

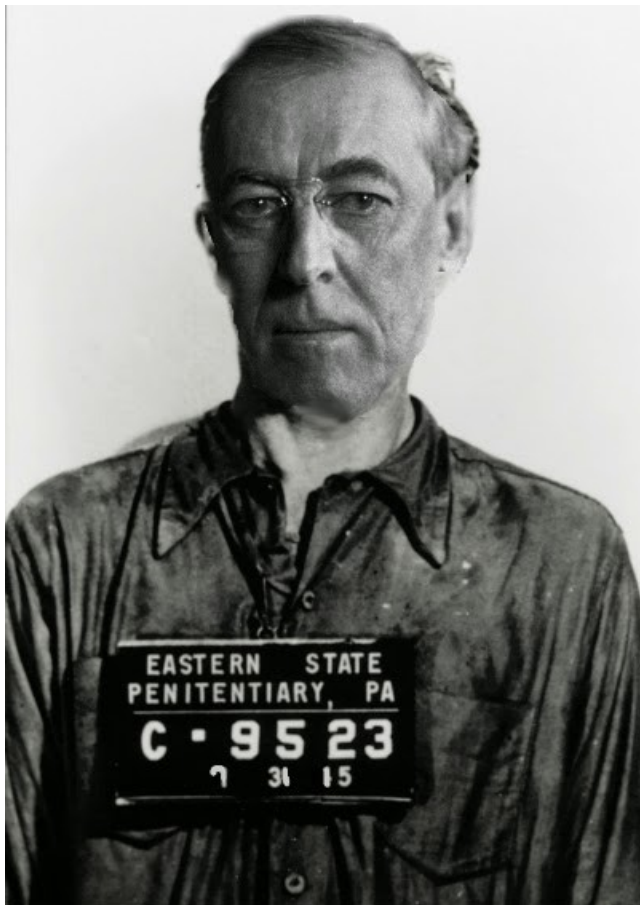
Phactum

The Newsletter and Anti Woo Woo Organ of the
Philadelphia Association for Critical Thinking
October/November/December 2015

editor: Ray Haupt email: phactpublicity@aol.com

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

President Woodrow Wilson Arrested in Philadelphia or “The Perils of the Internet”



From the Philophilia Internet Blog

<http://philaphilia.blogspot.com/2014/07/99-years-ago-in-philadelphia-end-of.html>

“If you look exactly like the current president, don't expect to be able to travel the country unnoticed, especially if you plan on being on the run. At the end of July, 1915, James K. Lewis was tracked down in Philadelphia after 11 months on the lam. This Mount Holly, NJ resident abandoned his family after selling his carpentry business. It all would have worked if the guy didn't look exactly like the current president, Woodrow Wilson.

Upon being spotted in San Francisco, Lewis, traveling under the name James Landis, started moving eastward, going from place to place until people noticed his resemblance to Wilson, forcing him to move on. His capture came at the hands of Detectives Knox and Lowry of the Philadelphia Police, who spotted Woodrow Wilson at 3rd and Cumberland Streets and remembered that a Wilson double was wanted in Jersey. They arrested him and locked him up at City Hall, where he was later extradited to Mount Holly, where he was accused of "non-support" of his children.”

While browsing the internet for a Phactum cover picture from an earlier time I happened to stumble upon a mug shot that appeared to be President Woodrow Wilson, the mug shot dated July 31, 1915. The text on the front page tells the story about that picture as presented by the Philaphilia blogsite.

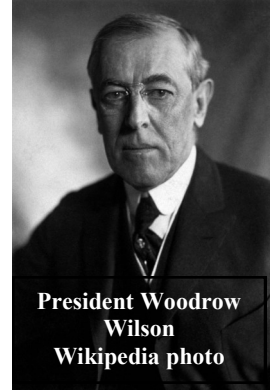
The picture did look a bit suspicious so I contacted Lauren Zalut at Eastern State Penitentiary who kindly passed the item along to researcher Annie Anderson who filled in a few facts.

Fact 1: No one named James Lewis or James Landis or Woodrow Wilson had been booked at Eastern State Penitentiary in 1915.

Fact 2: The inmate number on the placard was that of the notorious bank robber Willie Sutton whose career at Easter State Penitentiary was during the 1930's and 1940's.

Fact 3: There was indeed a James Lewis who was a President Wilson lookalike wanted by authorities for desertion and non-support, but his crimes were in New Jersey and was likely extradited to that state for legal processing.

Fact 4: The photo of the "inmate" on the Philaphilia blog is a mash-up of President Wilson's Wikipedia photo, Willie Sutton's inmate number, and a random date around the time Lewis was arrested in Philadelphia.



Conclusion: The story is bogus. But why? What was the point of concocting such a tale? Why besmirch President Wilson at this point in time?

During late July 1915 President Wilson, who was not operating under the assumed names of James Lewis or James Landis, was quite busy in Washington, DC. He was protesting the sinking of RMS *Lusitania* on May 6,

Phactum Table Of Contents

Upcoming PhACT Events	p.	4
<u>Letters to the Editor</u>	p.	9
<u>Various Ruminations</u>	p.	10
<u>Apr/May/June Meeting Reports</u>	p.	13
<u>At the Wagner Free Institute</u>	p.	15
<u>Off the Beaten Path</u>	p.	16
On the Wings of AutumnThe Flight of Kings by Kim A. Sheridan		
<u>\$100M for SETI</u>	p.	20
by Paul Shlueter III		
<u>Kennewick Man WAS a Native American</u>	p.	21
By Paul Schlueter		
<u>PhACT Calendar</u>	p.	23

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

Phactum contributor Paul Schlueter III has accumulated over time a vocabulary listing of many of the egregious flaws of thinking, devious tactics of argument, and some pretty cool Latin phrases that might sound impressive used at a social gathering. This listing is nowhere near complete, but has been made into a pamphlet that is available free and only at PhACT Meetings. It is a handy little reference booklet that writers of philosophic and political nature might profitably keep by their typewriter. Meeting attendees are invited to take one and are invited to participate in expanding the listing in the next edition as it is intended to be a collaborative project.

Definitions and examples should be short and to the point and may be submitted to the *Phactum* editor at:

[**phactpublicity@aol.com**](mailto:phactpublicity@aol.com)

New entry: **VERISIMILITUDE** - (literally: "semblance of truth") An artifice of storytelling which attempts to enhance the story's believability by introducing elements which resemble or imply truthfulness. (Ex.: "I'm going to tell you a true story, witnessed by great and important people.") (Also, see Pseudoscience, which often employs scientific-sounding language to enhance its own credibility.)

1915. *Lusitania*, en route from New York to Liverpool was torpedoed by a German U-boat off the coast of Ireland causing 1,198 fatalities including 128 Americans. On July 28, 1915 the United States Marines invaded Haiti to restore order after the assassination of the Haitian President. Wilson had his hands full and rest assured he was not performing his duties from a cell in Eastern State Penitentiary on Fairmount Avenue in Philadelphia.

Phactum thanks Lauren Zalut and Annie Anderson and the staff at Eastern State Penitentiary for help in clarifying this particular matter of manipulated history. Happily the blog is but a backwater affair with little impact.

Rewriting and misreporting history is not a new or uncommon thing and it just so happens that we can relate just such a tale that involves Phactum, PhACT member Don Nigrone, Helen Thompson who is a journalist at the Smithsonian Institution, and Professor Vaughn Scribner who is a historian currently at University of Central Arkansas, famed novelist Alexandre Dumas, and most importantly the bold adventurer Captain John Smith. See “**Manipulated History**” on page 10 for more of the sordid details and links to all the details.

All this leads in very nicely to the PhACT lecture on Saturday, October 17 where John Grant will discuss his book *Debunk It! How to Stay in a World of Misinformation*. John will be talking mainly about bunkum science, but the same thinking process applies very well to social sciences such as history, economics, psychology and virtually every other area of our lives. See details on page 4.

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“I can not tell a lie concerning the cherry tree: mistakes were made. However, I must consult with my spin doctors before saying more.”

Cartoon by T. McCracken
<http://www.mchumor.com/>
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UPCOMING PHACT EVENTS

Dr. David Cattell, Chairman of the Physics Department of Community College of Philadelphia hosts meetings of **PhACT** - at 2:00 PM on the third Saturday of most months at Community College of Philadelphia. Parking is easily available and costs \$4.00 for all day. Enter the college parking garage on 17th Street which is one way south bound. It opens at 1:00 PM and closes at 6:00 PM. This meeting site is handicap accessible. **PhACT Meetings are Free and open to the public unless otherwise noted.**



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

Saturday, October 17, 2015 at 2:00 PM - Lecture

In Lecture Room C2-28 in the Center for Business and Industry at the corner of 18th and Callowhill Streets.

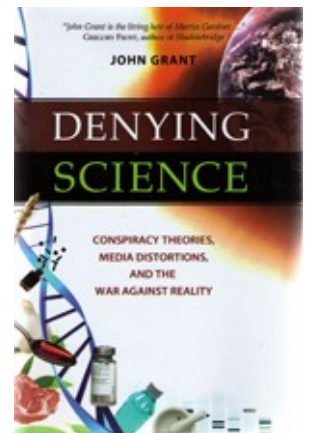
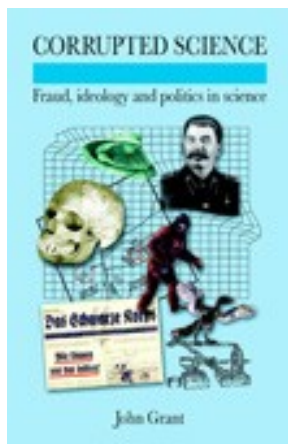
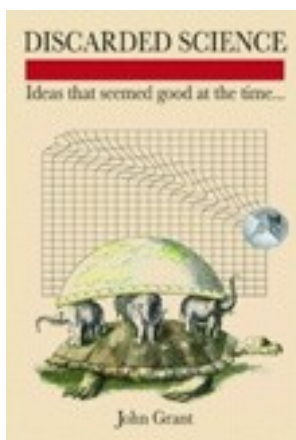
John Grant will discuss his latest book, *Debunk It! How to Stay Sane in a World of Misinformation*.

Spooky Science

John Grant, author of a string of books about pseudoscience and the falsehoods purveyed at the fringes of science (*Discarded Science, Corrupted Science, Denying Science, Debunk It*, etc.), returns to PhACT to report on the subject of his latest investigation: the attempts to apply science to the supernatural. He'll be focusing on such exciting topics as the physics of the soul (does the soul have weight? can it be photographed? can the trail of migrant souls leave traces in a bubble chamber? can the soul be improved by appropriately woven underwear?) and, since he's addicted to puns, he'll be looking also at the deductive trail that led psychic researchers to the conclusion that S.G. Soal -- the British equivalent of J.B. Rhine -- fudged his results. En route he'll glance at the secrets of some of the "most successful" psychic detectives, the eagerness of eminent elderly male Victorian scientists to accept the veracity of pretty young female spirit mediums, the gullibility of Sir Arthur Conan Doyle and the wonderfully refreshing skepticism of Harry Houdini, and more . . .

John Grant is author of seventy books, twenty five of which are fiction, the remainder being diverse topics many

(Continued on page 6)



No matter how the bologna is sliced, it's still...



In *Debunk It!*, author John Grant uses modern, ripped-from-the-headlines examples to explain clearly how to identify bad evidence and dismantle poor arguments. He provides a roundup of the rhetorical tricks people use when attempting to pull the wool over our eyes, and even offers advice about how to take these unscrupulous pundits down. So, if you're tired of hearing blowhards spouting off about climate change, history, evolution, medicine, and more, this is the book for you. *Debunk It!* is the ultimate guide for readers seeking a firmer footing in this very slippery world.

"This can't-miss title is great recreational reading for budding skeptics as well as an outstanding addition to units on science, current events, or debate. A must-have." – School Library Journal (Starred Review)

Zest Books // 978-1-936976-68-3 // \$12.99

(Continued from page 4)

that would appeal to science minded skeptics.

For more information about John Grant view: www.johngrantpaulbarnett.com

Some books out now include:

Debunk It! (YA nonfiction from Zest): <http://zestbooks.net/debunk-it/>

Out now:

Tell No Lies (new story collection from Alchemy Press): <http://tinyurl.com/nha7efg> (US) and <http://tinyurl.com/pft3z57> (UK)

Out now:

A Comprehensive Encyclopedia of Film Noir: <http://tinyurl.com/lfr25o2>

Follow *Noirish* at <http://noirencyclopedia.wordpress.com/>

**Saturday, November 21, 2015 at 2:00 PM - Lecture
In Lecture Room C2-28 in the Center for Business and Industry at the corner of
18th and Callowhill Streets.**

Dr. Robert Baldassano will discuss: The Ecosystem Within You, How is it Affecting You?

The ecosystem within you, how is it affecting you? Did you know your body has over 10 times as many bacterial cells as your own cells? One of the hottest areas of human biology is new revelations on how this previously ignored complex symbiotic relationship really works. New research shows the ecosystem within you can have a big affect on auto-immune diseases, weight problems and even your emotional state. Our speaker recently got a large grant to set up a research group to study the DNA of the bacteria that live in your intestinal tract. Come learn about what the new local research on this can mean for all of us.

Robert N. Baldassano earned his Doctor of Medicine degree at the State University of New York Health Science Center at Brooklyn, College of Medicine. Dr. Baldassano completed his Pediatric Residency and Pediatric Gastroenterology and Nutrition Fellowship at The Children's Hospital of Philadelphia (CHOP). He is the recipient of the Pediatric Housestaff Humanitarian Award, the Crohn's and Colitis Foundation of America Research Fellowship Award, the Golden Apple Award for Excellence in Pediatric Resident Teaching at Geisinger Medical Center, the Education Award for Excellence in Inflammatory Bowel Disease Teaching, Research and Clinical Care, the David Cornfeld Bedside Teaching Award, Blockley Osler Teaching Award and has been named as a "Top Doctors in Philadelphia" for the past eighteen years. He is currently the Colman Distinguished Professor of Pediatrics at the Perelman School of Medicine at the University of Pennsylvania, Director



It was on a short-cut through the hospital kitchens that Albert was first approached by a member of the Antibiotic Resistance.

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

of the Center for Pediatric Inflammatory Bowel Disease and Director of the Microbiome Center at CHOP.

Dr. Baldassano has been instrumental in developing an international consortium for the study of the gene responsible for causing pediatric inflammatory bowel disease (IBD). He has chaired multiple national and international programs including the Pediatric Affairs Committee for the Crohn's and Colitis Foundation of America (CCFA), the Pediatric Abstract Review Committee Pediatric for the American Gastroenterological Association (AGA), the Inflammatory Bowel Disease Committee for the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN), and the IBD Consortium. He has been a member of the IBD Classification Committee, IBD Guidelines Committee, Pediatric Affairs Committee (Patient Education, Clinical Trials), and the Pediatric Challenges in IBD Research Committee (Steering Committee, Genetics Focus Group, Clinical Trials Focus Group, Quality Improvement/Adverse Event Tracking Focus Group) for NASPGHAN and CCFA. Dr. Baldassano has served on the Board of Trustees for the CCFA at both the local and national levels. He also participates as the Co-Chair for the Children's Digestive Health and Nutrition Foundation (CDHNF) IBD Committee.

Dr. Baldassano is on the editorial advisory board for five journals. He has published greater than 150 papers on pediatric IBD and is editor of 2 pediatric IBD textbooks.

Saturday, January 16, 2016 - Lecture - To Be Announced

Saturday, February 20, 2016 - Lecture - To Be Announced

Saturday, March 19, 2016 - Lecture - To Be Announced

Saturday, April 16, 2016 - Lecture - To Be Announced

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



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

Our guide, Don Nigrone, will relate the legend of the **Wild Man of Haycock Mountain**. Robb Kerr and Jeff Cooney will be providing zoological and botanical information about this Piedmont site, which overlooks scenic 1,450-acre Lake Nockamixon, and professional photographer Ned Levi will be photo-documenting the day's activities. We will meet at the Nockamixon State Park boat rental concession (<http://www.dcnr.state.pa.us/stateparks/findapark/nockamixon/>) at 10:00 AM. Then we will caravan to nearby Haycock Mountain where one search party will ascend the hill, a steep and difficult climb requiring some bouldering, while a second search party will proceed along an old logging road at its base, a flat and easy walk. After a noon lunch at the picnic tables by the boat rental concession, participants can take a short drive caravanning past the

nearby mysterious Rosicrucian pyramids, stop at the historic Levi Sheard Mill, a grist mill dating back to at least 1798, and drive over the 130 foot long picturesque Sheard's Mill Covered Bridge (1873). Also, the Nockamixon State Park boat rental concession (<http://www.nockamixonboatrental.com/>) provides kayaks and pontoon boats with a five person capacity for those interested in boating on the lake.

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



Sheard's Grist Mill.

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Good News Announcement for PhACT Members and Donors

PhACT is now a 501(c)3 Non-Profit

PhACT has an important announcement for its members. As of this summer, the Philadelphia Association for Critical Thinking has been recognized as a 501(c)3 non-profit tax-exempt organization according to the Internal Revenue Service.

Retroactive to May 2010, all dues and contributions made directly to PhACT can be considered as tax-deductible to the extent of the law. (Please consult the IRS or a tax adviser for any specific questions about tax deductions.) Written acknowledgements will now be provided for dues and donations, including any made in 2015. For the period of May, 2010, through December, 2014, acknowledgements can be provided by the PhACT treasurer upon request. Please email treasurer@phact.org to make a request.

We are also happy to announce that as of October, 2015, members will be able to renew their memberships and anyone can make contributions directly online via Paypal using a credit/debit card or Paypal account. Please visit the [Join PhACT](#) page for more details.

Thank you to PhACT president Bob Glickman and former president Eric Krieg for their work in obtaining the 501(c)3 designation.

Letters to the Editor

Letters to the Editor are encouraged.
Send to PhACTPublicity@aol.com

Editor: In a short viral video, we see what I presume is an Indian holy man standing on a train tracks apparently expecting his energy to exceed the $0.5MV^2$ energy of the train. At the very last instant, his faith appears to waver as he jolts to the left of the train rather than splat on the front and win a posthumous Darwin award.

I read about a Russian mystic who found he could make cars stop suddenly just by the power of his will. He seemed to not understand that much of his vehicular success was on the part of the drivers. - however when he tried to use his powers to stop a train .. not so good - the train won that encounter. I have long heard Jesus quoted as saying you can do anything if you only believe. I certainly believe in the "power" of determination and trying hard. But I have always thought of the many people who wrongly believe there is a

solid surface under them when taking a step that ends with a bad fall. Their firm belief in a firm surface underneath is not enough to make them walk out on thin air like a cartoon character who walks off a cliff and only falls after panicking and running half way back.

Going back to viral video, one could argue the character expecting to stop a train maybe should have died because he wanted cause the whole passenger train to instantly stop which would have killed many of its passengers. Going along those lines - Perhaps a supernatural power of belief would be bad for our species to wield. I think it's just as good that the laws of physics don't stop where wishful thinking begins.

Eric Krieg
Maple Glen, Pennsylvania

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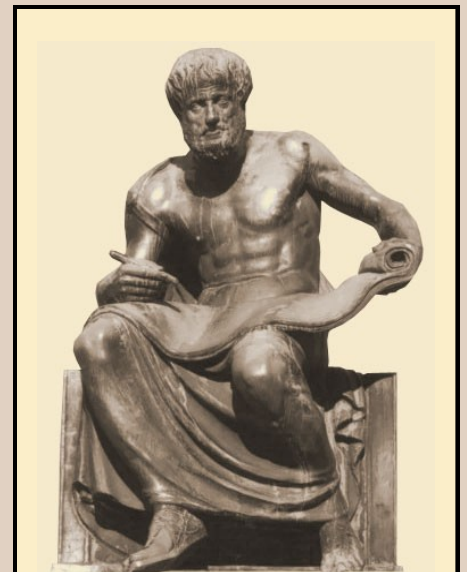
Reader Participation Desired

"It is the mark of an educated mind to be able to entertain a thought without accepting it." - Aristotle

Aristotle certainly makes a major Critical Thinking observation in that statement. There is an abundance of examples of thoughts regarding social customs, religion, sex, politics, science, slavery, prisons, vegetarianism and many others aspects of life where there is a multitude of differing and controversial opinions. One may accept or reject any of those ideas but progress in Civilization can only be made if serious thinkers entertain various propositions. We invite readers to ventilate with passion, but not anger, on some matter that might interest Critical Thinkers and annoy some others.

We would very much like participation from Creationists, UFOlogists, Homeopaths and others often scorned by Skeptics. Student letters and essays are as welcome as communications from established professionals. It could be a great mental and writing exercise to entertain some thoughts that you do not accept. But, please, no electoral politics and we really do not care about the vapid antics of the Kardashian Sisters.

Send submissions to the Phactum Editor at phactpublicity@aol.com



Aristotle (384 BC – 322 BC), Greek philosopher. He was a student of Plato and teacher of Alexander the Great.

Various Ruminations of Woo Woo and Real Science and some Gossip

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

Manipulated History

That a local Philadelphia blog site fictionalized a story about a past president is more humorous than serious but perhaps it illustrates how some historical myths, legends, and outright lies have become modern “truths”. It is not a rare

Alexandre Dumas (1802 - 1870)



Dumas was a popular 19th century French novelist who specialized in historical fiction of high adventure and remains popular today.. His best known works include the Three Musketeers and the Count of Monte which have on numerous occasions been transformed into movies.

occurrence.

Consider the following account.

It so happens that in the year 1614, Captain John Smith, an adventurer and sailor, was in the West Indies when he spied a green-haired lady swimming in the sea. When she dived Smith was shocked to learn that she was a mermaid.

Accounts of that incident in the life of Captain Smith are in many history books but in the November/December 2012 edition of Phactum (<http://phact.org/phactums.php> page 17) the myth was exposed in an article by Don Nigrone entitled “Captain John Smith and the Green Haired Mermaid”. Nigrone questioned the testimonies attributed to Captain Smith as reported by historians. It seems that Smith’s own accounts of his exploits make no mention of a mermaid and furthermore, Smith was in the West Indies only in 1607.

There is no mention of Captain Smith and a mermaid in any publication until the year 1849 when the famed author Alexandre Dumas published a story in *Gazette of the Union*. In need of historical reference to support his fictional story Dumas concocted a new exploit of Captain Smith. Dumas’ fictional tale of Captain Smith entered society and part of American History living on as artifact of sloppy research.

Don Nigrone is not the only one to have questioned the Dumas version of history. Professor Vaughn Scribner of University of Central Arkansas also had questions and by going back to source materials and by reading Don Nigrone’s article in Phactum has come to the same conclusion.

Helen Thompson at the Smithsonian picked up the story and discusses Professor Scribner’s research and acknowledges Don Nigrone in the Smithsonian.Com online magazine. See <http://www.smithsonianmag.com/smart-news/no-john-smith-did-not-see-mermaid-1614-180955692/?no-ist> for a full story of the harmless deception and the research involved to expose the error. It is a nice feeling to have Don Nigrone and Phactum acknowledged by a publication such as Smithsonian.

Professor Scribner’s article can be viewed at The Junto: A Group Blog on Early American History. <http://earlyamericanists.com/2015/06/16/guest-post-from-vaughn-scribner-fabricating-history-the-curious-case-of-john-smith-a-green-haired-mermaid-and-alexandre-dumas/>

“I cannot tell a lie. It was I who chopped down the cherry tree.”

~ **George Washington (1731 - 1799)**

This quote was never uttered by George Washington. It and the event itself were fabrications by Washington biographer Parson Weems (1759 - 1825) in an attempt to further add moral authority to Washington.

Homo naledi (c. 2.8 - 2.5 MYA)



This March 2015 photo provided by National Geographic from their October 2015 issue shows a reconstruction of Homo naledi's face by paleoartist John Gurche at his studio in Trumansburg, N.Y. In an announcement made Thursday, Sept. 10, 2015, scientists say fossils found deep in a South African cave revealed the new member of the human family tree. (Mark Thiessen/National Geographic)

Bones in South African Cave Reveal New Human Relative

The National Geographic presented a new anthropological find in their October 2015 edition and we suspect that Young Earth Creationists, Old Earth Creationists, and Intelligent Designers will not be especially pleased with this development which is but one little piece of the puzzle of Human Evolution.

In 2013 bones were discovered deep in a cave in South Africa that appear to be the remains of human like creatures now tagged with the name Homo naledi thus including them in the Homo family tree. The creatures have some Homo characteristics such as hands and feet, but the shoulders and

small brain suggest Homo's ancient ape-like ancestors. The species dates from about 2.8 to 2.5 MYA.

Scientists are not in agreement that this species is a direct ancestor of modern humans, but the debate is likely to continue for quite some time.

http://apnews.myway.com/article/20150910/af-sci--human_ancestor-a6f1c11646.html

Mindfulness Meditation Fad Can Trigger False Memories

The Mail, September 10, 2015, reports that an Oxford University study suggests that the popular self help Mindfulness fad has many excellent aspects but it may have the unfortunate side effect of causing false memories.

The Mail article states, "An Oxford University study found that following mindfulness procedures – focusing on breathing and suspending judgment and criticism – was effective at treating depression.

Many schools encourage their pupils to practise mindfulness – but the new findings may lead to questions over whether it might be best avoided ahead of exams.

It might also be unhelpful for witnesses trying to recall whether they saw or heard something in court."

The overall tone of the article seems mainly positive about Mindfulness but one wonders if the techniques used might be among those used by unscrupulous psychologists who have participated in False Memory Syndrome scandals a few years ago.

<http://www.dailymail.co.uk/news/article-3228473/Mindfulness-meditation-fad-popular-celebrities-including-Emma-Watson-make-dream-false-memories.html>

The Oxford University study is supported by one from University of California, San Diego:

<http://medicalxpress.com/news/2015-09-mindfulness-memories-accurate.html>

Commentary on this matter as an article or Letter to the Editor could be quite interesting and would be appreciated.

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October is National Chiropractic Month and what better way to celebrate than to participate in the **2015 Dr. Woo Awards** sponsored by **CAWD**, the Canadian Association of Witch Doctors? See details on page 12 to participate.



The Canadian Association of Witch Doctors



2015 Dr. Woo Awards!

Dear Friends and colleagues,

It is with great excitement and fanfare we open the nominations for the **CAWD 2015 Dr. Woo Awards**. These distinguished awards are for those outstanding individuals who have excelled within the realms of magical healthcare. Although there are many who are worthy of such high distinction, only those selected by their peers as having made remarkable achievements in their field this year will receive this remarkable accolade.

The process will be as follows:

September/October 2015: Nominations for awards submitted to CAWD

November 2015 Voting (online polls will be available to vote)

December 11th 2015: Awards announced and winners sent their **prestigious and highly coveted certificates!**

Please email your nominations to admin@witchdoctor.ca

At this stage we are seeking nominations for individuals in the following categories:

Professional Practice:

Are You With Me Dr. Woo Award: for the best promotional activity by a celebrity/politician in promoting woo and completely irrational health beliefs

Ultimate Fleecing Award: for the practitioner using the most creative way to fleece the public for a magical health therapy without actually breaking the law

Sartorial Woo Award: for most creative use of a white coat/stethoscope/cosmetic dentistry/tan and posing arts by an alternative health practitioner in their advertising.

Uncanny X-Men Award: for the most creative justification of woo involving the use of mutant psychic energies for healing

Woolosophy:

Mystic Brew Award: Best use of post-modern mysticism and pure nonsense using the most esoteric and jargonistic language used to justify an alternative health therapy

Best Conspiracy Theorist Award: for the most creative use of big-pharma, evil medicine, alien DNA etc. in memes to promote an alternative health therapy

Hippy Hippy Shake Award: for the best use of new age speak/hippy handicrafts/imagery in justifying an alternative health therapy

It's Life Jim (but not as we know it) Award: for the most logical fallacies used in the justification of an alternative health therapy/practice in a single explanation.

Quackademics:

Integrative Woo Award: for the educational institution offering the best integration of science and magic in an academic program or research activity.

Hogwarts of Woo Award: for the most auspicious made-up private alternative health college

Woo to Go Award: for the institution/business offering the best mail-order alternative health professional qualifications

Bums on seats Award: for the educational institution giving the best excuse for profiting from the sale of magical health education.

We just know our esteemed members are going to have some fun with this and are sure we will have some excellent candidates worthy of such distinction in every category. We will update this page as the nominees become established, but already our esteemed colleague Dr. Oz (<http://www.doctoroz.com>) is leading in a couple of sections!

Let the nominations commence, and spread the word!

Dr. Wen Shortispy
Director of CAWD & Witch Finder General

The Canadian Association of Witch Doctors - <http://witchdoctor.ca>

Meeting Reports - April 2015

Reported by Patrick Murphy who is a Physics student of Dr. David Cattell at Community College of Philadelphia.

**Professor Paul Halpern discussed his new book:
*Einstein's Dice and Schrödinger's Cat: How Two Great Minds Battled Quantum
Randomness to Create a Unified Theory of Physics*
Saturday, September 19, 2015**

Reported by Patrick Murphy

On September 19, the Philadelphia Association for Critical Thinking hosted a presentation by acclaimed author and physicist Dr. Paul Halpern on his recent work, *Einstein's Dice and Schrödinger's Cat*. Dr. Halpern's lecture highlighted interesting excerpts from his book such as Einstein and Schrödinger's individual careers and how their frequent crossing of paths blossomed into a friendship which became a rivalry due to Schrödinger's desire for fame.

Dr. Halpern detailed the seminal events that led to the discourse between these two great minds beginning at the 1913 Conference of Vienna where several thousand German speaking scientists of Europe came together to lecture on a variety of scientific topics. Einstein's talk about space time sparked young Schrödinger's interest to such a degree that he was motivated to change career paths within physics. After results of the 1919 solar eclipse experiment that tended to confirm Einstein's General Theory of Relativity were published and granted Einstein world fame, Schrödinger began correspondence with him. During the correspondence Einstein sent copies of Louis de Broglie's work on matter waves which eventually led Schrödinger to develop his Nobel-Prize winning wave equation of quantum physics. Einstein even defended his new friend and colleague against physicist Max Born who proposed a different interpretation of Schrödinger's equation.

Einstein's public notoriety and scientific achievements could not be quite reached by Schrödinger however, which encouraged him to move to Ireland to become a successful science figure in their media. Dr. Halpern discussed how this new fame led he and Einstein's relationship to take a sour turn when after many letters between the two were exchanged discussing the development of a unified field theory, Schrödinger announced twice to the Irish media that he had beaten the world renowned Einstein to the "theory of everything". Although his results were quickly found incorrect, the furious Einstein scolded the press and both he and Schrödinger threatened to sue one another for plagiarism. Their friendship had not been mended until shortly before Einstein's death in 1955.

Dr. Halpern then concluded his lecture by opening the floor to questions from the audience, bringing an end to an interesting lecture about the lives of two prominent scientists of the early 20th century whose friendship is not as commonly highlighted as their individual scientific achievements.

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Einstein's Dice and Schrödinger's Cat: How Two Great Minds Battled Quantum Random- ness to Create a Unified Theory of Physics

By Paul Halpern

Publisher: Basic Books 4/14/2015

Hardcover \$27.99 / \$31.00 CAN

ISBN 13: 978-0-465-07571-3 ISBN 10: 0465075711

The story of the doomed competition between two of physics' greatest to create a grand unified theory

Albert Einstein and Erwin Schrödinger were friends and comrades-in-arms against what they considered the most preposterous aspects of quantum physics: its indeterminacy. Einstein famously quipped that God does not play dice with the universe, and Schrödinger is equally well known for his thought experiment about the cat in the box who ends up "spread out" in a probabilistic state, neither wholly alive nor wholly dead. Both of these famous images arose from these two men's dissatisfaction with quantum weirdness and with their assertion that underneath it all, there must be some essentially deterministic world. Even though it was Einstein's own theories that made quantum mechanics possible, both he and Schrödinger could not bear the idea that the universe was, at its most fundamental level, random.

As the Second World War raged, both men struggled to produce a theory that would describe in full the universe's ultimate design, first as collaborators, then as competitors. They both ultimately failed in their search for a Theory of Everything—not only because quantum mechanics is true, but because Einstein and Schrödinger were also missing a key component: of the four forces we recognize today (gravity, electromagnetism, the weak force, and the strong force), only gravity and electromagnetism were known at the time.

Despite their failures, though, much of modern physics remains focused on the search for a Theory of Everything. As Halpern explains, the recent discovery of the Higgs Boson makes the Standard Model—the closest thing we have to a unified theory—nearly complete. And while Einstein and Schrödinger tried and failed to explain everything in the cosmos through pure geometry, the development of string theory has, in its own quantum way, brought this idea back into vogue. As in so many things, even when he was wrong, Einstein couldn't help but be right.

Paul Halpern is a professor of physics at the University of the Sciences in Philadelphia, and the author of thirteen popular science books, most recently *Edge of the Universe*. He is the recipient of a Guggenheim Fellowship, a Fulbright Scholarship, and an Athenaeum Literary Award. Halpern has appeared on numerous radio and television shows including "Future Quest," "Radio Times," several shows on the History Channel, and "The Simpsons 20th Anniversary Special." He has contributed opinion pieces for the *Philadelphia Inquirer*, and is also a regular contributor to NOVA's "The Nature of Reality" physics blog.

Einstein's
Dice and
Schrödinger's
Cat



HOW TWO GREAT MINDS BATTLED
QUANTUM RANDOMNESS TO CREATE
A UNIFIED THEORY OF PHYSICS

PAUL HALPERN



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, September 30, 6:00-7:30 PM - The Mineralogy of Mars: Revealing the Red Planet's Past and Future with Selby Cull-Hearth, Bryn Mawr College

Archives Month Philly

Wednesday, October 14, 6:00-8:00 PM - Philadelphia Lantern Slide Salon

Wagner on the Weekend

Saturday, October 24, Noon-4:00 PM - Spooky Creature Feature

Wednesday, October 28th, 6:00-7:30 PM - Dancing with Droids

Adelheid Voskuhl, University of Pennsylvania and Youngmoo Kim, Drexel University

Film Premiere

Thursday, November 5, 7:00-9:00 PM - Memory of a Time Twice Lived

Annual Gala

Saturday, November 21, 5:00-8:00 PM - A Sip of Science
 Honoring Artist Mark Dion

Adult Education Fall 2015 Course Schedule

[From Aqueducts to Skyscrapers: A Visual History of Building Big](#), Professor Jane E. Boyd.

6 Wednesdays, September 30 - November 4, 2015, 6:15 - 7:30 PM. Independence Branch of the Free Library, 18 S. 7th Street (between Market and Chestnut). Learn about the fascinating history of building big from Ancient Rome to the present day in this visual, non-technical course. Each lecture will examine a different type of large engineering structure - arches, domes, bridges, tunnels, and skyscrapers - through photographs, paintings, and illustra-

tions.

No preregistration necessary. Register by attending the first course.

[Trees of Fairmount Park](#), Professor Alfred E. Schuyler.

First class: Tuesday, September 29, 2015, 6:30 - 7:45 PM, at the Pennsylvania Horticultural Society.

5 Saturdays: October 3, 17, 24, 31, & November 7, 2015, 10AM - 1PM in Fairmount Park. This field class will take 5 Saturday walks to different sites within Fairmount Park and will focus on the structural features of trees that enable us to identify them. Locations will be announced at the first class and will be easily accessible by public transportation.

This course requires preregistration and is limited to 25 students.

Preregistration begins Monday, September 14, 2015. You may register **[ONLINE](#)** or by calling **215-763-6529 x23**.

Due to space limitations, preference will be given to people who can attend all 6 class trips.

Attendance at the first class is mandatory.

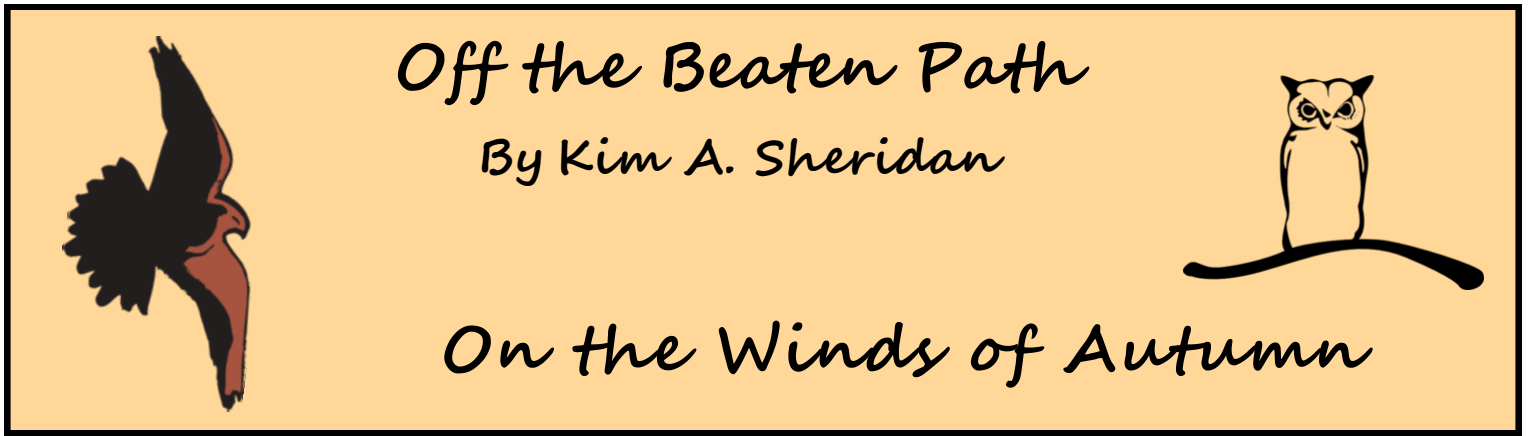
[The Periodic Table of Elements: How We Got It and How You Can Use It](#), Professor Kevin Cannon.

6 Mondays, October 19 - November 23, 2015, 6:30 - 7:45 PM. Walnut Street West Branch of the Free Library, 201 S. 40th St. (at Walnut St.). After an introduction to atomic structure and the elements, this course will examine how the periodic table is used and provide a history of its conception and evolution.

No preregistration necessary. Register by attending the first course.

See the website for more details of lectures and courses.

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



There is a magical place not far away where one may delight in crisp autumn foliage, hike among ancient rock formations, and soar with eagles, all in one day. Welcome to Hawk Mountain Sanctuary. This extraordinary haven perches on a long ridge known as the Endless Mountain that stretches 300 miles through Pennsylvania, New Jersey and New York. Hawk Mountain is internationally known as a premier place to watch the spectacle of raptor migration. On a clear fall day, one might be treated to the dramatic sight of hawks, falcons and eagles flying past in large numbers and at close range. Often at eye level!

Cross winds that hit the face of the ridge create updrafts that southward migrating raptors use to carry them along the mountain. Every fall an average of 18,000 raptors of 16 different species migrate south past Hawk Mountain. Of these, 90% will be Broad-winged, Sharp-shinned and Red-tailed Hawks. Migration isn't limited to hawks, eagles and falcons, however; 150 non-raptor species have been recorded on the wing here.

Today Hawk Mountain is the place to be to view hawks. In the early 1900s, however, people weren't coming here to see birds; they were coming here to shoot them. During the Great Depression, the Pennsylvania Game Commission paid



**All eyes to the sky at the North Lookout.
Hawk Mountain, October 2014.**



**The River of Rocks beckons amidst the fall foliage.
Hawk Mountain, October 2013.**

\$5 for each hawk killed, which led to the widespread slaughter of raptors. Hawk Mountain was a popular place to stand and shoot hundreds of passing hawks for sport.

Conservationists began to oppose the killing, and one ornithologist recovered and photographed the abandoned carcasses. Those photographs reached a New York activist named Rosalie Edge, who in 1934 leased 1,400 acres on Hawk Mountain and immediately imposed a hunting ban. The next year she opened Hawk Mountain to the public to watch the hawks migrate. She then purchased the land and gave it to the Hawk Mountain Sanctuary Association in 1938. The Sanctuary is dedicated to raptor research and education programs. The longest-running hawk watch in the world takes place here from August to December.

Weather plays a large role in the number of hawks passing by Hawk Mountain Sanctuary. Clear, cold days with a north-west wind after a cold front bring the best flights. Hawk Mountain runs a hotline from August to December; call after 6 PM to hear the day's hawk count and weather and migration forecasts for the next day.

Even with the best of planning, a trip to Hawk Mountain might offer only a few hawks. There is a lot more to the

Sanctuary than just the hawk watch, however. Here the adventure truly lies in the journey.

The 1-mile long Lookout Trail leading to the hawk watch is easy at first, well-groomed and relatively flat. It winds through a typical northern deciduous forest of oaks, maples and hickories. Witch hazel's distinctive golden flowers complement the rich autumn foliage. The understory includes rhododendron, blueberries and hay-scented fern. Woodland birds are common, and an attentive eye might catch a small chipmunk scurrying through the leaf litter.



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**The trail winds around a wall of Tuscarora Sandstone.
Hawk Mountain, October 2014.**

South Lookout is the first of several lookouts along the way and affords a view of picturesque farms nestled among beautiful fall foliage. To the right, one can see the River of Rocks below, a geologic feature that looks like water but is actually a boulder field dating back to the last Ice Age. Although Hawk Mountain was never covered by glaciers, conditions at that time were harsh enough to fracture rock into boulders. These slowly slid downhill to collect in the valley below.



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**A chipmunk forages on the Lookout Trail.
Hawk Mountain, October 2014**

After Bald Lookout, the trail becomes more rocky and challenging. There's a lot to see along the way, though, and stopping to look is a great excuse to catch your breath. Lichens and mosses adorn the rocks. The rocks themselves are an attraction worth the price of admission. The trail climbs up narrow steps bounded by tall walls of Tuscarora Sandstone. This rock formed 400 million years ago and makes up the ridges of Hawk Mountain. In places along the trail, deposits of eroded sand lie at the base of the sandstone formations. In the 1800s, J.D. Stone & Co. mined sand here and used mules and a gravity railroad to haul it to market.

The trail ends at the North Lookout, the best place to see the hawks fly past. Hawk Mountain researchers and spotters are here to spot and identify raptors flying by, educate visitors and answer questions. Frequently they see the birds before visitors do. Hawks tend to come in waves, and a period of low activity is likely to be followed by a number of raptors. Settle in and stay for awhile. Below you a wide panorama of ridges, valleys, towns and farms unfolds. Enjoy the view, for in this season, time passes quickly, and soon you will be soaring with eagles on the winds of Autumn.

IF YOU GO:

The Lookout Trail is the most popular trail at Hawk Mountain. It is very rocky, and requires some preparation. The Sanctuary recommends that visitors allow a minimum of one hour, with additional time for stops at the overlooks. Boots or sturdy shoes are necessary, as are light layers of warm clothes, sunscreen, and a hat. It's always cooler at the top, and frequently windy. Hikers should carry plenty of water and a lunch that can be enjoyed at the North Lookout. Bring binoculars if you have them, or rent a pair at the Visitor Center.

A new 900-foot groomed accessible trail to the South Lookout opened to much fanfare this year. Benches line the trail, and the lookout itself has been renovated for easier access. This is a good alternative for families with young chil-

dren.

There are a few other trails at Hawk Mountain. They range from steep, rocky hikes to difficult boulder climbs best attempted by experienced hikers. Some of these trips take four hours or more to complete, and darkness falls fast in autumn. Allow yourself plenty of daylight. Information on the trails and their challenges can be found at the Visitor Center.

The Visitor Center is open 8 AM-5 PM September to November, 9 AM-5 PM all other months. Closed Thanksgiving, Christmas and New Year's Day.

Trails are open dawn to dusk 365 days a year.

Trail Fee (Free for Members)

Regular Hours:

Adults \$5

Seniors \$4

Children ages 6 to 12 \$3

Children ages 5 and under are always free.

Autumn Weekends (Sept.-Nov.) and National Holidays:

Adults and Seniors \$7

Children ages 6 to 12 \$3

Hawk Mountain Sanctuary Administrative Office & Visitor Center

1700 Hawk Mountain Rd

Kempton, PA 19529

Phone: (610) 756-6961

Hotline: 610-756-6000 x6

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

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

<http://thewildedgedge.net/>



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Sharp-shinned Hawks are common at Hawk Mountain. Raptors on the wing are easy to see but surprisingly difficult to photograph. This one was the educational star of a banding demonstration at another world-renowned hawk watch, in Cape May, NJ. September 2015.



\$100M for SETI

by Paul Schlueter III

In the movie "Contact," based on a novel by Carl Sagan, the story follows on the aftermath of a radiotelescope discovery in which intelligent radio signals are received from far out in space. The simple message is a running count of pulses. However, hidden within those pulses is a secondary message, the return of video images of Hitler's Olympic Games in Munich, which were the first TV broadcast of substantial strength broadcast from Earth. Of course, everyone is concerned that such images were the first impression another species had of humanity.

The radiotelescope in the film was being used by Jodi Foster's character, an astronomer working on SETI, the Search for Extra-Terrestrial Intelligence. SETI has been the butt of uncounted jokes, scorned by scientists and the superstitious alike. Many people wonder why money would be wasted on listening to the stars with some of the most expensive antennas ever built by man. However, supporters (both real and fictional) have made the point that radio is the most likely manner of making first contact with life that comes from somewhere other than our own planet. Maybe we'll

hear God; more likely would be contact with aliens advanced so far beyond us that they merely seem godlike.

In the film "Battleship," our own messages sent to the vast emptiness were received by hyper-aggressive troglodytes with strangely leaping watercraft, who then came to Hawai'i to begin their conquest of our lovely little rock. Most movies involving invading aliens begin



with our sending out ill-advised messages to inform the universe of our presence, and even Stephen Hawking has commented that sending such messages out there might not be the best idea we've ever had. But SETI isn't about sending messages, it's about LISTENING for them.

On July 21, 2015, the New York Times announced that the Russian internet entrepreneur Yuri Milner has promised to invest \$100 million of his private money in the SETI project, over the next decade. The philanthropist has previously given \$3 million in Fundamental Physics Prizes. He calls the current gift/project Breakthrough Listen.

Milner's money is slated to be broken up into thirds, each dedicated to a different portion of the effort. One third will go toward development and construction of new receiving equipment, intended to dramatically increase the sensitivity of SETI's gear, while also allowing simultaneous monitoring of many channels at different frequencies. The police scanner on a Ham operator's bench might quickly scan 50 channels for activity, locking onto any one of them which broadcasts from within a region perhaps 25 miles in radius. Even so, the scanner finds no signal of consequence for the vast majority of its operating time. Imagine a scanner of a million times the sensitivity, sweeping the infinite number of frequencies ranging from "DC to daylight" (a ham phrase basically including the entire electromagnetic spectrum). Now, imagine



Cartoon by Gruhn
gruhn@webdonuts.com
Used by Permission

turning dish-type antennas the size of a baseball stadium toward the skies, and sweeping the Universe with that super scanner; that's Milner's proposal.

Another third of Milner's money is intended to go toward renting radio dish time. Two huge dishes are selected for special attention. One is the Robert C. Byrd Green Bank Telescope in West Virginia located within a natural mountain hollow where radio transmitters are prohibited by law, to reduce interference from local sources. The other is the Csiro Parkes Telescope in New South Wales, Australia. Both monster dishes have had recent trouble with overhead in an era of tight funding, but Milner has offered to pay 20% of their bills in exchange for 20% of their observation time. Sounds like a fair exchange, from my seat.

The final third of Milner's money is slated for hiring astronomers and students to actually perform the search operations. Undoubtedly, a character from "Big Bang Theory" will throw his hat into the ring for consideration for such a fantastic post!

Milner has also announced a \$1 million contest for ideas suggesting the content of our first contact message, should we find somebody out there with "ears on." This project is called Breakthrough Message, and I for one think that the minds of PhACT could produce quite an entry! How great would the following year's picnic be, with a whole megabuck to spend? How well could PhACT support regional Science Fair contests with such funding? More information can be had from www.breakthroughinitiatives.org

Also in the 7/21/15 New York Times, Breakthrough Initiatives ran a full page advertisement with the heading, "Are We Alone? Now Is The Time To Find Out." See page A9 (I don't know the article's page number). There are two kinds of people in the world: those who are fascinated by the idea of SETI, and those who think SETI is consummate idiocy. Maybe there are something like eleven people who fall somewhere between those extremes, but I doubt it.

I say it's time for PhACT members to unite, divide, or at least open a great debate on whether to support or ridicule this grand investment by generous dreamer Yuri Milner. Something gives me the idea that our majority consensus will fall into the supportive category! I'm certain that our friendly neighborhood Phactum Editor will appreciate letters and/or e-mails expressing your valued opinion on the subject!

NOTE: For a long-running public participation project on this topic, look into SETI@home, which offers a screen-saver (free) in exchange for the use of your internet-connected computer (during time when YOU aren't using it) to process SETI data. It is reported that 9 million SETI fans have contributed the processing power of their PCs to the cloud effort in this way.

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



"Hello Mr Preston? This is an ALIEN speaking. We have landed in your paddock. We have mutilated your cows. We have made loud crashing noises, and we have danced a can-can on your porch. Just what the hell is it on your TV that's so very special..!?"

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

Kennewick Man WAS a Native American

by Paul Schlueter III

When last I wrote about Kennewick Man, there was strong contention that he was NOT directly related to Native American (NA) tribes. This point is important to paleontology, because a group of tribes is seeking to rebury the 9,000-year-old remains in secret, depriving scientists of further study. A federal law known as NAGPRA provides that NA remains which can be identified as ancestors of a specific modern NA tribe must be repatriated for suitable disposal under tribal traditions.

As of Fall 2014, a Smithsonian article reported that DNA examination of the Kennewick Man's remains had failed, and the Army Corps of Engineers (custodian of the remains, and supportive of NA repatriation intentions) refused to permit retesting. Lacking a DNA fingerprint, the best scientific guess used the shape of Kennewick Man's skull to determine that he closely resembled the far-Eastern population which fathered Polynesians, and the ancient Japanese people called Ainu. More relevant to the legal decision was the conclusion that his remains LACKED ANY physical characteristics resembling NAs. A ruling of the Ninth Circuit (federal) Court of Appeals held that the Kennewick Man could not reasonably be linked with "presently existing indigenous tribes." As

of that ruling, Kennewick's reburial was put on hold.

One of the contending NA tribes, the Colville, managed to have DNA testing performed, and the testing was featured on a TV documentary. The tester advised the Colville that Kennewick's DNA matched theirs. The plot thickened!

In the July 25 issue of Science News, Bruce Bower wrote of University of Copenhagen reports filed online in the June 18, 2015, issue of Nature. Paleogeneticist Morten Rasmussen's study determined that Kennewick Man's DNA "especially" resembles that of the Colville, but also that of other northern tribes such as the Ojibwa and Algonquin.

However, of five distinct tribes suing for the remains, only two Colville individuals submitted DNA samples for comparison. Overall, DNA samples are available for only 10 North American NA populations, says Rasmussen. As of 2015, 566 tribes are registered in the U.S. alone.

There is a much-reported cultural resistance among NA groups to DNA testing, because tribal members know that scientists have cited their far-Eastern DNA heritage in opposition to oral histories which claim that NAs have ALWAYS lived in the Americas, and originated here. It's a sensitive controversy, with plenty hard feelings all around.

Still, this leads to a dearth of DNA evidence against which to compare ancient remains. Another U. of Copenhagen paleogeneticist, Eske Willerslev argues that there's no way to identify WHICH NA tribe is most closely related to Kennewick Man. Colvilles comprise 12 confederated subgroups, some coastal and some inland (Kennewick Man had a distinctly coastal diet, according to a McMaster University study in 2014). Thus, Kennewick Man may be "related" to some Colvilles, but less so to others.

DNA from two individuals isn't enough to determine the whole tribe's lineage, argues the first scientist to study the remains, James Chatters of Applied Paleoscience (a private consulting firm in WA). According to Chatters, Rasmussen's evidence only shows that Kennewick Man was related to ALL Native Americans. Still, one notices that the newer statement is distinctly more favorable to NA claims than any previous finding; for them, the evidence is lining up in their favor, if not yet conclusively.

An older Chatters-led study found a link between modern NAs and the remains of a teenage girl found in a cave off Mexico's coast; her remains are between 12K and 13K years old. A Montana infant's remains from 12,600 years ago were



Kennewick Man was robust but had a difficult life. At the time of his death at about age 40 he was 5'7" and was a muscular 163 pounds. He went through much of his life with multiple injuries including a half dozen improperly mended fractured ribs, had two skull fractures, and a severe shoulder injury. At about age 15 to 20 KM was injured by a spear, the spearhead lodged permanently in his hip.

more closely related to Central and South American tribes than was Kennewick Man, Rasmussen found. This may not be so surprising, considering that there's a mountain range between WA and MT, but a much less difficult landscape from MT to Central and South America; nomadic tribes could link the latter pair more easily than the former.

Further complicating the issue are findings that two sets of stone tools excavated in Brazil dated back 15,000 years and 24,000 years, as reported in SN on 10/18/14. This and other minute evidence suggests that there were (possibly multiple) NA cultures present in the Americas long before the Clovis culture (arriving ca. 14Kya), which in turn suggests that several (perhaps genetically-distinct) groups may have populated this hemisphere. Just within recorded history, we know of two distinct Arctic NA cultures who were unrelated, one entirely displacing the other over a short time. Also, it may well turn out that antagonistic groups are genetically related, though they don't currently recognize this. Only detailed and thorough DNA surveys can now help us determine how often interminglings and extinctions have occurred since the Americas were populated. NAs, for their part, may well ask us how that's any of OUR business!

Under NAGPRA, a claimant group must demonstrate that they have direct lineal descent from a given set of remains in order to lay claim to them. Where two (or more) genetically-distinct tribes may have "descended" from one ancient individual, it remains unclear how the law demands the remains be handled. More Court actions are sure to follow this news.

Some NA religious beliefs hold that remains must remain interred (whatever method that may entail), or the disembodied spirit will suffer in the hereafter. NAGPRA flows from the idea that remains which have been withheld or exhumed may yet be returned for repatriation, at least diminishing any "insult" caused to the deceased party. There is a long and varied legal history of NAGPRA claims. The law is widely interpreted by some NA groups and their lawyers, yet narrowly interpreted by some scientific institutions.

In one example, the brain of the famous Ishi (last of the Yahi, of CA) was removed upon his autopsy, and stored in a warehouse separate from the rest of his remains (a cultural affront) until NAGPRA's passage forced them to be "returned" to NAs for repatriation (though clearly, as the last of his tribe, he had no direct descendants!) Also, the rest of his remains were unavailable for reunification with his brain, so he cannot be "restored" in any realistic sense by burial of the brain alone. Ishi spent his last months with Caucasian anthropologists who cared deeply for him, and learned a great deal from his conversations and demonstrations. Yet, his "friends" did not apparently observe his religious rites (rights?) after his death, keeping select organ(s?) for posterity. This is exactly the sort of treatment which informs and justifies the current distrust of NAs toward scientists.

In another example, descendants of Geronimo sued Obama (and the U.S. Government) for the return of Geronimo's skull, bones, and grave goods, allegedly stolen and whisked away by members of the Skull & Bones fratern-

ity. The descendants (or their lawyer) also wanted money in compensation, which proved to be a major factor in the dismissal of their case. However, the Court observed that the Government had no control over what fraternity boys did, and NAGPRA doesn't require that the Government SEEK OUT remains whose whereabouts are unknown. NAGPRA law can be fascinating to review, simply for the sake of curiosity.

At the same time, there is a serious cross-cultural scientific interest in understanding the population process which took place long before Columbus, or even Leif Ericson, crossed the Atlantic. Theories suggest how original populations might have arrived here from the west (which currently prevails), from the east, or both. That migration(s) seemed to coincide with glaciers and Ice Ages only makes the study more compelling (similar conditions prevailed at those time in Europe and Siberia, affecting migrations there as well.) As for the Americas, they include far more territory than the U.S. region alone, and tribes came and went throughout the hemisphere for tens of millennia before documentary history came to be recorded here.

Oral histories are marvelous for passing down cultural heritage for some few generations, but they have a distinct disadvantage where tribes (and sub-tribal groups) formed, split up, regrouped with others, and sometimes went extinct. Groups are known to have migrated frequently, sometimes leading to intermingling, sometimes to life segregated from neighbors encountered along the way.

Regardless of their cultural or spiritual value, mythological origin stories ALL follow remarkably unlikely and inconsistent plots, wherever in the world they originated. There's no more reason to "believe" that men sprung forth all across BOTH American continents as separate "direct first ancestors" to each and every distinct tribal group, than there is to believe in Adam being molded from clay in Eden (followed by Eve's creation from one of Adam's ribs!) Religious/cultural origin stories fall into unavoidable conflict with the scientific realities of evolution, multiple Homo species interbreeding in distant regions, and the eventual diaspora of just one species of Homo sapiens across the entire planet.

Forensic evidence indicates that Kennewick Man was deliberately and ceremoniously buried after his death. He had 9,000 years of "rest," before the purely accidental discovery of his remains brought him greater fame and importance than he likely ever knew in his lifetime. Now, "relatives" removed by some 450 generations (give or take a step-cousin) seek to prevent the study of what his remains can tell us, in preference for reburial (and the inevitable destruction) of what is left. Scientists, for their own part, will likely continue to find yet another test or analysis they "need" to perform, delaying his return to what most anyone would perceive as a respectful final repose. Somewhere within this mess there must be a reasonable compromise. How we resolve this will say more about us than any paleontological study could reveal.

PHACT CALENDAR

Upcoming PhACT Events

Dr. David Cattell, Chairman of the Physics Department of Community College of Philadelphia hosts meetings of PhACT - at 2:00 PM on the third Saturday of most months at Community College of Philadelphia., Parking is easily available on the free parking garage on 17th street on the left hand side before Callowhill Street. It opens at 1:00 PM and closes at 6:00 PM. 17th Street is one way south bound. This meeting site is handicap accessible. **PhACT Meetings are Free and open to the public unless otherwise noted.**



Saturday, October 17, 2015 at 2:00 PM - Lecture

John Grant, HUGO Award winning author will discuss his latest book, *Debunk It! How to Stay Sane in a World of Misinformation*

See Page 5 for details.

Saturday, November 21, 2015 at 2:00 PM - Lecture

Dr. Robert Baldassano will discuss: *The Ecosystem Within You, How is it Affecting You?*

See Page 7 for more details

Saturday, January 16, 2016 - Lecture - To Be Announced

Saturday, February 20, 2016 - Lecture - To Be Announced

Saturday, March 19, 2016 - Lecture - To Be Announced

Saturday, April 16, 2016 - Lecture - To Be Announced

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

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

Monday, October 5, 2015 at 7:30PM at the Free Library of Philadelphia, 1901 Vine Street, 19103

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

Jay Winik | 1944: FDR and the Year That Changed History

Counting the last three Presidents among his fans, Jay Winik is best known for the internationally bestselling April 1865: The Month That Saved America. Already a classic among historical narratives, it later became an award-winning and widely watched History Channel documentary. He is also the author of popular and critically lauded The Great Upheaval: America and the Birth of the Modern World, as well as a raft of articles, essays, and history reviews. 1944 offers a measured study of how the ailing but determined President faced impossible moral choices and shaped a pivotal year of war and uncertainty.

Meelya Gordon Memorial Lecture

Cost: FREE

No tickets required. For Info: 215-567-4341.

Tuesday, October 6, 2015 at 6:00pm at **Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

EDGAR ALLAN POE: DEEP INTO THAT DARKNESS

While Edgar Allan Poe is a beloved son claimed by at least five other US cities, it cannot be denied that he flourished in Philadelphia. From 1838 through 1844, he produced some of his best known and most haunting works including "The Tell-Tale Heart," "The Pit and the Pendulum," and "The Fall of the House of Usher." While no written proof of such has yet been uncovered, many have speculated that Poe's tales may have been inspired amidst the graves and gardens of Laurel Hill Cemetery. Newly opened when Poe took up residence in the city, the famed necropolis could draw more than 150,000 visitors in one season alone... Surely, Poe could well have been among those curious souls. This walking tour of Laurel Hill will focus on what history has revealed to us of Poe's time in Philadelphia – on the literature he produced, and of the friends, associates and enemies who

traveled within his circles, many of whom now reside permanently at Laurel Hill.

With the stirring of fall and Halloween on the horizon, this is a fitting time to summon the stories of the Master of the Macabre. Bring your own flashlights. The tour will conclude with wine and beer.

The cost is \$20/person; or \$18/students and seniors. Reservations are suggested. Tickets can be purchased at the door, in advance by phone (215) 228-8200, or online.

Guides: Carol Yaster and Dave Horowitz

Tuesday, October 6, 2015 - 6:00pm - 7:00pm

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

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

Michael Welch: Escape to Prison: Penal Tourism and the Pull of Punishment

In *Escape to Prison*, criminalist Michael Welch explores ten prison museums on six continents, examining the complex interplay between culture and punishment. He writes, "Prison museums tend to invert the Disneyland experience, becoming the antithesis of 'the happiest place on earth.'"

Michael Welch is Professor of Criminal Justice at Rutgers University, and a Visiting Professor at Mannheim Centre for Criminology at the London School of Economics where he conducts research on punishment and human rights.

This event is part of Eastern State's ongoing Searchlight Series of events addressing issues in contemporary corrections. The Searchlight Series discussions take place the first Tuesday of every month, free and open to the public. No reservations required. Free. Reception to follow. The Searchlight Series is supported in part by a grant from The George W. Rentschler Foundation.

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

Friends of Valley Forge Park

The Pennsylvania Flute Choir: The Fords of the Brandywine and Music of a Proud Heritage

With Commentary by Dr. Debra Torok

Join The Pennsylvania Flute Choir as it features a program of music representing our heritage in Pennsylvania and around the nation with commentary by Dr. Debra Torok. The highlight of the program will be the premiere of *The Fords of the Brandywine*, September 11, 1777, a composition depicting select events from the first shots heard to the aftermath of the Battle of the Brandywine.

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

Free and Open to the Public.

Tuesday, October 6, 2015 at 6:00 PM at **World Cafe Live, 3025 Walnut Street, Philadelphia**

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

PENN SCIENCE CAFE

(Details to come)

Free and Open to the Public

Wednesday, October 7, 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

Wednesday, October 7, 2015 at 6:00 PM at Landmark Americana Tap & Grill at 54th and City Avenue, Philadelphia 19131 at St. Joseph's University

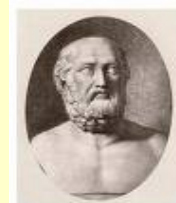
Nuke it! The science behind microwave ovens and other home appliances

Have you ever wondered how some of the appliances you use everyday actually work? Join us as **Dr. E. Peter Zurbach, Saint Joseph's University Department of Chemistry**, discusses how microwaves interact with water in food to generate heat, what do microwaves and LDC TVs have in common, and other questions you have about the chemistry in our daily lives.

Free and Open to the Public.

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

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



Registration Requested.

Wednesday, October 7, 2015 at 6:00 pm - 7:00 pm at the **American Philosophical Society**, Benjamin Franklin Hall, 427 Chestnut Street, Philadelphia

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

Thomas Jefferson: Birder in Chief

Thomas Jefferson published a tally of 125 bird species in his Notes on the State of Virginia, now considered to be the first American bird "checklist." Jefferson's use of the binomial names of Linnaeus and Catesby confirms his knowledge of ornithology and astute observation skills. He had a more sophisticated knowledge of the American avifauna than almost any other American of the late 18th century—William Bartram being a notable exception. Matthew Halley will explore Jefferson's interest and contributions to American ornithology, including his 1785 checklist, interactions with Bartram and Alexander Wilson, and new species described by the Corps of Discovery.

Matthew R. Halley is an ornithologist and historian based at the Academy of Natural Sciences of Drexel University, where he studies the evolutionary biology and systematics of American birds. Halley has conducted field research in seven countries and authored numerous scientific papers on bird behavior. He is currently a PhD student and Dean's Fellow in the Department of Biodiversity, Earth, and Environmental Science at Drexel University. He is the assistant editor of *Cassinia*, journal of the Delaware Valley Ornithological Club (DVOC), and an avocational historian interested in the development of American science during the Early Republic.

See more at: <http://www.apsmuseum.org/event/thomas-jefferson-birder-in-chief/#sthash.ZHymQmOl.dpuf>

Thursday, October 8, 2015 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/>

Comics in Medicine

On Thursday, October 8, explore how comics work in medicine in this interactive presentation! The past decade has witnessed a meteoric rise in

Tapping Our Watershed—The Academy of Natural Sciences

The Academy's environmental programs focus on a variety of critical topics, including watershed science, environmental policy, and sustainability.

Join the Academy of Natural Sciences of Drexel University for Tapping our Watershed, a monthly science café in Philadelphia that brings lovers of water science together for conversations with top experts in the field.

Formerly known as the Delaware River Watershed Initiative Seminar Series, these talks are sophisticated enough for the experienced scientist but formatted for the casual guest who is interested in tapping into watershed issues on a deeper level. You can expect to hear engaging talks ranging from water policy and management to indicator species and pollutants, with a stimulating Q&A to follow each presentation.

Tapping our Watershed is held the **third Monday of the month at National Mechanics at 6 p.m.** The talks are intended for individuals 21 or older, but those under 21 can come with a chaperone who is at least 25. Tapping our Watershed is sponsored by the William Penn Foundation.

<http://www.ansp.org/get-involved/cep/tapping-our-watershed/>



comics as a legitimate form of literature. Prominent in bookstores, film and television, comics are no longer considered primarily kids' reading. In fact, increasingly they engage serious-minded adults interested in myriad weighty issues ranging from philosophy to political revolutions. It comes as no surprise, then, that comics have entered the domain of medicine as well. Here comics play an important role in medical education, patient care, and the social critique of the medical profession itself.

Since 2010, cartoonists, scholars, patients and healthcare practitioners have convened at six international conferences on graphic medicine, and Penn State University Press has launched a new book series on comics and medicine with an inaugural volume entitled *Graphic Medicine Manifesto*.

Speaker: **Kimberly R. Myers, M.A., Ph.D.**, is Associate Professor in the Department of Humanities at Penn State College of Medicine, where she also serves as Director of Competency-Based Assessment & Reflective Learning and Co-Director of Medical Humanities.

Presented by the Section on Medicine & the Arts. Become a Section Member to help bring lectures and events to the College. Pre-registration for all programs and events is

strongly urged. For further information regarding events and registration, please e-mail info@collegeofphysicians.org or call 215-399-2341.

Thursday, October 8, 2015 at 7:00 PM at The Franklin Institute Science Museum, located in Center City Philadelphia, at the intersection of 20th Street and the Benjamin Franklin Parkway Free for Members

NIGHT SKIES IN THE JOEL N. BLOOM OBSERVATORY

Hosted by Franklin Institute Chief Astronomer Derrick Pitt

Cullen Blake, Asst. Prof. Physics and Astronomy, Univ. of Penn.

Part Two of a two-part series on the challenging business of hunting down earth-like planets in other solar systems. Does 'earth-like' mean 'life-like' too?

Open to the public. Admission \$5.00.

Saturday, October 10, 2015 at 11:00am at **Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

LAUREL HILL: THE HOT SPOTS and STORIED PLOTS

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

The cost is \$8/person general admission. Tickets can be purchased at the door, in advance by phone (215) 228-8200 or online.

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>

Guide: Nancy Wright

Saturday, October 10, 2015 at 3:00 PM at University of Pennsylvania Museum, 3260 South Street, Philadelphia, PA 19104

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

THE FLY - A POWERFUL ICON IN ANCIENT EGYPT

Dr. Regine Schulz, Director of the Roemer and Pelizaeus Museum in Hildesheim, Germany, speaks in this lecture, presented by the American Research Center in Egypt—Pennsylvania Chapter.

Admission: \$10; \$7, Penn Museum members are PennCard holders; \$5, students with ID; free for ARCE-PA members and children under 12.

Saturday, October 10, 2015. Registration opens at 4:00 p.m. / Run starts at 5:00 p.m. at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA 19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

7th ANNUAL REST IN PEACE 5K RUN

Trick or treat...move your feet! Kick off your Halloween season in the right way. Organized by East Falls Fitness and the Friends of Laurel Hill Cemetery with the help of Presenting Sponsor, East River Bank, the Rest in



Peace 5K Run is the only Halloween costume run and after-party in a Cemetery at night in the region. Proceeds benefit the Friends of Laurel Hill Cemetery, a 501c3 nonprofit that works to preserve and promote the historical character of Laurel Hill Cemetery through educational programs and public outreach. Unique and challenging, the run winds through the headstones in Laurel Hill Cemetery, a beautiful National Historic Landmark, located in the East Falls neighborhood. Participants and spectators alike are encouraged to attend in Halloween attire. Runners can register as individuals or as teams.

Following the run, join us for our after-party hosted by Wired 96.5 at Laurel Hill Cemetery featuring free beer, spooky treats, and great music! Prizes will be given out for best costumes and to the winners of the run. Don't forget your wallets! Buy tickets to participate in our 50/50 raffle. Proceeds will support our charitable cause.

This year's race is scheduled for Saturday, October 10. Registration opens at 4:00 p.m. / Run starts at 5:00 p.m. / After-party starts at 6:00 p.m. The race takes place at Laurel Hill Cemetery, located at 3822 Ridge Avenue,

Philadelphia, PA 19132. Runners can register at www.rip5k.org. Registration is a flat, non-refundable fee of \$35 for Adults 20+, \$20 for Teens ages 13 -19 and \$15 for Kids ages 8-12. Teams receive an additional discount. Registration includes gift bag and t-shirt.

Walk-ups welcome! Day-of registration includes a gift bag and t-shirt, however, t-shirt sizes are issued on a first-come, first-served basis. The Day-of Registration cost for Adults 20+ is \$40.

The Rest in Peace 5K is currently seeking sponsorships and general donations. In addition to actual participation in the run, there are easy ways to support our fundraising efforts. To find out more about our sponsorship opportunities and benefits, visit www.rip5k.org.

Monday, October 12, 2015 at 6:00 PM at National Mechanics, 22 S. Third Street, Philadelphia, PA 19106

Science on Tap

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

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

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

<http://scienceontaphilly.com/>

Tuesday, October 13, 2015 at Noon at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

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

Brown Bag Lecture: A talk by Justin Rivest.

Free and Open to the Public

Tuesday, October 13, 2015 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

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

Everything You Wanted to Know About Drug Pricing But Were Afraid to Ask

The pricing of pharmaceuticals is probably one of the most confusing and contentious issues facing patients, providers and payers in today's healthcare environment.

How does the pharmaceutical industry set the price for a new drug and how much profit do they really make?

How does the pharmacist dispensing the drug set the charge for the drug and how do insurance companies set the reimbursement level for a given drug?

Why are some drugs "paid for" by some insurance companies but not by others? And, what role does the government play in all of this? These are just some of the questions that will be addressed during this examination of how

commonly used drugs are priced in today's market. The focus will be on the how each of the major stakeholders in the drug supply chain price their products and how the market place, government requirements and other forces influence pricing decisions.

Speaker: **Andrew Peterson PharmD, PhD**, is the John Wyeth Dean of the Mayes College and Professor of Clinical Pharmacy and Health Policy at University of the Sciences in Philadelphia. He was formerly Chair of the Department of Pharmacy Practice/Pharmacy Administration.

Open to the Public. General Admission \$10.00. Go to website to register.

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

Wednesday, October 14, 6:00-8:00 PM at the **Wagner Free Institute of Science**, 1700 West Montgomery Avenue, Philadelphia, PA 19121

www.wagnerfreeinstitute.org ph 215-763-6529

Archives Month Philly

Philadelphia Lantern Slide Salon

Glass lantern slides are wonderful artifacts in and of themselves, but they are most interesting when we discuss the context for which they were originally created. In the spirit of lantern exhibition culture, this year's salon participants will present a narrative story with their slides. The American Philosophical Society, the Athenaeum of Philadelphia, the Franklin Institute, the Friends Historical Library of Swarthmore College, the Scott Memorial Library of Thomas Jefferson University, the University of Pennsylvania Museum of Archaeology and Anthropology, and the Wagner Free Institute of Science will present an exciting evening of education and entertainment. Sit back and relax as we travel to the American West and the Lesser Antilles, delve into the destruction and relief efforts of WWI, get early 20th century lessons in social studies and science, and learn the benefits of abstinence from alcohol.

Predating the motion picture, lantern slides were used for entertainment and to illustrate educational programs. The Philadelphia Lantern Slide Salon will be held in the Wagner's Victorian-era lecture hall using an historic lantern projector. Please join us for a rare treat as we revive an old technology in order to see culturally significant lantern slide collections from the libraries and archives of Philadelphia's most distinguished institutions.

This program is part of Archives Month Philly.

Free and Open to the Public

See website for details.

Monday, October 19, 2015 at 7 PM at Commonwealth Chateau, Chestnut Hill College, 9230 Germantown Avenue, Philadelphia, PA

19118

The Institute for Science and Religion<http://www.irands.org>**"Understanding Climate Change,"****Michael E. Mann, PhD**, Distinguished Professor of Meteorology; Director, Earth System Science Center

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

Monday, October 19, 2015 at 6:00 PM at National Mechanics, 22 S. Third Street, Philadelphia, PA 19106, The Center for Environmental Policy of the Academy of Natural Sciences<http://www.ansp.org/get-involved/cep/tapping-our-watershed/>

The Academy's environmental programs focus on a variety of critical topics, including watershed science, environmental policy, and sustainability. A monthly gathering that features a brief, informal presentation by a scientist or other expert followed by lively conversation. Good food and beer.

Sponsored by the Pew Foundation..

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

<http://scienceontapphilly.com/>**Tuesday, October 20, 2015 at 6:00 PM at World Cafe Live, 3025 Walnut Street, Philadelphia**<http://www.upenn.edu/pennnews/science>**PENN LIGHTBULB CAFÉ****"The Anatomy of Violence: Dissecting the Biological Roots of Crime"****Adrian Raine**, Penn Integrates Knowledge Professor in the departments of criminology and psychiatry and psychology

The very rapid developments taking place in the neuroscience of crime are creating an uncomfortable tension between our concepts of responsibility and retribution on the one hand and understanding and mercy on the other. Raine will provide a brief overview of this new body of knowledge and its implications for our future conceptualization of moral responsibility, free will and punishment. If the neural circuitry underlying morality is compromised in offenders, how moral is it of us to punish prisoners as much as we do? Should we use biology to better predict who amongst us are predisposed to future violence? And how can we improve the brain to reduce violence? Free and Open to the Public.

Wednesday, October 21, 2015 at 7:30PM at the Free Library of Philadelphia, 1901 Vine Street, 19103<http://libwww.freelibrary.org/authorevents/>**Sarah Vowell | Lafayette in the Somewhat United States**

In conversation with Wesley Stace

Praised for her "learned, engagingly discursive, funny, sometimes even jolly" (New York Times Book Review) romps through American history, cultural critic Sarah Vowell is a contributing editor for National Public Radio's This American Life. She is the author of The Partly Cloudy

PhACT Lecture**Saturday, October 17, 2015
at 2:00 PM****John Grant, HUGO Award winning author will discuss his latest book, *Debunk It! How to Stay Sane in a World of Misinformation*****See Page 5 for more details.**

Patriot, Take the Cannoli, Assassination Vacation, and Unfamiliar Fishes, and she has been published in The Village Voice, Esquire, and the Los Angeles Times, among many other periodicals. Her new book offers a frank and funny portrait of the French hero of the American Revolution and his insightful 1824 return to a young country.

Cost: FREE

No tickets required. For Info: 215-567-4341.

Wednesday, October 21, 2015 at Noon at College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103, (215) 563-3737 x304http://www.collphyphil.org/prog_calendar.htmPre-registration for all programs and events is strongly urged. For further information regarding events and registration, please e-mail info@collegeofphysicians.org or call 215-399-2341.

Food & Thought – The Power of Public Murals: It Ain't About the Paint

Join **Jane Golden**, Founder and Executive Director of the Mural Arts Program, as she gives a brief history of the Mural Arts Program and its predecessor, the Philadelphia Anti Graffiti Network, both visually and anecdotally, showing its arc from a small grassroots city agency to become the largest public art program in the US. Open to the Public. Go to website to register**Wednesday, October 21, 2015 at 5:00 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.htmPre-registration for all programs and events is strongly urged. For further information regarding events and registration, please e-mail info@collegeofphysicians.org or call 215-399-2341. Join us for the first Philadelphia Public Health Grand Rounds. The topic is: Hepatitis C: Emerging Approaches for Surveillance,Prevention, and Treatment. Presentations from 5:00 - 6:30 | Reception from 6:30 – 7:30
Sponsored by The College of Physicians of Philadelphia and The Philadelphia Department of Public Health
Open to the Public. Go to website to register**Thursday, October 22, 2015 at 12:00PM at the Free Library of Philadelphia, 1901 Vine Street, 19103**<http://libwww.freelibrary.org/authorevents/>
Dennis Ross | Doomed to Succeed: The U.S.-Israel Relationship from Truman to ObamaLongtime political advisor and diplomat Dennis Ross served as Director of Policy Planning in the State Department during George H.W. Bush's administration, where he worked towards the reunification of Germany and arms control. Appointed Middle East envoy by President Clinton in 1993, Ross brokered peace talks and treaties between Israel and Palestinian groups, Jordan, and Syria. He has also served the Obama administration as Special Assistant to the President on the National Security Council. He is a fellow at the Washington Institute for Near East Policy and a professor at Georgetown. In *Doomed to Succeed*, Ross maps the shifting circumstances of the United States' America's bonds with its closest Middle East ally.

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

Buy tickets online | Ticket and Subscription Packages

Friday, October 23, 2015 at 10:00am at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200<http://www.thelaurelhillemetery.org>**LAUREL HILL: THE HOT SPOTS and STORIED PLOTS**

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

The cost is \$8/person general admission. Tickets can be purchased at the door, in advance by phone (215) 228-8200 or online.

Guide: Rich Wilhelm

Friday, October 23 and Saturday, October 24, 2015 at 7:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200<http://www.thelaurelhillemetery.org>**SOUL CRAWL: HAUNTED HISTORY HALLOWEEN TOURS**

Behold the return of Laurel Hill Cemetery's annual Halloween flashlight tours of yore. No longer featuring the actors, the program will



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/

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 23 and Saturday, October 24 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.

Saturday, October 24, 2015 at Noon-4:00 PM **PM at the Wagner Free Institute of Science**, 1700 West Montgomery Avenue, Philadelphia, PA 19121 www.wagnerfreeinstitute.org
Wagner on the Weekend - Spooky Creature Feature

Monday, October 26, 2015 at 5:30pm 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

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

Archives Month Philly Event - The Monstrous, Fabled & Factual: Exploring the Meaning of 'Monster,' 1500-1900

What is a 'monster'? Today, one often thinks of large, fantastical – and often frightening – creatures when one hears the word 'monster.' The meaning of 'monster' has changed seemingly little over the years. However, at one time 'monster' was used also to describe people with medical anomalies, not just fabulous creatures out of legends.

As part of Archives Month Philly, The Historical Medical Library of The College of Physicians of Philadelphia will be displaying materials that explore what it meant to be a 'monster' in the 16th through the early 20th centuries and how

the use of the term has changed – at least in the medical world.

This event is free, but reservations are required. Space is limited to 30 attendees. A behind-the-scenes tour of the library stacks is included with this event.

Go to website to register

Monday, October 26, 2015 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/>

Kenneth J. Miller on his book "Dangerous Guests: Enemy Captives and Revolutionary Communities during the War for Independence."

Free and open to the Public.

Tuesday, October 27, 2015 at Noon at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

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

Brown Bag Lecture: Hanna Vikstrom, "Scarcity or Abundance? Illuminating the Role of Scarce Metals"

Free and Open to the Public

Wednesday, October 28th, 6:00-7:30 PM at the **Wagner Free Institute of Science**, 1700 West Montgomery Avenue, Philadelphia, PA 19121

www.wagnerfreeinstitute.org ph 215-763-6529

Weeknights at the Wagner - Dancing with Droids

Adelheid Voskuhl, University of Pennsylvania and Youngmoo Kim, Drexel University

Free and Open to the Public

Wednesday, October 28, 2015 at 7:30PM at the Free Library of Philadelphia, 1901 Vine Street, 19103

<http://libwww.freelibrary.org/authorevents/>
Garry Kasparov | Winter is Coming: Why Vladimir Putin and the Enemies of the Free World Must Be Stopped

"One of the most formidable brains of our era" (The Washington Post), chess Grandmaster Garry Kasparov was the world's #1 ranked player from 1986 until his retirement in 2005. Since then he has dedicated himself to establishing free and fair elections in his Russian homeland as the founder of the United Civil Front opposition coalition. A candidate for the presidency of Russia in 2008, Kasparov has since been named Chairman of the Human Rights

Foundation and has participated in numerous other political causes. He is the bestselling author of *How Life Imitates Chess*, a chess-based primer on successful decision-making. In *Winter is Coming*, Kasparov urges the world to stand against Russia's current head of state.

In conversation with Dick Polman, "Writer in Residence" at the University of Pennsylvania, and national political columnist at WHYY's Newsworks.org

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

Buy tickets online | Ticket and Subscription Packages

Thursday, October 29, 2015 at 5:30 PM at University of Pennsylvania Museum, 3260 South Street, Philadelphia, PA 19104

<http://www.penn.museum/events-calendar>
COMMUNITY AND HERITAGE ISSUES: AN INTERNATIONAL DISCUSSION

Heritage is often discussed in an international context, but more often it is dealt with at the local level. In this lecture, Dr. Joe Watkins, Supervisory Anthropologist for the National Park Service, speaks about ways in which heritage can be managed for the local benefit while at the same time meeting international goals of preservation and protection. Reception follows. Presented by the Penn Cultural Heritage Center.

Free admission.

Thursday, October 30, 2015 at 7:00pm at **Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA 19132. 215-228-8200

<http://www.thelaurelhillemetery.org>
TRUE TALES FROM THE TOMBS: MISCHIEF NIGHT by FIRELIGHT

This Mischief Night, performers will regale you with true tales from Laurel Hill Cemetery's historic tombs. From the desecrated grave of a



prestigious doctor; to the woman who is buried in two places, True Tales from the Tombs will

feature stories of the Cemetery's most provocative and memorable permanent residents, as they return from the dead to tell their stories.

Featuring The Not Ready for After-Life Players as storytellers of these otherworldly tales, the candlelit tours will depart every half hour through the stones and mausoleums of Laurel Hill. Afterwards, slow your slow heart rate with hot cider and cookies. Bring your own flashlights.

One evening of True Tales from the Tombs is scheduled at Laurel Hill: Thursday, October 30 at 7:00pm. Tours will last approximately one hour and depart every half-hour, with the final tour departing at 9:30pm.

The cost is \$20/person general admission. Advance reservations are requested for groups. Tickets can be purchased at the door, by phone (215) 228-8200, or online at

www.thelaurelhillemetery.org.

Saturday, October 31, 2015 from 1-3pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

FALL FAMILY DAY: HALLOWEEN PICNIC and PARADE

Spend an autumn afternoon exploring the many wonders and mysteries of Laurel Hill Cemetery while celebrating Halloween! Fall Fun for the Family at Laurel Hill will thrill and chill both the young and old! The cemetery's primary location overlooking the Schuylkill River will offer visitors majestic views of the colorful fall foliage and vibrant landscape along Kelly Drive. Activities will include arts and crafts, a pumpkin patch, Halloween games and goodies, and festive readings by The Storybook Fairy.

Feast on treats by SpOt Burger, a local Philadelphia food truck, or bring your own picnic. Attendees are advised to wear comfortable clothes and shoes, and children are encouraged to show off their Halloween costumes! This program is recommended for families with children ages 4-12.

The event will take place on Saturday, October 31 from 1-3pm at Laurel Hill Cemetery's Gatehouse entrance at 3822 Ridge Avenue, Philadelphia, PA 19132. Free parking is located in the lot across the street from the Gatehouse.

The cost is \$5/person general admission. Tickets can be

Monday, November 2, 2015 at 7:30PM at the Free Library of Philadelphia, 1901 Vine Street, 19103

<http://libwww.freelibrary.org/authorevents/>
Stacy Schiff | The Witches: Salem 1692

Nonfiction storyteller Stacy Schiff won the 2000 Pulitzer Prize for her "monumental" (The Boston Globe) biography Vera (Mrs. Vladimir Nabokov), a narrative of the 52-year marriage of the legendary writer and his even more vivid wife. She is also the author of A Great Impromvisation: Franklin, France, and the Birth of America, the Pulitzer Prize finalist Saint-Exupéry, and Cleopatra: A Life. An account of the first great American mystery, The Witches unveils the fantastical true story of the

accusations and trials that led to 20 executions and shaped the character of our future nation.

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

Buy tickets online | Ticket and Subscription Packages

Tuesday, November 3, 2015 - 6:00pm - 7:00pm at Eastern State Penitentiary, 2027 Fairmount Avenue, Philadelphia, PA 19130 phone: (215) 236-3300

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

Jen Manion: Liberty's Prisoners

Historian Jen Manion argues that the penitentiary system in early America exploited racist ideologies, gender norms, sexual desire, and antipathy towards the poor to justify its existence and expansion. The use of incarceration grew as women, enslaved people, and indentured servants—those previously with no legal standing—increasingly claimed their own right to life, liberty, and happiness.

In this pattern, Liberty's Prisoners argues, we see a precursor to the dramatic growth of the U.S. prison system in the last 40 years.

Dr. Jen Manion is Associate Professor of History at Connecticut College.

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

The Searchlight Series is supported in part by a grant from The George W. Rentschler Foundation.

Free. Reception to follow.

Tuesday November 3, 2015 at 6:00 PM at Landmark Americana Tap & Grill at 54th and City Avenue, Philadelphia 19131 at St. Joseph's University

Deep Time-Travel with Birzarre and Stunning Sharks

Dr. Eileen Grogan (Saint Joseph's University Department of Biology) and Dr. Richard Lund (Carnegie Museum of Natural History and SJU Research Associate) discuss fossils and the scientific significance of these prehistoric predators.

Free and Open to the Public.

Registration Requested.

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

Friends of Valley Forge Park

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

Free and Open to the Public.

Hercules, Washington's Cook

Speaker: Keith Henley

The surprising story of Hercules, the chef at Mount Vernon in the 1780s, who was brought to New York and Philadelphia to serve President Washington and his family and guests. Presented in cooperation with the American Historical Theater.

Tuesday, November 3, 2015 at 6:00 PM at **World Cafe Live, 3025 Walnut Street, Philadelphia**

<http://www.upenn.edu/pennnews/science>
PENN SCIENCE CAFE

Britanny Watson, director for Shelter Medicine, School of Veterinary Medicine "Helping Animals and People Through Evidence-based Community Engagement and Veterinary Medicine"

How do we encourage the public's enthusiasm for science? How do we encourage empathy towards people and animals? How do we do this in an evidence-based way? In this Café talk, Dr. Watson will describe how an educational program she implemented affected the knowledge, attitudes, and behaviors of high school students. She'll also discuss Penn Vet's mutually beneficial collaborations with area schools and shelters.

Free and Open to the Public.

Wednesday, November 4, 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

Thursday, November 5, 7:00-9:00 PM at the **Wagner Free Institute of Science**, 1700 West Montgomery Avenue, Philadelphia, PA 19121

www.wagnerfreeinstitute.org

Film Premiere - Memory of a Time Twice Lived

Free and Open to the Public

Friday, November 6, 2015 at 7:00 PM in the Radnor Township Municipal Building, 301 Iven Ave, Radnor, Pennsylvania 19087

Delaware Valley Amateur Astronomers

Searching for Exo-Planets

Dr. Eric Jensen, Professor of Astronomy at Swarthmore

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

Free and Open to the Public.

Sunday, November 8, 2015 at 1:00pm at **Laurel Hill Cemetery**, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

BURIED in the LAND of STRANGERS

Fate denied them victory, but gave them immortality. Historians widely agree that 1864 spelled the beginning of the end for the Confederacy. From the farthest corners of the South, boys who had left for war became men, men who had left for war perished; and the long slog to 1865 began. In the end, though their hearts and loyalty were in the South, many Confederate soldiers found themselves buried far above the Mason Dixon line. The general who was blamed for the surrender at Vicksburg, the Confederate spy who came in from the cold, the

soldier who spent long days as a prisoner of war; all were buried in a land of strangers at Philadelphia's Laurel Hill Cemetery. Learn the curious history of Philadelphians who joined the Confederacy: who they were, why they fought, and how they ended up so very far from the place they considered home.

This walking tour will depart 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. Tickets can be purchased at the door, in advance by phone (215) 228-8200, or online.

Guide: Sam Ricks

Monday, November 9, 2015 at 6:00 PM at National Mechanics, 22 S. Third Street, Philadelphia, PA 19106

Science on Tap

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

This month's Science of Tap is brought to you by the Wagner Free Institute of Science.

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

<http://scienceontapphilly.com/>

Monday, November 9, 2015 at 7:30PM at the Free Library of Philadelphia, 1901 Vine Street, 19103

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

Lisa Randall | Dark Matter and the Dinosaurs: The Astonishing Interconnectedness of the Universe

One of the world's most influential theoretical physicists, Lisa Randall is best known for her research on particle physics and cosmology, and for co-creating the Randall-Sundrum model, an elegant and complex extra-dimensional theory of the universe. The Frank B. Baird, Jr. Professor of Science at Harvard, she was named one of Time's "100 Most Influential People in the World" and Esquire's "75 Most Influential People of the 21st Century." Randall is the author the New York Times Notable Books Knocking on Heaven's Door and Warped Passages. In her new book, she applies her knowledge of our cosmic neighborhood to a reasoned theory of the cataclysm that killed three-quarters of all species on earth.

Cost: FREE

No tickets required. For Info: 215-567-4341.

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

<http://www.thelaurelhillemetery.org>

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 240th 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.

FREE and open to the public. Additional information can be found by calling (215) 228-8200.

Guide: Andy Waskie

Tuesday, November 10, 2015 at 7:30PM at the Free Library of Philadelphia, 1901 Vine Street, 19103

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

Mary Beard | S.P.Q.R.: A History of Ancient Rome

Perhaps Britain's best-known scholar of antiquity, Mary Beard is a University of Cambridge classicist, a fellow of Newnham College, and a Royal Academy of the Arts professor of ancient literature. Some of her seminal works include Rome in the Late Republic, The Parthenon, and The Fires of Vesuvius, a "marvelous excavation" (The Nation) of life in Pompeii before its volcanic destruction. Beard is also the classics editor of the Times Literary Supplement, where her column "A Don's Life" regularly appears. A frequent contributor to The New York Review of Books, she has written and presented several BBC historical documentaries. Charting its evolution from insignificant village to sprawling metropolis, S.P.Q.R. offers a comprehensive thousand-year look at history's greatest empire.

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

Buy tickets online

Wednesday, November 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/>

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

Thursday, November 12, 2015 at 7:00 PM at

The Franklin Institute Science Museum, located in Center City Philadelphia, at the intersection of 20th Street and the Benjamin Franklin Parkway
Free for Members

NIGHT SKIES IN THE JOEL N. BLOOM OBSERVATORY

Hosted by Franklin Institute Chief Astronomer Derrick Pitt

Michael Vogeley, Prof. of Astronomy – Villanova University

Open to the public. Admission \$5.00.

Saturday, November 14 at 1:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

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 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

Monday, November 16, 2015, at 7 pm at Commonwealth Chateau, Chestnut Hill College, 9230 Germantown Avenue, Philadelphia, PA 19118

The Institute for Science and Religion

<http://www.irands.org>

The Psychology of Mindfulness: What We Know and Don't Know

Marc S. Schulz, PhD, Rachel C. Hale Chair in the Sciences and Mathematics; Chair of Psychology Department, Bryn Mawr College

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

Monday, November 16, 2015 at 6:00 PM at National Mechanics, 22 S. Third Street, Philadelphia, PA 19106, The Center for Environmental Policy of the Academy of Natural Sciences

<http://www.ansp.org/get-involved/cep/tapping-our-watershed/>

The Academy's environmental programs focus on a variety of critical topics, including watershed science, environmental policy, and sustainability. A monthly gathering that features a brief, informal presentation by a scientist or other expert followed by lively conversation. Good food and beer.

Sponsored by the Pew Foundation.

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

<http://scienceontapphilly.com/>

Tuesday, November 17, 2015 at Noon at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

<http://www.chemheritage.org>

Brown Bag Lecture: "An Archetypal Case of the Emergence of Interdisciplinary Studies: The Hypothesis of Clausius-Williamson (1850

–1890)”

A talk by Axel Petit

A case study of the Clausius-Williamson hypothesis sheds light on the specialization of the physical sciences during the 19th century. In the 1850s Rudolf Clausius and Alexander William Williamson independently developed similar hypotheses at a time when physics and chemistry were beginning to be considered independent endeavors. Some 30 years later, after specialization had taken root, their names were associated: the two hypotheses became the Clausius-Williamson hypothesis. The current historiography addresses the Clausius-Williamson hypothesis only as it is featured in subsequent interpretations by Svante Arrhenius and does not thoroughly analyze the published writings of Clausius and Williamson themselves. This lecture will reappraise Clausius's and Williamson's works in their original context; it will also analyze how their hypotheses came to be associated. When understood within the context of the growing specialization in science, this study provides an archetypal case of the dialectic relations between the newly autonomous fields of physics and chemistry.

Free and Open to the Public

Tuesday, November 17, 2015 at 6:00 p.m. at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

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

2015 Ulliyot Lecture: Bruce Alberts

The Ulliyot Lecture emphasizes the positive role that the chemical and molecular sciences play in our lives.

This year's speaker, Bruce Alberts, is the Chancellor's Leadership Chair in Biochemistry and Biophysics for Science and Education at the University of California, San Francisco.

Bruce Alberts, a prominent biochemist with a strong commitment to the improvement of science and mathematics education, is the Chancellor's Leadership Chair in Biochemistry and Biophysics for Science and Education at the University of California, San Francisco. He took that position in 2005 after serving two six-year terms as the president of the National Academy of Sciences (NAS). From 2008 to 2013 he also served as editor in chief of Science.

While at the NAS, Alberts led development of the landmark National Science Education standards subsequently implemented in school systems nationwide. From 2000 to 2009 he served as the cochair of the InterAcademy Council in Amsterdam, governed by the heads of 15 national academies of sciences and established to provide scientific advice to the world. In 2014 he was awarded the National Medal of Science by President Barack Obama, and from 2009 to 2011 he served as one of Obama's first three Science Envoys. He is also one of the original authors of *The Molecular Biology of the Cell*, a preeminent textbook in the field now in its sixth edition.

Alberts received a bachelor's degree in biochemical sciences in 1960 from Harvard College and a PhD in 1965 from Harvard University.

Free and Open to the Public

Tuesday, November 17, 2015 at 6:00 PM at World Cafe Live, 3025 Walnut Street, Philadelphia

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

PENN LIGHTBULB CAFÉ

Daud Ali, associate professor of South Asia studies

(Details to come)

Free and Open to the Public.

Tuesday, November 17, 2015 at 7:30PM at the Free Library of Philadelphia, 1901 Vine Street, 19103

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

Simon Winchester | Pacific: Silicon Chips and Surfboards, Coral Reefs and Atom Bombs, Brutal Dictators, Fading Empires, and the Coming Collision of the World's Superpowers

The bestselling author of the nonfiction books *The Professor and the Madman*, *Krakatoa*, *The Men Who United the States*, and *Atlantic*, Simon Winchester evokes “vivid, valuable” (*Wall Street Journal*) images of legendary and little-known pockets of personality, history, and science. Formerly an Oxford-trained field geologist in Uganda and a war correspondent for *The Guardian* and *The Sunday Times*, Winchester earned Britain's Journalist of the Year Award and was made an Officer of the Order of the British Empire “for services to journalism and literature” in 2006. In addition to his two dozen books, Winchester's writing has appeared in *National Geographic* and *Smithsonian* magazine. Exploring commerce, geography, and implications for the future, *Pacific* is a biography of the world's largest ocean.

Pine Tree Foundation Endowed Lecture

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

Buy tickets online

PhACT Lecture

**Saturday, November 21, 2015
at 2:00 PM**

Dr. Robert Baldassano will discuss: *The Ecosystem Within You, How is it Affecting You?*

See Page 7 for more details

Saturday, November 21, 5:00-8:00 PM at the **Wagner Free Institute of Science**, 1700 West Montgomery Avenue, Philadelphia, PA 19121

www.wagnerfreeinstitute.org ph 215-763-6529

Annual Gala - A Sip of Science

Honoring Artist Mark Dion

Open to the Public. This is a fund raising event.

Tuesday, November 24, 2015 at Noon at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

<http://www.chemheritage.org>

Brown Bag Lecture: “Oil in the Garden State: How Petroleum and Pollution Have Shaped New Jersey”

A talk by Raechel Lutz

Raechel Lutz earned her BA in history and art history from Ithaca College in 2007. While working at the Montclair Art Museum in Montclair, NJ, she earned her MA in history from Rutgers University–Newark in 2010. Raechel is currently working on her PhD dissertation at Rutgers University–New Brunswick with advisors Ann Fabian and Neil Maher, and committee member Toby C. Jones. Her dissertation asks fundamental questions about the relationship between oil, environment, and toxicity by investigating the history of the Standard Oil refineries in northeastern New Jersey. She is a Beckman Center Allington Fellow in the 2015–2016 academic year.

Free and Open to the Public

Tuesday, November 24, 2015 at 7:30PM at the Free Library of Philadelphia, 1901 Vine Street, 19103

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

Brian Kilmeade cohosts Fox News Channel's popular morning show *Fox & Friends* and hosts Fox News Radio's nationally syndicated *Kilmeade and Friends*. He is the author of the New York Times bestselling *The Games Do Count* and *It's How You Play the Game*, compendiums of defining sports moments in the lives of some of the America's most well-known people in the United States. Kilmeade is also the co-author of George Washington's *Secret Six*, an historical novel about the real-life spy ring that helped save the American Revolution. Thomas Jefferson and the Tripoli Pirates tells the little-known story of the third President's battle to defend America against high seas brigands.

Cost: FREE

No tickets required. For Info: 215-567-4341.

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

<http://www.thelaurelhillemetery.org>

LAUREL HILL: THE HOT SPOTS and STORIED PLOTS

In life and in death, we all have stories to tell and what better place to hear tales of wonder than Philadelphia's most famous home of the dead? Join Laurel Hill Cemetery for an informative overview of Laurel Hill's long and colorful history, which will include many of the marble masterpieces, stunning views and legendary stories that afford the cemetery its WOW factor. This is the perfect tour for first-time visitors to Laurel Hill, and anyone else who enjoys beautiful art, scenic nature and fascinating history. “The Hot Spots and Storied Plots” will be presented on fourth Fridays, January through November; and second Saturdays, May through October.

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: Nancy Wright

Monday November 30, 2015 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/>

Tony Williams on his new book on the collaboration of Washington and Hamilton in the creation of America from the Revolutionary War through the Washington administration

Free and Open to the Public.

Tuesday, December 1, 2015 at Noon at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

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

Brown Bag Lecture: "The DDT Myths"

A talk by Elena Conis

Few modern discoveries have been as widely hailed and as intensely vilified as DDT. The chemical pesticide was a national hero during World War II, glorified for saving millions from deadly insect-borne diseases around the globe. Two decades later, however, it became a symbol of misguided American hubris, its long-ignored dangers a rallying cry for the environmental movement. At the turn of the new millennium DDT's reputation morphed again: it was seen as a panacea for the intractable ills of the developing world, its abandonment proof of Western greed and callousness. At each turning point in its history DDT's risks and benefits were weighed anew. But this was never a simple assessment: evaluations of the chemical have always been shaped by time-bound ideas about how our environment influences our health and how our health affects our environment. Moreover, as the story of DDT's history was told and retold, its symbolism—of American dominance in the 1940s, environmental enlightenment in the 1960s, and global charity in the 1990s—overshadowed now-forgotten aspects of its past: citizen resistance to the pesticide from the moment of its introduction; the tobacco and cotton industries' influence on DDT's national ban; and the shakiness of human health evidence that has guided DDT policy from the moment of its introduction. In this talk I'll discuss how and why I am unearthing these lost histories. My aim is to construct a new narrative of the chemical's biography from the 1940s to the present in order to show three things: how American health values have shaped environmental politics, how environmental concerns have changed the direction and substance of health science research, and how U.S. policy decisions about DDT have directly affected the pesticide's use, human health, and the state of the environment around the globe. Free and Open to the Public

Tuesday, December 1, 2015 at 7:00 PM at Washington Memorial Chapel, on Route 23 in Valley Forge.

Friends of Valley Forge Park

[http://www.friendsofvalleyforge.org/speaker-](http://www.friendsofvalleyforge.org/speaker-series.shtml)

[series.shtml](http://www.friendsofvalleyforge.org/speaker-series.shtml)

Seized in September: Delaware during the Revolutionary War

Speaker: Kim Burdick

Delaware's role in the Philadelphia Campaign – seldom-told, action-packed – as described by an award-winning public historian.

Free and Open to the Public

Tuesday, December 1, 2015 - 6:00pm - 7:00pm at Eastern State Penitentiary, 2027 Fairmount Avenue, Philadelphia, PA 19130 phone: (215) 236-3300

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

The Searchlight Series: Discussion Topic TBA.

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

The Searchlight Series is supported in part by a grant from The George W. Rentschler Foundation. Free. Reception to follow

Wednesday, December 2, 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

Friday, December 4, 2015 at 7:00 PM in the Radnor Township Municipal Building, 301 Iven Ave, Radnor, Pennsylvania 19087

Delaware Valley Amateur Astronomers

Astronomy from Chile: Connecting the Cosmos to the Earth

Peter Dettlerline, Astronomy Ambassador with the NSF

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

Free and Open to the Public.

Tuesday, December 8, 2015 at 6:00 PM at **World Cafe Live, 3025 Walnut Street, Philadelphia**

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

PENN SCIENCE CAFÉ

Irina Marinov, a climatologist in the Earth and Environmental Science Department
"A Story of the Southern Ocean"

The Southern Ocean, the vast and mostly unexplored ocean surrounding Antarctica, takes up most of the human-produced greenhouse heat and a large percent of the carbon dioxide people put into the atmosphere. The Southern Ocean is critically important for our planet's climate on both long and short time scales. Marinov will discuss future expected changes in the Southern Ocean's circulation and physics under a warming climate, and the repercussions for the rest of the planet.

Free and Open to the Public.

Wednesday, December 9, 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/>

Thursday, December 10, 2015 at 7:00 PM at The Franklin Institute Science Museum, located in Center City Philadelphia, at the intersection of 20th Street and the Benjamin Franklin Parkway
Free for Members

NIGHT SKIES IN THE JOEL N. BLOOM OBSERVATORY

Hosted by Franklin Institute Chief Astronomer Derrick Pitt

Kerstin Perez, Asst. Prof. of Physics, Haverford College

'Dark Matters: The Next (or maybe ultimate!) 'Holy Grail' of Astronomy Research

Open to the public. Admission \$5.00.

Monday, December 14, 2015 at 6:00 PM at **National Mechanics, 22 S. Third Street, Philadelphia, PA 19106**

Science on Tap

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

This month's Science of Tap is brought to you by the Academy of Natural Sciences.

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

<http://scienceontapphilly.com/>

Monday, December 21, 2015 at 6:00 PM at **National Mechanics, 22 S. Third Street, Philadelphia, PA 19106, The Center for Environmental Policy of the Academy of Natural Sciences**

<http://www.ansp.org/get-involved/cep/tapping-our-watershed/>

The Academy's environmental programs focus on a variety of critical topics, including watershed science, environmental policy, and sustainability. A monthly gathering that features a brief, informal presentation by a scientist or other expert followed by lively conversation. Good food and beer.

Sponsored by the Pew Foundation..

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

<http://scienceontapphilly.com/>

Monday December 28, 2015 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/>

Bill Ferraro, Associate Editor of the George Washington Papers at the University of Virginia. He will speak on the Winter Encampment at Morristown and Jockey Hollow, NJ.

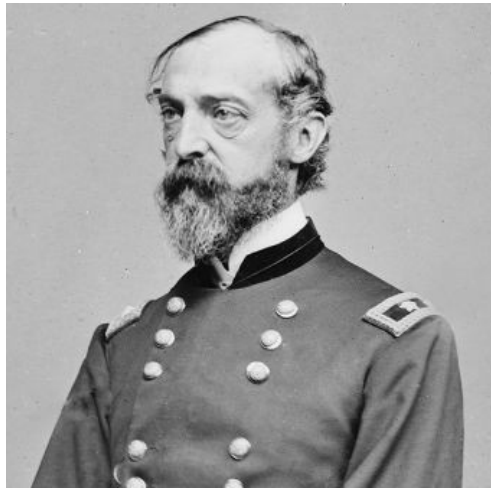
Free and Open to the Public.

Thursday, December 31, 2015 at 12:00pm
at **Laurel Hill Cemetery**, 3822 Ridge Avenue,
Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillemetery.org>

General Meade Birthday Celebration

The annual General Meade Birthday



Celebration will mark the 200th anniversary of the birth of General George G. Meade, commander of the Union Army at the Battle of Gettysburg. A parade of Civil War reenactors, 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 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 5, 2016 at 7:00 PM at Washington Memorial Chapel, on Route 23 in Valley Forge.

Friends of Valley Forge Park

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

September 11, 1777: The Battle of Brandywine

Speaker: Bruce Mowday

A popular author talks about the soldiers and civilians who shaped the first big battle of the Philadelphia Campaign and sent Congress fleeing.

Free and Open to the Public.

Wednesday, January 6, 2016 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

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

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

THE PILTDOWN FOSSIL FORGERY AND THE SEARCH FOR THE "FIRST ENGLISHMAN"

Saturday, January 9, 2016 at 7:15 PM at the Fels Planetarium, The Franklin Institute, 222 North 20th Street, Philadelphia, PA 19103

The Rittenhouse Astronomical Society

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

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

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

Science on Tap

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

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

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

<http://scienceontapphilly.com/>

Monday, January 18, 2016 at 6:00 PM at **National Mechanics, 22 S. Third Street, Philadelphia, PA 19106, The Center for Environmental Policy of the Academy of Natural Sciences**

<http://www.ansp.org/get-involved/cep/tapping-our-watershed/>

The Academy's environmental programs focus on a variety of critical topics, including watershed science, environmental policy, and sustainability. A monthly gathering that features a brief, informal presentation by a scientist or other expert followed by lively conversation. Good food and beer.

Sponsored by the Pew Foundation..

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

<http://scienceontapphilly.com/>

PhACT Lecture

Saturday, January 16, 2016
at 2:00 PM

Topic To Be Announced

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

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

Free and Open to the Public.

Tuesday, February 2, 2016 at 7:00 PM at Washington Memorial Chapel, on Route 23 in Valley Forge.

Friends of Valley Forge Park

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

To the Last Extremity: Fort Mifflin's Valiant Stand

Speaker: Elizabeth Beatty

Fort Mifflin's site director shares the history, construction, and defense of the Delaware River Fort that the British bombarded for weeks during the Revolutionary War.

Free and Open to the Public.

Tuesday, February 16, 2016 at 7 PM at Commonwealth Chateau, Chestnut Hill College, 9230 Germantown Avenue, Philadelphia, PA 19118

The Institute for Science and Religion

Finding God in the Singing River,"

Marc Wallace, PhD, Professor of Religion, Swarthmore College

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

PhACT Lecture

Saturday, February 20, 2016
at 2:00 PM

Topic To Be Announced

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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*.

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Phactum Editor, Ray Haupt
phactpublicity@aol.com



"Elementary, my dear Watson" ~ Sherlock Holmes

This phrase was never uttered by the character in any of Sir Arthur Conan Doyle's written works. Though "Elementary," and "...my dear Watson." both appear near the beginning of *The Crooked Man* (1893), it is the "...my dear Watson" that appears first, and "Elementary" is the succinct reply to Watson's exclamation a few lines of dialogue later.