACT Lecture

**Saturday, October 18, 2014 at 2:00 PM**

**Professor Barry Vacker will discuss his book "The End of the World — Again: Why the Apocalypse Meme Replicates in Media, Science, and Culture"**

**Saturday, October 18, 2014, 12-4 PM** at the Wagner Free Institute of Science, 1700 West Montgomery Avenue, Philadelphia, PA 19121

[www.wagnerfreeinstitute.org](http://www.wagnerfreeinstitute.org) ph 215-763-6529

**Family Open House - Animals in Costumes!** A Spooky Creature Feature - A Halloween-themed family open house. Come in Costume!! Featuring live animals from the Elmwood Park Zoo at 1PM.

Free and Open to the Public

**Sunday, October 19, 2014 at 1:00pm** at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurehillcemetery.org>

#### FROM DEUTSCHLAND TO DEADLAND: HISTORIC GERMANS OF LAUREL HILL

Since its founding in 1682, German immigrants have played an important role in the development of Philadelphia. Our Oktoberfest tour will include visits to the final resting places of prominent Germans, including military heroes, brewers, industrialists, politicians and nobility. Attendees will learn about German culture and history, concluding with a 'bier' tasting of German style beers. Visitors may even learn to speak a little "deutsch".

The tour and tasting will take place on Sunday, October 19 at 1:00pm, 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 \$20/person general admission. Reservations are suggested. Tickets can be purchased at the door, in advance by phone (215) 228-8200 or online.

Guide: Andy Waskie, Ph.D.

**Monday, October 20, 2014 at 7:30PM** at the Free Library of Philadelphia, 1901 Vine Street, 19103

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

#### Walter Isaacson | The Innovators: How a Group of Inventors, Hackers, Geniuses, and Geeks Created the Digital Revolution

Bestselling biographer Walter Isaacson's portrait of Apple co-founder Steve Jobs, released just weeks after the tech guru's death, became an international bestseller and broke all records for sales of a biography. Isaacson has also penned "energetic, entertaining, and worldly" (The New Yorker) bios of Benjamin Franklin, Henry Kissinger, and Albert Einstein. The president and CEO of the Aspen Institute for educational and policy studies, he has also served as the chairman of CNN, managing editor of Time magazine, and chairman emeritus of Teach for America. The Innovators is the revealing, century-spanning saga of the people who created the computer and the Internet.

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

Buy tickets online

**Tuesday, October 21, 2014 at noon to 1 PM** at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

Tel: 215-925-2222

<http://www.chemheritage.org>

#### Brown Bag Lecture: "The European Air Chemistry Network and the Construction of a 'Global' Climate"

A talk by Rachel Rothschild  
Free and Open to the Public.

**Tuesday, October 21, 2014 at 6:00 PM** at World Cafe Live, 3025 Walnut Street, Philadelphia PA, at 6:00 pm.

#### PENN LIGHTBULB CAFÉ

#### "Ancient Divination and Modern Intuition: A Cognitive History"

Peter Struck, associate professor of classical studies

Professor Struck will examine ancient accounts of predicting the future from oracles, omens, and dreams and compare them with modern accounts by cognitive scientists of our abilities to know things in sometimes mysterious ways. Struck claims that these are parallel attempts to plumb the depths of how powerful our own powers of knowing are.

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

Free and Open to the Public

**Thursday October 23, 2014 at 5:30 PM-9:00 PM** at The Academy of Natural Sciences, 1900 Benjamin Franklin Parkway, Philadelphia 19103  
[www.ansp.org](http://www.ansp.org) 215-299-1108

#### Mega-Bad Movie Night: The Lost World

Join us at the Academy after hours to watch an "awesomely awful" movie. Witty experts will be

onstage to offer their quips and sidesplitting comments on the many scientific absurdities—think Mystery Science Theater 3000!

In this edition of Meg



a-Bad Movie Night, we are showing the 1960's **The Lost World**.

Purchase tickets here:

<http://www.ansp.org/get-involved/programs/adult-programs/mega-bad-movie-night/Mega-Bad-Movie-Night-Tickets/>

**Thursday, October 23, 2014 at 6:00 pm** at University of Pennsylvania Museum, 3260 South Street, Philadelphia, PA 19104

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

**Evening Event**

**Douglas G. Lovell, Jr. "Reports from the Field"**

The Kolb Society of Fellows focuses its research on ancient, pre-industrial cultures and modern, non-industrial peoples of the world, and supports students who are actively engaged with material culture and archaeological studies. In this program, the Junior Fellows of the Kolb Society at the Penn Museum present their current research. Free admission.

**Thursday, October 23, 2014 at 6:00 pm** at College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103, (215) 563-3737 x304

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

**Domestic Exhalations and Pestilential Fevers: Philadelphia's Search for a Yellow Fever Cure**

**This lecture will be held at the Physick House, 324 South 4th Street, Philadelphia, PA 19106.**

The 1793 Yellow Fever epidemic in Philadelphia has become well known: the story has a hero—Benjamin Rush—and a villain—a mysterious pestilential disease which killed almost 10 percent of the population. Rush has been roundly criticized, both by posterity and his contemporaries, for his harsh therapies of bloodletting and extreme medicines. The management of the 1793 epidemic played against rivalries and disagreements between doctors and questioned deeply rooted medical philosophies. By the 1797 epidemic, public officials once again appealed to the medical establishment for advice on public health. Two camps presented their competing observations and conclusions—The College of Physicians of Philadelphia and its

splinter faction, the Academy of Medicine, led by Rush and Philip Syng Physick. This illustrated presentation examines their competing theories of Yellow Fever and its treatment, revealing the nature of patriotic ideals, criticism of the country's maritime economy, and even what it meant to be an American.

Speaker: Robert D. Hicks, PhD, Director of the Mütter Museum and the Historical Medical Library, and the William Maul Measey Chair for the History of Medicine.

**Tickets are \$15.** 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, October 23, 2014 at 6:30 pm** at College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103, (215) 563-3737 x304

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

**Leonardo and the Reinvention of Anatomy**

When Vesalius started his life journey five hundred years ago, Leonardo Da Vinci's own journey into the human body was symbolically coming to an end. Denounced by a German collaborator for necromancy, he would eventually be barred by the Church from even entering the Ospedale di Santo Spirito under accusations of "heresy and cynical dissection of cadavers!". He will never dissect again. Still, Leonardo's work might have actually been known to Vesalius himself, considering that Da Vinci's heir, Francesco Melzi, kept all of his master's notebooks not too far from Padua, and was eager to show them to anyone interested. They might have actually served as inspiration for Vesalius' scenic styles of the Fabrica.

This talk will review Leonardo's amazing contributions to the field of anatomy, which are eons ahead of anything available at the time, but that unfortunately remained locked in Windsor Castle for almost 300 years.

The talk has been written up as a scientific publication and it won the 2014 Vesalius Prize by the Hektoen Journal of Medical Humanities, and later on became a 30 minute Drexel interview broadcast by many PBS stations. Watch it [HERE](#).

Speaker: Salvatore Mangione, MD

This lecture is part of the College's celebration of the 500 anniversary of the birth of Andreas Vesalius.

**Cost: \$10.** 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, October 23, 2014 - 5:30pm to 7:30pm** at the **American Philosophical Society**, Benjamin Franklin Hall, 427 Chestnut Street, Philadelphia

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

**Our Declaration: A Reading of the Declaration of Independence in Defense of**



**Equality  
Our Declaration -  
Lecture and Reception  
with Danielle Allen**

Danielle Allen, a professor of social science at the Institute for

Advanced Study in Princeton, NJ, is a political philosopher widely known for her work on justice and citizenship in both ancient Athens and modern America.

Every Independence Day we stand together in rare bipartisanship and celebrate the Declaration of Independence and its defense of life, liberty, and the pursuit of happiness. But why not equality? As we debate the meaning of that concept in modern society, scholar Danielle Allen repositions it at the core of our Founding Document.

In Our Declaration, Allen reminds us that it is "all men are created equal" that immediately follows "We hold these truths to be self-evident." Yet it is liberty that continues to trump equality in the national discussion over the Declaration's legacy.

Aware that most adults have never read the Declaration of Independence, Allen sets out to acquaint all Americans with this most seminal of history documents—arguably the most important document besides the Magna Carta—as well as to demonstrate why it is not only a pact affirming individual liberty (as the right regularly espouses) but an impassioned plea for equality.

A book signing will follow the lecture.

Free and Open to the Public.

To register: <http://www.amphilsoc.org/node/2333>

**Thursday, October 23, 2014 at 6:00 pm** at University of Pennsylvania Museum, 3260 South Street, Philadelphia, PA 19104

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

**Lecture: Douglas G. Lovell, Jr. "Reports from the Field"**

The Kolb Society of Fellows focuses its research on ancient, pre-industrial cultures and modern, non-industrial peoples of the world, and supports students who are actively engaged with material culture and archaeological studies. In this program, the Junior Fellows of the Kolb Society at the Penn Museum present their current research. Free admission.

**Friday, October 24, 2014 at 10:00am** at **Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA 19132. 215-228-8200

<http://www.thelaurelhillemetery.org>  
**MONTHLY FOURTH FRIDAY TOUR SERIES: HOT SPOTS and STORIED PLOTS**

In life and in death, we all have stories to tell. 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



## 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/)

beautiful art, scenic nature and fascinating history. "Hot Spots and Storied Plots" will be presented monthly as part of Laurel Hill Cemetery's Fourth Friday tour series, which take place on the fourth Friday of every month at 10:00am.

October's walking tour will take place on Friday, October 24 at 10:00am, 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 \$8/person general admission. Tickets can be purchased at the door, or in advance by phone (215) 228-8200 or online.

Guide: Russ Dodge

**Friday, October 24, 2014.**

<http://www.thelaurelhillemetery.org>

**10th ANNUAL GRAVEDIGGERS' BALL**

The Gravediggers' Ball is the annual fundraiser of the Friends of Laurel Hill Cemetery, a 501(c)(3) nonprofit organization working to preserve, interpret and promote the site for which it exists. 2014 marks the 10TH ANNIVERSARY of the Ball!

Since its establishment in 1836, Laurel Hill Cemetery has been maintained as a free and fully accessible educational, environmental and recreational resource for both nearby communities and faraway visitors. It has served equally as a place of enjoyment for the living and one of peaceful rest for the dead for over 175 years.

All proceeds from the Gravediggers' Ball directly support the ongoing public accessibility, preservation and interpretation of historic Laurel Hill Cemetery. For more information or to buy tickets, visit [www.gravediggersball.org](http://www.gravediggersball.org).

**Monday, October 27, 2014 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/>

**William Kidder on A People Harrassed and Exhausted on the 1st Hunterdon County Militia**

**Tuesday, October 28, 2014 at noon to 1 PM** at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

Tel: 215-925-2222 • <http://>

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

**Brown Bag Lecture: "Edward Darrell Smith and the Chemical Treatment of Urinary Stones"**

A talk by E. A. Driggers, PhD Candidate, University of South Carolina, and Beckman Center Edelstein Fellow  
Free and Open to the Public.

**Tuesday, October 28, 2014 - 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>  
**Born Bad? Violence, Punishment, and the Brain**

**Let's Talk About Your Brain: Conversations About Neuroscience and Society**

Scientists have been trying to understand the minds of criminals for decades. There is increasing evidence showing a biological basis for violent behavior, but how this knowledge should be used to protect society and what it means in the courtroom are open questions. Tragedies ranging from the streets of Philadelphia to Sandy Hook, CT lead us to wonder—could this behavior be predicted and prevented? Join experts in neurology, criminology, and public health from the University of Pennsylvania and Children's Hospital of Philadelphia to explore the biological, environmental, and moral issues surrounding these crimes.

**\$15.00 Non-Members**

**Tuesday, October 28, 2014 at 7:30PM** at the Free Library of Philadelphia, 1901 Vine Street, 19103

<http://libwww.freelibrary.org/authorevents/>  
**E. O. Wilson | The Meaning of Human Existence**

Esteemed biologist E. O. Wilson's ideas have had an immeasurable influence on our understanding of life, nature, and society. The author of more than 25 books, including two Pulitzer Prize-winning works of nonfiction, Wilson has won a raft of scientific and conservation prizes, including the prestigious National Medal of Science. He remains an outspoken advocate for conservation and biodiversity, fighting to preserve the wondrous variety of the natural world. His writing explores the world of ants and other tiny creatures, illuminating how all creatures great and small are interdependent. In his new book, he bridges

science and philosophy to create a 21st-century treatise on human existence.

Cost: \$15 General Admission, \$7 Students  
Buy tickets online

**Thursday, October 30, 2014, 6 – 7:30 PM** at the **Wagner** Free Institute of Science, 1700 West Montgomery Avenue, Philadelphia, PA 19121  
ph 215-763-6529

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

**Diagnosis, Madness: The Photographic Physiognomy of Hugh Welch Diamond**

A Weeknights at the Wagner illustrated presentation given by Dr. Sharrona Pearl Victorian asylum doctor Hugh Welch Diamond believed photographs could revolutionize his psychiatric practice. As both a psychiatrist and photographer, he used pictures as a method of diagnosis and therapy, attempting to change the nature of treatment and nurture patients to health without physical restraints. Join Penn Communications Professor Dr. Sharrona Pearl on this Halloween Eve to explore not just what pictures of asylum patients tell us about the past, but what they tell us about ourselves.

Registration link:

<https://www.eventbrite.com/e/diagnosis-madness-the-photographic-physiognomy-of-hugh-welch-diamond-registration-13132524735>

Admission is free with suggested donation of \$10.

**Tuesday, November 4, 2014 at noon to 1 PM** at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

Tel: 215-925-2222 • <http://www.chemheritage.org>

**Brown Bag Lecture: "Molecules in Biology before Molecular Biology: Imagining Molecules under Polarized Light, 1910–1939"**

A talk by Daniel Liu, PhD Candidate, University of Wisconsin–Madison and Beckman Center Price Fellow  
Free and Open to the Public.

**Tuesday, November 4, 2014 at 7:00 PM** at Washington Memorial Chapel, on Route 23 in Valley Forge.

Friends of Valley Forge Park

**The Forging of American Independence, 1774–1776**

Acclaimed historian and author Richard R. Beeman recalls the remarkable story of how a divided Continental Congress united for freedom.



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

Free and Open to the Public.

**Tuesday, November 4, 2014 at 7:30PM** at the Free Library of Philadelphia, 1901 Vine Street, 19103

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

**Eric Metaxas | Miracles: What They Are, Why They Happen, and How They Can Change Your Life**

Eric Metaxas is best known for his biographies, told with "passion and theological sophistication," (The Wall Street Journal) of William Wilberforce and Dietrich Bonhoeffer, profoundly moral men who took unpopular stances and have since been vindicated by history. He is also the author of dozens of other works of nonfiction, children's books, television scripts, and newspaper and periodical columns. Metaxas is a frequent contributor to news programs on CNN, Fox News Channel, and NPR, and also hosts a nationally syndicated Sunday morning program, 100 Huntley Street. His new book asks why miracles happen and what we can do to understand and use them in our lives.

Free.

**Tuesday, November 4, 2014 - 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**

Free. Reception to follow.

Discussion Topic TBA.

This event is part of Eastern State's ongoing Searchlight Series of events addressing issues in contemporary corrections.

at Eastern State Penitentiary, 2027 Fairmount Avenue, Philadelphia, PA 19130 phone: (215) 236-3300

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

**Wednesday, November 5, 2014 at 6:00 pm** at University of Pennsylvania Museum, 3260 South Street, Philadelphia, PA 19104

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

**Great Wonders Lecture Series**

**Monumental Grandeur of the Mississippi Valley**

Megan Kassabaum, Ph.D., Assistant Curator, American Section

Stretching over 2,500 miles from Minnesota to the Gulf of Mexico, the Mississippi River has been called "the Nile of North America." Like its counterpart in Egypt, the Lower Mississippi Valley is among the richest archaeological regions on the continent. Home to thousands of earthen mounds, it contains both the oldest and the most elaborate monumental architecture in North America. Dr. Kassabaum explores the exceptional variability in the mounds themselves and the prehistoric cultures who constructed them.

Individual lecture with advance registration: \$5, general public; \$2, Museum members; \$10 at the door based on availability. For more information,

or to register, visit [www.penn.museum/greatwonders](http://www.penn.museum/greatwonders).

**Saturday, November 8, 2014 at 1:00pm** at **Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

**Legendary Civil War Ladies Flyer**

**Laurel Hill's Legendary Civil War Ladies**

The American Civil War was not just fought on



the battle-field. Efforts on the home-front helped finance and support the battles, while also ensuring there was something for soldiers to return home to. Join living historian, Kerry Bryan, in period attire as Elizabeth Hutter, Civil War nurse and founder of the Northern Home for Friendless Children. Through the lens of Hutter's own life story, learn about the struggles, accomplishments and tireless efforts of women during the Civil War era. From nursing the sick, to inventions that would aid the Union in warfare, to fundraising to clothe and feed its troops, the ladies of Laurel Hill served their nation in various ways. Benjamin Franklin's granddaughter, Elizabeth Duane Gillespie; founder of Thanksgiving, Sarah Josepha Hale; and wife of the victor of Gettysburg, Margaretta Meade, are just a few of the stories that will be covered. The program will comprise a slide presentation and lecture, followed by a brief tour, and concluding with a seasonal reception inside the cemetery's historic Gatehouse.

The program will take place on Saturday, November 8 at 1:00pm, 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 \$12/person; or \$10/students and seniors. Reservations are suggested. Tickets can be purchased at the door, or in advance by phone (215) 228-8200 or online.

Guide: Kerry Bryan

**Monday, November 10, 2014 at 6:00 p.m** 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 hosted by the American Philosophical Society Museum

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

<http://scienceontapphilly.com/>

**Monday, November 10 at 10:00am** at **Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

**Marine Corps Anniversary Flyer**

**Marine Corps Anniversary Service and KIA Veterans' Day Tour**

Join active and retired members of the United States Marine Corps at Laurel Hill Cemetery as they commemorate the 239th anniversary of the founding of the Marine Corps in Philadelphia on November 10, 1775. A service will take place at the gravesite of Brigadier General Jacob A. Zeilin, the first United States Marine non-brevet general, who served as the seventh Commandant of the Corps from 1864 to 1876. After the service, the Cemetery will mark Veterans' Day with a tour of the final resting places of the heroes who made the ultimate sacrifice for our country. Learn about the people who died in battle in the Revolutionary War, the Indian Wars, the War of 1812, the Mexican War, the Civil War, the Spanish American War, World War I, World War II, in Korea, and in Vietnam. Their heroic exploits will be relived and honored.

The service and tour will take place on Monday, November 10 at 10:00am, 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.

Free and open to the public.

**Monday, November 10, 2014 at 6:00 p.m** 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 hosted by the American Philosophical Society Museum

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

<http://scienceontapphilly.com/>

**Tuesday, November 11, 2014 at noon to 1 PM** at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

Te l : 2 1 5 - 9 2 5 - 2 2 2 2 • <http://www.chemheritage.org>

**Brown Bag Lecture: "Population Boom: Warfare, Fertilizers, and the Chemicalization of American Agriculture"**

A talk by Timothy Johnson, PhD Candidate, University of Georgia, and Beckman Center Allington Fellow

Free and Open to the Public.

**Tuesday, November 11, 2014 at 6:00 PM** at World Cafe Live, 3025 Walnut Street, Philadelphia PA, at 6:00 pm.

**PENN SCIENCE CAFE**

**"Why Did Early Humans Domesticate Wolves**

### and Wildcats? A Novel Look at a Very Old Question"

James Serpell, Penn Vet's Marie A. Moore Professor of Ethics & Animal Welfare

The prevailing theory that the wild ancestors of dogs and cats gradually domesticated themselves by exploiting the ecological resources provided by early human villages relies on a number of erroneous assumptions. This talk will take a critical look at these assumptions and suggest an alternative view: That the domestication of wolves, wildcats and many other domestic species was actually a consequence of misplaced human parental behavior. Free and Open to the Public.

<http://www.upenn.edu/pennnews/sciencecafe>  
Free and Open to the Public

**Wednesday, November 12, 2014 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, November 12, 2014 at 7:00 PM** at Frankford Hall on Frankford Avenue just north of Girard Avenue.

#### Philadelphia Nerd Nite ... be there and be square, yo.

Science discussions, good food, good company, and plenty of beer!

For more information see the website at

<http://philadelphia.nerdnite.com/updates/>

Open to the Public. Admission \$5.00

Email us at: [nerdnitephilly@gmail.com](mailto:nerdnitephilly@gmail.com)

**Wednesday, November 12, 2014 at 6:30 pm** at College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103, (215) 563-3737 x304

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

#### The Samuel X Radbill Lecture: "Oliver Wendell Holmes, Philadelphia, and the Spirit of Skepticism"

Sir William Osler praised Oliver Wendell Holmes (1809-1894) as "the most successful combination which the world has ever seen, of the physician and man of letters." Today, Holmes is remembered as a physician for his investigation of the contagiousness of puerperal fever, for his advocacy for therapeutic skepticism, and for coining such terms as "anesthesia." Holmes is celebrated as a literary and cultural figure for such poems as "Old Ironsides" (considered responsible for saving the U.S.S. Constitution), for his ground-breaking contributions to The Atlantic Monthly (which he named), and for terming Boston the "Hub of the solar system" and describing its "Brahmin" caste.

Holmes also had a longstanding – if complicated – relationship with Philadelphia, its physicians, and with the College of Physicians

itself. It is fitting that a portrait of Holmes hangs in the office of the College's Thomas W. Langfitt Chair, George Wohlreich. We'll see why, especially in the context of the enduring relevance of Holmes' medical humanism and skepticism.

Speaker: Scott H. Podolsky, MD, Associate Professor, Department of Global Health and Social Medicine, Harvard Medical School, where he is Director, Center for the History of Medicine at the Countway Library.

Sponsored by the College's Section on Medical History

Cost \$10. 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, November 13, 2014 - 7:00pm to 10:00pm** 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>

#### Night Skies in the Joel N. Bloom Observatory

Hosted by Franklin Institute Chief Astronomer Derrick Pitts, Night Skies in the Observatory is a monthly stargazing event held in the Joel N. Bloom Observatory. View celestial objects in the night sky, including stars, planets, nebulae, and if conditions are right, a galaxy or two, from 5 different rooftop telescopes in the Observatory. The evening includes a Fels Planetarium show and a lecture or presentation (appropriate for ages 8 and up) on an astronomical or space science topic. The Observatory is staffed with knowledgeable observers and free star maps are provided.

Ticket Prices: \$5.00 Per Person, Free for Members

**Friday, November 14th, 2014 PM** at the Wagner Free Institute of Science, 1700 West Montgomery Avenue, Philadelphia, PA 19121

[www.wagnerfreeinstitute.org](http://www.wagnerfreeinstitute.org) ph 215-763-6529

#### A Sip of Science - Honoring Dr. Peter Dodson for his groundbreaking work on dinosaurs and vertebrate paleontology.

**Friday, November 14, 2014 at 7:00 PM** in the Radnor Township Municipal Building, 301 Iven Ave, Radnor, Pennsylvania 19087

#### Delaware Valley Amateur Astronomers

#### "The History of the Telescope: Old Light, New Insight"

**Bart Fried, founder, Antique Telescope Society.**

<http://dvaa.org/php/page.php?body=Events>

Free and Open to the Public.

Refreshments are provided. A sales table and library are also available.

## PhACT Lecture

**Saturday, November 15, 2014 at 2:00 PM - Lecture**

### "Neuroethics: the Perils and Potential of Brain Science"

**Ted Schick, Professor of Philosophy at Muhlenberg College, will discuss Neuroethics: the Perils and Potential of Brain Science.**

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

<http://www.thelaurehillcemetery.org>

#### From Sails to Steel Flyer

#### From Sails to Steel: Shipbuilders of Philadelphia

Shipwrecks, seas, and distant shores; the water holds a fascination for us that is rational and yet, mystical at the same time. To conquer the seas required technology and ingenuity and some parts of the world stood above the rest. Philadelphia was a vital center of American shipbuilding in the 19th century and produced a broad variety of vessel types, from passenger liners to battleships. Every aspect of shipbuilding is represented by one or more of the souls at rest in Laurel Hill Cemetery, from engines to ropes, from wharfs to hulls, and from wood to steel. You're invited to learn the mythic stories of Philadelphia's maritime history in this autumn afternoon walking tour along with an opportunity to see a one-of-a-kind collection of shipbuilding memorabilia, including some rarely shown museum pieces. End the tour with refreshments and a regular part of 19th century shipbuilders' contracts: a measure of rum.

The tour will launch on Sunday, November 16 at 1:00pm, with the collection on display from 12:00pm to 1:00pm and again after the tour. Check-in is at Laurel Hill Cemetery's Gatehouse at 3822 Ridge Avenue, Philadelphia, PA 19132. Free parking is located in the lot across the street from the Gatehouse.

The cost is \$15/person; or \$13/students and seniors. Reservations are suggested. Tickets can be purchased at the door, or in advance by phone (215) 228-8200 or online.

Guide: Dan Dailey

**Tuesday, November 18, 2014 at noon to 1 PM** at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

Tel: 215-925-2222 •

<http://www.chemheritage.org>

**Brown Bag Lecture:** A talk by Britt Dahlberg, PhD Candidate, University of Pennsylvania, and

CHF Fellow-in-Residence  
Free and Open to the Public.

**Tuesday, November 18, 2014 at 7:30PM** at the Free Library of Philadelphia, 1901 Vine Street, 19103

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

**Jack Miles | Norton Anthology of World Religions**

Jack Miles, Distinguished Professor of English and Religious Studies at the University of California at Irvine and Senior Fellow for Religious Affairs for the Pacific Council on International Policy, is the author of the Pulitzer Prize-winning *God: A Biography* and *Christ: A Crisis in the Life of God*. As editor of the Norton Anthology of World Religions, a landmark work containing more than 1,000 primary texts from the world's six major religions along with the writings of scholars, seekers, believers, and skeptics, Miles invites readers to "see others with a measure of openness, empathy, and good will... in that capacity lies the foundation of human sympathy and cultural wisdom."

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

Buy tickets online

**Wednesday, November 19, 2014 at noon** at College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103, (215) 563-3737 x304

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

**Food & Thought Lecture: "The Mysterious World of Pharmaceutical Venture Capital: Is it as "Good"/"Bad"/"Necessary" as "They" Say?"**

Without venture capital, the biotech industry would not exist – essentially every therapeutically focused, publicly traded biotech company has been venture-backed at some point in its life. So, if healthcare professionals depend so greatly on these scrappy, new biotech companies to develop new therapeutics and devices, let's take a look at just what the venture capital industry is, and how it funds biotech ventures. Along the way, you will also hear some great stories, and perhaps even get a sense of whether the venture industry is ready to fund YOU in your entrepreneurial quest.

Speaker: David R. King, Senior Advisor - Atonarp, Inc.

Cost: \$13.00 includes lunch. 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.

**Monday, November 24, 2014 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/>

**Dr. John J. McLaughlin will speak on Black Loyalists.**

**Friday, November 28 at 10:00am** at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurehillcemetery.org>

**Hot Spots and Storied Plots Flyer**

**MONTHLY FOURTH FRIDAY TOUR SERIES: HOT SPOTS and STORIED PLOTS**

In life and in death, we all have stories to tell. 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. "Hot Spots and Storied Plots" will be presented monthly as part of Laurel Hill Cemetery's Fourth Friday tour series, which take place on the fourth Friday of every month at 10:00am.

November's walking tour will take place on Friday, November 28 at 10:00am, 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 \$8/person general admission. Tickets can be purchased at the door, or in advance by phone (215) 228-8200 or online.

Guide: Patty Stringer

**Tuesday, December 2, 2014 at noon to 1 PM** at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

Te l : 2 1 5 - 9 2 5 - 2 2 2 2 • <http://www.chemheritage.org>

**Brown Bag Lecture:** A talk by Benjamin Gross, CHF Fellow

Free and Open to the Public.

**Tuesday, December 2, 2014 at 7:00 PM** at Washington Memorial Chapel, on Route 23 in Valley Forge.

Friends of Valley Forge Park

**Give Me a Fast Ship: The Continental Navy**

The adventures of the sailors and the ships of America's fledging Navy, as meticulously researched and masterfully told by author Tim McGrath.

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

Free and Open to the Public.

**Tuesday, December 2, 2014 - 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**

Free. Reception to follow.

Discussion Topic TBA.

This event is part of Eastern State's ongoing Searchlight Series of events addressing issues in contemporary corrections.

at Eastern State Penitentiary, 2027 Fairmount Avenue, Philadelphia, PA 19130 phone: (215) 236-3300

**Tuesday, December 2, 2014 at 6:00 PM** at World Cafe Live, 3025 Walnut Street, Philadelphia PA, at 6:00 pm.

**PENN LIGHTBULB CAFÉ**

**"What is American Art?"**

Gwendolyn DuBois Shaw, associate professor and undergraduate chair, History of Art Department

As we move toward an increasingly pluralistic society in the United States, one in which political and social parity is being achieved by greater segments of society, the idea that works of art should be discussed in separate groups based on a perception of a shared "identity" among the objects' makers (blacks, women, queers), rather than on the works' thematic or conceptual affinities, seems increasingly regressive. And yet, such practices persist. Prof. DuBois Shaw's talk will examine the contemporary art historical, curatorial and critical strategies and tactics for using such markers as race, gender, sexuality and regional identity to interpret art today. <http://www.upenn.edu/pennnews/sciencecafe>

Free and Open to the Public.

**Wednesday, December 3, 2014 at 6:00 pm** at University of Pennsylvania Museum, 3260 South Street, Philadelphia, PA 19104

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

**Great Wonders Lecture Series**

**The Monumental Geoglyphs of Amazonia**

Clark L. Erickson, Ph.D., Curator-In-Charge, American Section

Traditionally, the archaeologists have the vast Amazon region of South America to be a cultural backwater compared to the better-known civilizations that developed in the Americas. Scholars stress the limitations of tropical environments and lack of critical technological innovations to sustain civilizations. In recent years, the documentation of intensive agriculture, black earth, managed forests, hydraulic engineering, and large settlements has questioned traditional assumptions. Dr. Erickson has documented fascinating monumental earthworks called geoglyphs, ring ditches, or geometric enclosures that cover several acres to nearly a square mile. The geometric patterns suggest a concern for landscape design, high visibility, and aesthetics. Deep ditches imply that huge volumes of earth moved. Various hypotheses are presented for the functions of earthworks. The existence of earthworks of such magnitude and density throughout Western Amazonia shows the ability of native peoples to transform their landscapes at a massive scale.

Individual lecture with advance registration: \$5, general public; \$2, Museum members; \$10 at the door based on availability. For more information, call 215.898.2680. To register, visit [www.penn.museum/greatwonders](http://www.penn.museum/greatwonders).

**Thursday, December 4, 2014 at 7:30PM** at the Free Library of Philadelphia, 1901 Vine Street, 19103

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

**Jill Lepore | The Secret History of Wonder Woman**

Historian and chair of Harvard's History and Literature Program, Jill Lepore is the author of the Carnegie Medal finalist *The Mansion of Happiness*; *The Story of America*, an examination of the nature of history and the shaping of its

narrative; New York Burning, winner of the Anisfield-Wolf Award and a finalist for the Pulitzer Prize; The Name of War, recipient of the Bancroft Prize; and the National Book Award finalist Book of Ages, a detailed portrait of Jane Franklin, Benjamin's beloved sister. Her new book reveals the feminist origin of Wonder Woman, one of the most popular female superheroes of all time.

Cost: \$15 General Admission, \$7 Students  
Buy tickets online

**Saturday, December 6 at 1:00pm at Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurehillcemetery.org>

#### THE FACE OF LAUREL HILL CEMETERY

When the gates are closed and the day is done, who looks out on Laurel Hill? The familiar faces of the cemetery, though carved in unyielding stone, are animated with the spark of lives they represent. The solemn patriarch, the earnest scientist, the gracious beauty; they stand on the grounds forever observing and epitomizing the very people for whom they were built. Join us on this tour of sculpture where you will learn their stories and see Laurel Hill "through their eyes."

The tour will take place on Saturday, December 6 at 1:00pm, 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 \$12/person; or \$10/students and seniors. Reservations are suggested. Tickets can be purchased at the door, or in advance by phone (215) 228-8200 or online.

Guides: Terri Greenberg

**Monday, December 8, 2014 at 6:00 p.m 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 hosted by the Wagner Free Institute of Science. Must be 21 or accompanied by parent. Free and open to the Public.

<http://scienceontaphilly.com/>

**Tuesday, December 9, 2014 at noon to 1 PM** at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

Tel: 215-925-2222 • <http://www.chemheritage.org>

**Brown Bag Lecture: "Chemicals across Borders: Customs Laboratories, Law, and Fraud"**

A talk by Ignacio Suay Matallana, University of Valencia, Spain, and Beckman Center Cain Fellow

Free and Open to the Public.

**Wednesday, December 10, 2014 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, December 10, 2014 at 7:00 PM** at Frankford Hall on Frankford Avenue just north of Girard Avenue.

**Philadelphia Nerd Nite ... be there and be square, yo.**

**Science discussions, good food, good company, and plenty of beer!**

For more information see the website at

<http://philadelphia.nerdnite.com/updates/>

Open to the Public. Admission \$5.00

Email us at: [nerdnitephilly@gmail.com](mailto:nerdnitephilly@gmail.com)

**Thursday, December 11, 2014 - 7:00pm to 10:00pm** 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>

#### Night Skies in the Joel N. Bloom Observatory

Hosted by Franklin Institute Chief Astronomer Derrick Pitts, Night Skies in the Observatory is a monthly stargazing event held in the Joel N. Bloom Observatory. View celestial objects in the night sky, including stars, planets, nebulae, and if conditions are right, a galaxy or two, from 5 different rooftop telescopes in the Observatory. The evening includes a Fels Planetarium show and a lecture or presentation (appropriate for ages 8 and up) on an astronomical or space science topic. The Observatory is staffed with knowledgeable observers and free star maps are provided.

Ticket Prices: \$5.00 Per Person, Free for Members

**Friday, December 12, 2014 at 7:00 PM** in the Radnor Township Municipal Building, 301 Iven Ave, Radnor, Pennsylvania 19087

#### Delaware Valley Amateur Astronomers

**"Transcribing Treasures: Rediscovering discoveries of 19th and 20th century astronomy."**

**David Sliski**

This talk will discuss the DASCH plate scanning project (<http://dasch.rc.fas.harvard.edu/project.php>). David gave a talk at Stellafane (2014), and he is beginning a new position at U. of P. in the Physics & Astronomy Dept. in the Fall.

<http://dvaa.org/php/page.php?body=Events>

Free and Open to the Public.

Refreshments are provided. A sales table and library are also available.

**Wednesday, December 17, 2014 at noon** at College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103, (215) 563-3737 x304

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

**Food & Thought Lecture: "We, Too, Will be Patients: Balancing "Fast" and "Slow" Medicine to Care for Individuals in an Aging Population"**

At age 80, an elder has a 10-year life

expectancy. On average, 7.5 years will be disability-free. That leaves 2.5 years of being disability-burdened. Health care costs are concentrated at the end of life.

"Slow Medicine" offers a conceptual framework for incorporating medico-legal tools, such as living wills, advance directives and physician orders for life-sustaining treatment.

Using the model developed by Dr. Dennis McCullough at Kendal at Hanover and Dartmouth Medical College and popularized in his 2008 book for families My Mother, Your Mother, we outline an approach to this greatly misunderstood period of life.

Speakers: Christine Poppe, RN, GNP, MSN and Susanna Roberts Davidson, RN, MSN

Cost: \$13.00 includes lunch. Pre-registration for all programs and events is strongly urged. For further information regarding events and registration, e-mail [info@collegeofphysicians.org](mailto:info@collegeofphysicians.org) or call 215-399-2341.

**Friday, December 26 at 10:00am at Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurehillcemetery.org>

#### Hot Spots and Storied Plots FlyerMONTHLY FOURTH FRIDAY TOUR SERIES: HOT SPOTS and STORIED PLOTS

In life and in death, we all have stories to tell. 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. "Hot Spots and Storied Plots" will be presented monthly as part of Laurel Hill Cemetery's Fourth Friday tour series, which take place on the fourth Friday of every month at 10:00am.

December's walking tour will take place on Friday, December 26 at 10:00am, 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 \$8/person general admission. Tickets can be purchased at the door, or in advance by phone (215) 228-8200 or online.

Guide: Sonia Krutzke

**Monday, December 29, 2014 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/>

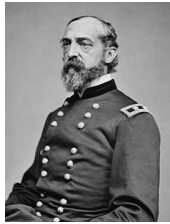
**Christian McBurney on his new book Kidnapping the Enemy: the Special Operations to Capture Generals Charles Lee and Richard Prescott.**

**Wednesday, December 31 at 12:00pm at Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurehillcemetery.org>

## GENERAL MEADE BIRTHDAY CELEBRATION

The annual General Meade Birthday Celebration will mark the 199th anniversary of the birth of General George G. Meade, commander of the Union Army at the Battle of Gettysburg. A parade of Civil War re-enactors, civilians in period attire, special dignitaries, heritage groups and participants will advance to Meade's final resting place and memorialize his services to his nation. A 21-gun salute and champagne toast will cap off the program at graveside, and will be followed by a reception in the Cemetery Gatehouse. A tour of historic Laurel Hill will be offered following the festivities (weather permitting). This year holds special significance as we continue to commemorate the Sesquicentennial of the American Civil War.



The event will take place on Wednesday, December 31 at 12:00pm, 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.

Free and open to the public; a \$10 donation in support of Laurel Hill Cemetery's work and preservation is suggested and would be much appreciated. Additional information can be found by calling (215) 228-8200.

**Tuesday, January 6, 2015 at 7:00 PM** at Washington Memorial Chapel, on Route 23 in Valley Forge.

Friends of Valley Forge Park

### 'My Dear': Officers' Letters from Valley Forge

Author Nancy K. Loane shares new information about the encampment and the lives of the officers in the Continental Army, and those they left behind.

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

Free and Open to the Public.

**Wednesday, January 7, 2015 at 6:00 pm** at University of Pennsylvania Museum, 3260 South Street, Philadelphia, PA 19104

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

### Great Wonders Lecture Series

#### Searching for the Hanging Gardens of Babylon

Grant Frame, Ph.D., Associate Curator, Babylonian Section

The Babylonian king Nebuchadnezzar II (604–562 BCE) is infamous in the Bible for having destroyed the Temple of Jerusalem in 586. However, he is famous in classical sources for having built the Hanging Gardens of Babylon, one of the Seven Wonders of the Ancient World. During his reign, Nebuchadnezzar commissioned numerous building projects at Babylon and the remains of many of these were found by the German archaeologist Robert Koldewey, who conducted extensive excavations at Babylon from 1899 until the outbreak of the First World War. But did he find the remains of the Hanging

Gardens? That is the million-dollar question.

Individual lecture with advance registration: \$5, general public; \$2, Museum members; \$10 at the door based on availability. For more information, call 215.898.2680. To register, visit [www.penn.museum/greatwonders](http://www.penn.museum/greatwonders).

**Monday, January 12, 2015 at 6:00 p.m** 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.

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

<http://scienceontapphilly.com/>

**Wednesday, January 14, 2015 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, January 14, 2015 at 7:00 PM** at Frankford Hall on Frankford Avenue just north of Girard Avenue.

### Philadelphia Nerd Nite ... be there and be square, yo.

Science discussions, good food, good company, and plenty of beer!

For more information see the website at

<http://philadelphia.nerdnite.com/updates/>

Open to the Public. Admission \$5.00

Email us at: [nerdnitephilly@gmail.com](mailto:nerdnitephilly@gmail.com)

## PhACT Lecture

**Saturday, January 17, 2015  
at 2:00 PM**

**Topic: TBA**

**Friday, January 24, 2015 at 10:00am** at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

### MONTHLY FOURTH FRIDAY TOUR:

#### 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. "Hot Spots and Storied Plots" will be presented monthly as part of Laurel Hill Cemetery's Fourth Friday tour series, which take place on the fourth Friday of every month at 10:00am.

January's walking tour 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 \$8/person general admission; \$5/members. Tickets can be purchased at the door, or in advance by phone (215) 228-8200 or online.

**Monday, February 2, 2015 at 7p.m** at Commonwealth Chateau, Chestnut Hill College, 9230 Germantown Avenue, Philadelphia, PA 19118

The Institute for Science and Religion

### The Free Will Problem: Insights from Physics Elliott Tamaro, PhD, Assistant Professor of Physics, Chestnut Hill College

<http://www.irands.org>

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

**Tuesday, February 3, 2015 at 7:00 PM** at Washington Memorial Chapel, on Route 23 in Valley Forge.

Friends of Valley Forge Park

### The Battle of Crooked Billet

Scott Randolph, the director and producer of the award-winning film "The Battle of the Crooked Billet," discusses this little-known Bucks County battle.

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

Free and Open to the Public.

**Wednesday, February 11, 2015 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:

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

## PhACT Lecture

**Saturday, February 21, 2015  
at 2:00 PM  
Topic: TBA**

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

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

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

Donation of \$ \_\_\_\_\_ enclosed for additional support  
Donation of \$ \_\_\_\_\_ dedicated for High School Science Fair prizes

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

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Phone: \_\_\_\_\_ E\_mail \_\_\_\_\_

## The Philadelphia Association for Critical Thinking is grateful

for the hospitality extended by Community College of Philadelphia and especially Dr. David Cattell, Chair of the Physics Department, for hosting PhACT and giving us access to such excellent facilities. Part of CCP's mission is to serve Philadelphia as a premiere learning institution and PhACT is pleased to support this goal by having talks on wide ranging, engaging, and educational topics. Students and faculty are invited to be active participants in our activities.

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

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

**"Inconspicuous molehill sometimes more important than conspicuous mountain."**

~ Charlie Chan - Charlie Chan in Egypt (1935)