No experiment is failure until last experiment is success.

~ Charlie Chan,

Dark Alibi (1946)

Phactum

The Newsletter and Propaganda Organ of the Philadelphia Association for Critical Thinking May/June/July 2013

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PhACT Expedition to the Heinz NWR Saturday, May 18, 2013

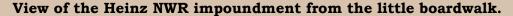
Large, hairy, ape-like, bipedal cryptids have reportedly been encountered across the globe such as the yeti or Abominable Snowman from the Himalayan Mountains, which is said to reach up to 16 feet in height, and the yowie in Australia, which supposedly could be as tall as 12 feet. And Bigfoot-type creatures have reportedly been seen across America: Bigfoot in the Pacific Northwest, the Fouke Monster in Arkansas, Momo in Missouri and the skunk ape in Florida. According to



cryptozoology, the black yeti and Bigfoot are thought to be up to 9 feet tall. Nonetheless, the largest ape species known to science, the extinct *Gigantopithecus blacki*, really could grow to 9 feet high! Anyway, here at the Heinz National Wildlife Refuge we have the Ape Boy of the Swamps.

You are invited to join PhACT for an expedition through the Heinz NWR where we will be searching for the Ape Boy, a tall, gangly, hideously ugly, redheaded boy who mutated into a halfape, half-human monster and is said to be lurking somewhere within the refuge. Our guide will be Don Nigroni who has hiked, biked, and kayaked there for many years and is a volunteer Weed Warrior at Heinz. In the 21st century, due to an improved environment, new wildlife has been appearing in this urban refuge, including nesting bald eagles, the North American beaver and the North American river otter. Accompanying our expedition will be Jeff Cooney and Robb Kerr,

Weed Warrior trainers at Heinz who will be providing zoological and botanical information about the site, and professional photographer Ned Levi, who will be photo-documenting the day's activities.





We will meet at the Visitor Center at 10:00 AM and will be hiking 3.3 miles around the impoundment. We may not find the Ape Boy but we will learn about the rich history and natural history of this urban wildlife refuge. Bring insect repellent, sturdy shoes, lunch, binoculars, and a camera. The event is free and open to the public.

For more information see: http://www.fws.gov/heinz/welcome.htm

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View of Philadelphia from the wetlands at John Heinz National Wildlife Refuge at Tinicum



Bald Eagle soaring over the marsh.



Osprey in flight.



Crabapple flowers by the Observation Platform.

The Heinz National Wildlife Refuge was established in 1972 to protect the largest remaining freshwater tidal marsh in Pennsylvania. Although located within the city of Philadelphia, this 993 acre urban refuge contains diverse habitats and a rich variety of flora and fauna. The photographs on these two pages were taken during the past year by Friends of the Heinz Refuge photographer Kim A. Sheridan to illustrate the various plants and animals that can be seen there. Special thanks to Don Nigroni for locating wildlife, and Jeff Cooney and Robb Kerr for plant identification.



Great Egret taking off from the impoundment.



Great Blue Heron fishing in the impoundment.



Northern Raccoon in an abandoned squirrel's nest, yawning after a nap.



Great Horned Owl roosting in a tree.



Male American Bullfrog in a freshwater marsh.



Tree Swallows on a nest box in the impoundment.



Snapping Turtle.



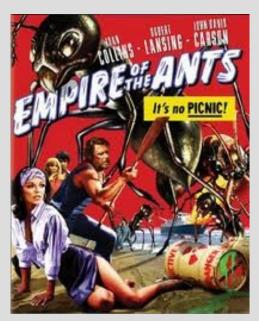
Common Muskrat eating vegetation by the impoundment.

PhACT Picnic

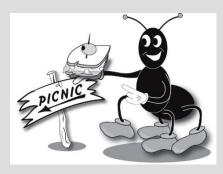
Saturday, June 15, 2012 - 10:00 to 2:00

Mondauk Commons Park

(our usual location)



We always have fun visiting, eating, and playing sports. Bring your own food, you can cook on the grill. And bring stuff to throw such as a football or frisbee. We have reserved the pavilion in the woods on the Southeast corner of Mondauk Commons Park in Upper



Dublin. This is good fun for the whole family.

We will again have a book swap - it can be a great free way to build up a science/skeptic book collection - or help someone else do so.

Broad Street runs between Susquehanna and Limekiln roads. From the PA turnpike, go to the Fort Washington exit and take Rt 309 north, take the second exit and turn right onto Susquehanna. Make a left at the second light onto Broad Street, park in the second parking lot on the left,

and follow the little sand path up to the pavilion.

Bring some food and bring your Aunt. We will supply the ants.

Free. And all are welcome.



Letters to the Editor

Editor: Re. Howard J. Wilk's letter querying the envelope full of coupons: I can't say for sure of course, but your mystery sounds a lot like one of those advertising efforts which pays people to stuff envelopes at home for cash. The advertiser purchases a list of addresses from some service (of which there are many), and supplies an employee with product coupons, postage-paid envelopes, and a portion of the address list. The employee spends time at home, stuffing and addressing the envelopes, then bagging and mailing them. The advantage is that the "hand-printed" address looks like a desirable personal letter, as opposed to trashable "junk mail". To answer your question about motive, I suggest that D.

Howard was simply being paid to distribute ads to names from some list. If you browse the Classified ads of a few national tabloid papers and/or magazines, you will probably find employment ads seeking people to "WORK AT HOME," and they frequently specify that the job is envelope stuffing; it's a plausible explanation, though only D. Howard can answer your query accurately (whether or not he WANTS to do so is yet another question).

If a reader seeks relief from such ad campaigns, one solution may be to routinely use a P.O. Box for your mail. You'd still have to sort through the mail and weed out undesirable items, but at least the street address of your household would be somewhat less likely to be displayed publicly.

Paul Schlueter III Dallas, PA

Editor: FYI, the quotation attributed to Darwin on p. 16 [Phactum, April 2013] is spurious.

See: http://ncse.com/news/2009/09/nick-matzke-quote-

hunter-005036 Glenn Branch Deputy Director

National Center for Science Education, Inc.

Oakland, CA

Editor: I'm shocked, *shocked* to find that there's a spurious quote in *Phactum*! (Cf. the line spoken by Captain Louis Renault, played by Claude Rains, in *Casablanca*, a movie that was originally supposed to have Ronald Reagan play Rick, instead of Humphrey Bogart--except that it wasn't. http://www.snopes.com/movies/films/reagan.asp)

Howard J. Wilk

Philadelphia, PA

Editor's note: Thanks Glenn and Howard. I must have a chat with Phactum's fact checking editor.

Editor: In re. your "Ruminations" piece about reverse evolution (April, '03):

People have lots of interesting ideas about the course of evolution. Often, perhaps operating from vestigal "intelligent design" thinking, people think that evolution follows a plan in a given direction and/or for a specific purpose. That's pretty far off our best understanding of the subject.

Evolution has "a past," in the sense that we can look at what came before this, and then what came before that, and see a progression that lead from there to here. In describing how natural selection has enabled the environment to determine which chance mutations survive and which ones_die out, writers often misdirect the readers by using language that suggests that some aspect of evolution might have intended to fill an ecological niche; this is, unfortunately, counterproductive error.

Evolution occurs all the time, in uncountable directions at once (all offspring in a generation evolve in parallel, simultaneously). Forget the saying, "If it ain't broke, don't fix it;" evolution isn't even aware of whether or not the organism's form is "broke," and it is not able to decide whether or not to "fix" any problem. Evolution simply occurs through the constant scrambling of the genome, to a (usually) minute degree with each generation.

Since evolution is neither aware or intentional, it can have no plan or future direction to follow. It will simply proceed randomly, and those individuals which succeed will breed;

Speak Out!!!

PhACT members and other readers are invited to submit letters and articles to be published in Phactum.



If you have a point of view on some matter in Phactum, whether in agreement or opposed, why not write it down and send it in? Do not hesitate to comment on matters that have not been in Phactum since we constantly wish to present information of interest to Critical Thinkers. We try not to get into religion bashing or partisan politics, but the rest of the Universe is fair game for

civil discussion. You need not be in agreement with the editor of this propaganda sheet. Diverse opinions make for good discussion and let your voice counter the lunatic ravings of the editor. Speak out!

Suggestions to improve Phactum are very appreciated. Send submissions by email if you can since my scanner is not working. Hand written notes are OK if they are <u>very</u> short.

phactpublicity@AOL.com

those which don't, won't. It is only in hindsight when our human analysis thinks it sees a pattern.

In this sense, it is perfectly reasonable for an organism's form to return to a previous form; all that's needed is for an ecological niche to open up which random mutations happen to leave a few generations well-suited to fill. Despite our idea that organisms leave past forms behind forever, there is no biological imperative to comply with human ideas. We CAN modify environment and/or breeding opportunities to achieve desired outcomes (witness eons of dog and horse breeding, or the success we've had at breeding productive grain crops).



Dust mites

Even though we've been able to influence some species' development according to our own desires, evolution itself has not gained a direction; it will resume "random" change the instant we stop applying our conscious influence.

A related concept is the idea of there being "primitive" or "advanced" forms. These concepts are based in our human perception of the order of sequential time. Evolution couldn't care less about the order in which changes occur. A simpler organism (one with fewer genes, or even fewer anatomical parts) can follow a more complex organism, IF environmental selection happens to favor the simpler varieties long enough. We humans are inordinately pleased to suppose that we represent the "pinnacle of evolutionary progress," yet we are willfully ignoring the simple fact that SOME different form will likely follow us (always assuming we don't blow it all up and kill off everything). In fifty-thousand years, the species which inherits our leftovers will be BETTER SUITED to those conditions than us, which is exactly why we'll die off and give way to them! We're trying our best to make our environment more "pleasant" and "convenient," but in the process we've introduced species-wide obesity, and endangered our environmental support system with deforestation and mono-culture selective breeding. In the end, we're not actually helping ourselves all that much, are we? Our under-educated and impoverished classes reproduce at a greater rate than our educated and wealthy classes, so who is apparently going to "inherit the Earth?" We aren't breeding Einsteins; we're breeding gigantic slum families through out the world (thanks in large part to religious pressures against birth control and abortion), and supporting them with charities and "slave wages;" you be the judge of the likely outcome.

Can bedding mites evolve into a retrograde form? If the environment proves receptive to such a form, then it's quite likely that they can and will. In doing so, they will be moving FORWARD in time (and evolving "forward"), regardless of how "primitive" their form might seem to us. Every single species alive today has lived and evolved for the exact same length of time (regardless of how the quantity of actual generations may differ); since we've all taken the same length of time getting here, ALL SPECIES OF LIFE ARE CURRENTLY EQUALLY EVOLVED, with none being superior to or more advanced than any other. We will all change, in time, if we don't go extinct instead. Our heirs will not be "more evolved," they'll be "re-selected" for whatever environments they experience.

Paul Schlueter III Dallas, PA

I subscribe to an online [Flags] Digest from a Ya-Editor: hoo group interested in flags, and I get a few Digests a day with different posts from the group. Today there was one about the flags of the Nationalist Party (Iceland). I had never heard of it; I learned it was a Nazi party in Iceland before and during World War II. The post cited websites at which you can see various flags flown by the party, which typically included a swastika or other right-wing symbols. The post was also supposed to have attachments, because there were phrases such as (see attached image <is}fthj1. gif>), but I didn't understand where or how the attachments were supposed to be. I copied and pasted s}fthj1. gif anyway into my browser's URL field, inadvertently leaving off the first character "i". Since s}fthj1. gif is not a valid URL, hitting "enter" triggered an automatic google search for it. The google results page asked me "Did you mean: s}fkhj 1. gif"; because I didn't really know what I did or didn't mean, I clicked on the s}fkhj 1. gif, and got about 92,000 results. I clicked on the top result, which was ff22.img - starbase.nasa.jpl.nasa.gov. That page is line after line of lines like

HGJLMELMD=BH9BKB9 \$BKAHCCE3F-SOPULDYgnfO=D0697KPDD6FGHP@EL44:598;;<64? =;7*9;C=?.

(That's one line on the web page. When I copied and pasted the web page into a Word document, it came to 266 pages of characters like that, and I have no idea what any of it is supposed to mean.) But just glancing at the top of the web page, without scrolling down, five characters jumped out at me—JUDEN—which, as most people with at least a little knowledge of 20th-century history know, is German for "Jews", and was frequently seen and heard in Europe during the 1930s and through the Holocaust.

Howard J. Wilk Philadelphia

Various Ruminations

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

The Awesome Power of Pyramids

Physicist Tom Napier reports this surefire way to eliminate those unsightly aircraft chem trails that disfigure the blue sky. If I placed a pyramid near my telephone would it banish telemarketers and other pests? See this fascinating website for details:

www.pesn.com/2013/04/21/9602300_Purviance-Pyramid clearing-chemtrails-in-LA/

Alternative Therapy and Anti-Vax Campaigns

For a humorous view of alternative "medicine" and antivaccination movements check out these YouTube offerings by Gemma Arrowsmith.

http://www.youtube.com/watch?v=pApx_8RDSBQ http://www.youtube.com/watch?v=mQqbHT7hdX8

Kidnpping and Sylvia Browne

That psychic woman that skeptics so love to hate has had a recent run of bad publicity revolving around that bizarre kidnapping case in Cleveland where three young women were held captive for a decade by a deranged madman.

The women, as if by a miracle, were rescued seemingly in decent health. I learned from PhACT speaker Ken Silber (November 2012 http://quicksilber.blogspot.com/) of a revolting twist to a twisted tale. It seems that Madame Browne was making a TV appearance on the nationally syndicated Montel Williams show about 18 months after one of the kidnappings. She informed the mother of the victim that her daughter was dead. That was devastating news, of course. Ten years later that girl, now in her 20's, and two others had been found alive and rescued. Sadly the mother had passed away in those intervening years, never to see her daughter again.

Ken Silber provides two computer links to this story:

"She's not alive, honey, your daughter's not the kind who wouldn't call."

MUSEUM OF SCIENTIFICALLY PROVEN
SUPERNATURAL & PARANORMAL PHENOMENA

"So do you think I'll ever see her again?"

"Yeah, in Heaven on the other side."

http://johnmckay.blogspot.com/2013/05/sylvia-browne-is-worst-person-in-world.html?m=0 and this story originally published in *The Cleveland Plain Dealer* on Nov. 18, 2004. http://www.cleveland.com/metro/index.ssf/2013/05/amanda_berry_is_dead_psychic_t.html

One can only hope that this dismal story will put a major dent in Browne's shabby operations but I think it wise to not be overly optimistic of that.

At PhACT's Science Festival meeting, James Randi briefly discussed Sylvia Browne. He had some years before completely exposed Browne as a charlatan but she continues to roll merrily along peddling nonsense and false hopes.

There are many other psychics performing similar "services". This article in Slate briefly discusses police use of psychics to solve crimes, but fortunately that practice is relatively rare.

http://www.slate.com/articles/news_and_politics/ explainer/2013/05/psychic_sylvia_browne_said_amanda_ berry_was_dead_why_do_police_consult_psychics.html

We should be outraged by predatory 'psychics" but I do believe that a substantial part of our ire should be directed toward people like Montel Williams and other impresarios who are enablers of expensive and sometimes devastating hokum.

Creationism in Pennsylvania Public Schools

Anti-Evolution forces are at it on a sadly continuous basis, and now they are setting sights on Pennsylvania Public Schools. This really is not a new movement, but there had been a bit of a slowdown in Pennsylvania following the Dover vs. Kitzmiller trial in 2005 which ended as a legal defeat for Creationists.

Glenn Branch, Deputy Director of NCSE (National Center for Science Education) had the following to say in his newsletter of April 12, 2013.

Antievolution Legislation for Pennsylvania

Plans are afoot in Pennsylvania "to lobby the state legislature with a plea to enable teachers in public schools to present alternate, controversial 'theories' -- ones that violate

the basic scientific principle that they be able to be tested -- when teaching evolution," according to the Pittsburgh Tribune-Review (April 11, 2013). Following a series of presentations from young-earth and "intelligent design" creationists in a Murrysville, Pennsylvania, church, the church's senior pastor is calling for legislation enabling teachers in the state's public schools to share alternates to evolution -- especially "intelligent design" -- with their students.

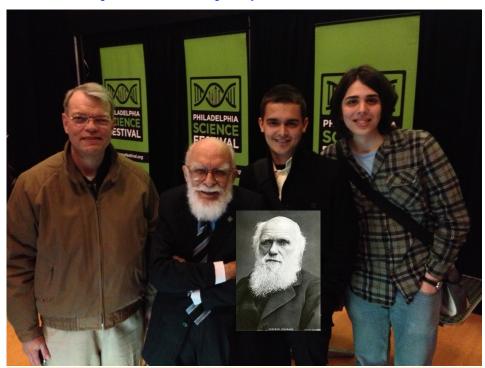
But NCSE's Joshua Rosenau told the Tribune-Review that "intelligent design" simply isn't science: "When someone talks about the idea of intelligent design, it sure sounds like saying some magical being descended and poof, created stuff. That sounds a lot like creationism." He added, "For something to be science ... you have to be able to test something and say this idea is wrong. That's what scientists do all day is try to prove themselves wrong. ... But if you've got this being that is acting outside of the laws of nature, how do you put that in a test tube? How do you put that under a microscope?"

The last antievolution legislation in Pennsylvania was House Bill 1007, introduced in April 2005 while the preparations for the trial in Kitzmiller v. Dover were in progress. HB 1007, if enacted, would have allowed school boards to add "intelligent design" to any curriculum containing evolution and allowed teachers to use, subject to the approval of their board, "supporting evidence deemed necessary for instruction on the theory of intelligent design"; the term "intelligent design" was not defined in the bill. The bill received a hearing in the House Subcommittee on Basic Education in June 2005, but proceeded no further.

For the story in the Pittsburgh Tribune-Review, visit: http://triblive.com/neighborhoods/yourmurrysville/yourmurrysvillemore/3704337-74/design-intelligent-chapman

And for NCSE's previous coverage of events in Pennsylvania, visit:

http://ncse.com/news/pennsylvania



Philadelphia Community College physics Professor David Cattell on left, James Randi, PCC students Akim Adams and Kerry Walters. At the Franklin Institute in Philadelphia—April 20, 2013 Is James Randi really Charles Darwin reincarnate??

In the April 28th NCSE Newsletter, Glenn writes:

In a wide-ranging article, the Pittsburgh Post-Gazette (April 28, 2013) discussed "the ill-kept secret about public school biology classrooms nationwide -- that evolution often isn't taught robustly, if at all." In Pennsylvania as around the nation, "[f]aith-based belief in creationism and intelligent design continues to be discussed and even openly taught in public school classrooms, despite state curriculum standards"

Glenn goes on to observe:

In a poll of Pennsylvania's science teachers conducted by the paper in early 2013, 89.5% of respondents said that they believed in the theory of evolution, 13.3% in intelligent design, and 19.1% in creationism; 4.76% were not sure or expressed a different view. (Respondents were allowed to chose more than one option.) There were 105 respondents; further details of how the poll was conducted were not provided.

Michael Berkman of Pennsylvania State University, who with Eric Plutzer and Julianna Pacheco conducted a rigorous national study of high school biology teachers on the topic of evolution in 2007, told the Post-Gazette that between 17 and 21 percent of teachers introduce creationism into the classroom, but added that the most alarming finding was the prevalence of teachers who "throw doubt [on] and downplay evolution" without introducing creationism.

What an odd poll. It seems that nearly 90% of teachers in

the small sample believe in the theory of evolution, but at the same time about 32% believe in Creationism or Intelligent Design. A bit of contradiction there and it is little wonder that teaching evolution is often a tepid affair if it is taught at all. Hopefully such numbers do not carry over throughout the Commonwealth of Pennsylvania, but let's not count on that any more than we can count on sufficient public understanding and disapproval of Sylvia Browne and others to diminish their psychic practices and paychecks. Underlying all this is a too common lack of Critical Thinking skills in matters of science and science education among adults in Pennsylvania whose culture passes to another generation.

For more about NCSE: http://ncse.com
Read Reports of the NCSE on-line:

http://reports.ncse.com
Subscribe to NCSE's free weekly e-newsletter:
http://groups.google.com/group/ncse-news

Meeting Report(s) - April 2013

Pseudoscience by James Randi at The Franklin Institute

Reported by Michael Anhalt, Sedef Arslan, and Marc DiPinto

Michael Anhalt, Sedef Arslan, and Marc DiPinto are students of Dr. David Cattell at Community College of Philadelphia

Photography by Ned S. Levy





Dr. Paul Offit introducing the Amazing Randi.

notes by Michael Anhalt PHACT – Franklin Institute, James Randi

The PHACT meeting consisted of a show performed by none other than James Randi. He was presenting us a "magic" show where he would explain the non-comprehendible. What we as an audience learned is that there are a lot of people out in the world who lie to gain an advantage on people and James Randi is there to publically denounce them by proving their methods false.

There was a preacher in the South that said Jesus talked through him to heal good Christians. James Randi, who was enticed by this very idea that people could be healed without medical attention and through a higher being, set his mind to discover the truth. What he learned was that Jesus himself used electromagnetic radio waves to talk to the preacher, that Jesus was a female,

and Jesus was the preacher's wife. Before the show, they would ask people to fill out little cards of information, like where you live, and what would is medically wrong. The preacher's wife would then read out the cards to her husband who then would recite the information like a God himself was talking through him. He would throw his hands onto people and shout something like, "Jesus! Heal <insert name here>, he has the misfortune of <insert disease here>! Heal! Heal! Heal!" He would then give them a slight push as though a force just went through them. People would put so much faith into the "healer" that they couldn't believe it wasn't working and it leads to a vicious scam.

Scams, as I just mentioned, don't have to be done in person. James Randi presents a couple of special instruments that do special things. We have a machine the makes you jump higher, another instrument helps you find whatever you are looking for, and the last one helps you detect fake bills. The shoes that help you walk and jump say they use a technique with magnetic monopoles that helps circulates blood through body because of the iron. Here is the problem, monopoles don't exist and not because no one didn't invent them yet. They are physically impossible. Magnetic fields have two poles and it is not possible to separate one pole from the other without destroying the magnetic field. The other instrument helps you locate whatever you want to locate. When you open the instrument, you find none of the wires are connected and the motherboard is sawed in half to fit in the casing. Well that is a useless piece of junk. The counterfeit money detector pens that many retailers use do not actually detect if the bill is fake. It only detects if starch is present on the paper that often is used in copiers to make the fake bill. An iodine solution in the pen reacts with the starch causing the mark to turn black as opposed to brown on real currency. The pens are useless if the counterfeiters use good paper.

James Randi spent an hour going over a lot of information on tricks that are used on people to pay money. What was really learned during that sessions is to really be careful on what you spend your money on when it sounds too good to be true. Those products that sound so magnificent shouldn't be bought without a second thought. A significant amount of research should be done prior to buying those too good to be true products.

ΩΩΩ



The audience in the Franklin Theatre.



notes by Sedef Arslan Pseudoscience by James Randi at The Franklin Institute

There are many advertisements such as: How to learn a new language in 10 days and how to build a muscular body in 10 days. People decide to take this chance with the subconscious thought that they know there is a chance that it may not be a success. They pay for these types of programs and equipment because it just sounds good. It is advertised to be easy. This is what many people wait for: easy. They have attempted many other methods and no successful outcome has been achieved. This is where James Randi comes in to give us his extraordinary presentation at The Franklin Institute to inform the audience to become aware and skeptical about "science."

Mr. Randi began his discussion about himself, the metric system, energy bracelets, specialized knowledge, and telepathy. The energy bracelets speech was when he really caught my attention. These are bracelets that enhance blood flow throughout your body, which results in more energy. I have had acquaintances that wore these bracelets. I recall them telling me about the purpose of the bracelets. To me it had sounded like fiction. Perhaps the bracelet did not spark my interest because during under-

graduate studies I took a course that was based on critiquing scientific articles, although, there are many companies that recruit customers to use their products by using pseudoscience.

Mr. Randi's argument was why are these companies not being stopped? He mentioned that in Australia a corporation that manufactured energy bracelets was exposed by private investigation. They were proven to be fraud. Not only did the company refund all the customers for the bracelet but also refunded them for the shipping and handling costs as well.

I concur with Randi's argument. Australia was capable of stopping pseudoscience, or nonsense; why cannot the United States of America? In my opinion, it takes a lot of work such as power, time, and money to break down corporations. However, Mr. Randi is taking the right step by informing the public from young to old about pseudoscience. In result the companies may not be stopped but if society becomes knowledgeable about their products they will lose business. To support real science we all can contribute by spreading the word about pseudoscience.



Members of the PhACT Council with James Randi. President of the James Randi Education Foundation, D.J. Grothe, is on the left.

PSSST!!

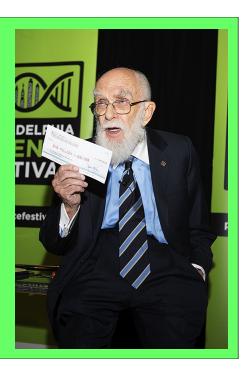
Want to make an easy Million Dollars?

James Randi is pictured here with a non-negotiable facsimile of a check for One Million US Dollars. The pictured check is not real but the money does exist and you can easily claim that money. All you need do to win this Million Dollar Prize is to show, under proper observing conditions, evidence of any paranormal, supernatural, or occult power or event.

To make your claim go to this webpage:

http://www.randi.org/site/index.php/1m-challenge.html

We wish you luck!



notes by Marc DiPinto James Randi at the Franklin Institute

I recently attended a performance by James Randi at the Franklin Institute, and it was amazing. Mr. Randi had the crowd laughing almost constantly and had us learning something new at the same time. He explained how companies put out products that seem to be magical but usually it's just false advertisement. One product he talked about was a shoe that had "Unipolar" magnets in them that allow blood to circulate better though your feet. We learned in physics that there is not such a magnet



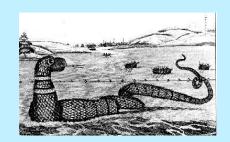
with only one pole and that this shoe was a fake and, unfortunately, people were paying a lot of money for them. Another product was the balance bracelets which he said in some places were going for as much as \$150. The bracelets are pieces of rubber with a hologram sticker affixed to them doing nothing to help with balance or any other health related condition.

Mr. Randi is a Myth Buster of consumer products, and he uses science to prove these things just like the TV Myth Busters do. He coined the term "woo-woo" which describes a person who attempts to claim to have some sort of supernatural powers or to speak to a higher being. He had shown us a clip of an act by what is known as a faith healer, a religious leader who claims they can speak to god and cure people of things such as blindness and other handicaps. Mr. Randi proved that one preacher, Peter Popoff, in fact used a transmitter that allowed him to obtain information about his unsuspecting victims in need of a cure. He learned from a confederate a persons name, address, and sickness. All the while, the Popoff appeared to be talking to God as he fleeced his innocent victims. Mr. Randi explained how he debunks most of the claims made by faith healers. Randi another clip of himself performing a psychic surgery on the Johnny Carson show. He pulled a man from the audience and proceeded to perform this "psychic surgery" in front of the studio audience. This was to show how these psychic surgeons con people into giving them money and then perform bogus surgeries to remove what they call pathological matter.

Mr. Randi was very entertaining and informative and I would highly recommend him to any audience.

Sea Serpents and the Scottish Bride

By Don Nigroni



An article which appeared in the Tuesday, November 30, 1869 issue of *The New York Times* entitled *Another Fish Story* noted that Captain Allen of the "good ship *Scottish Bride*" related "the story of a large marine monster" which they encountered on Tuesday, November 23, 1869 "When about 200 miles off Delaware Bay, on the edge of the Gulf Stream". This monster was thought to be "the great sea serpent." The captain reportedly said of the creature that:

It was about twenty-five feet in length, and proportionately thick; its head was very large and flat, while at each side, on the extreme edge, were set two bright, scintillating eyes, which, he says, looked dangerous and wicked. Its back was covered with large scales like the crocodile, about three inches in length, which hooked together and formed an impenetrable armor. Its belly was a tawny yellow color, and altogether hideous. It was accompanied by a smaller specimen of its own species, which may have been its offspring. This was but a few feet in length, but in shape and color closely resembled the larger one.

The captain and crew supposedly reacted differently to this situation and "With the usual superstition that always takes hold of this class, they regarded the serpent with a sort of religious horror, and all the efforts of the Captain to have them make some attempt to capture it were abortive "but:

... the attention of the smaller one was called to the presence of the vessel. It raised a few inches above the surface, and then went toward its larger friend, and seemed to tell it of the circumstance; but whatever transpired between them, the larger one raised its head as though to investigate its surroundings, and then, with an easy motion, it dropped into the ocean.

The item then stated that the captain:

... thinks that the monster came from the regions of Florida, where he has often heard of similar creatures from other shipmasters, and by following the warm current of the Gulf Stream it reached the position where he found it.

The description provided brings to mind the alligator gar (Atractosteus spatula) which Alfred Cleveland Weed in The Alligator



According to Spitzer, "This supposed ten-footer is reported to have been caught in Moon Lake, Mississippi, in 1910."

Photograph by D. Franklin.

Gar (1923) wrote "probably owes its name to the fact that it is provided with a shining armor as hard and strong as the bony plates of the Alligator." And, according to the Peterson Field Guide to Freshwater Fishes of North America North of Mexico, Second Edition (2011) by Lawrence M. Page and Brooks M. Burr, the alligator gar reaches up to 12 feet in length and has a "Short, broad snout; upper jaw shorter than rest of head. Two rows of teeth on upper jaw." This gar is "Dark olive-brown (sometimes black) above and on side, occasionally spotted; white to yellow below..." Their habitat is usually freshwater, though it does appear "Rarely in brackish and marine water." And their American marine range is along the Gulf of Mexico from Texas to western Florida.

Mark Spitzer in *Season of the Gar* (2010) noted that "the mythical figure of twenty feet is associated with the alligator gar". He also mentioned that "Garfish have lunglike

organs that breathe air" which might account for the so-called sea serpents raising their heads above the surface of the water.

Hence, Captain Allen seems to have been correct in his theory that the creatures came from the Florida region and arrived where he saw them due to the Gulf Stream, although perhaps while also frantically swimming away from a violent storm. The *New York Herald* for Thursday, November 18, 1869 noted that:

HEAVY SNOW AND RAIN STORMS.

The Weather in Philadelphia.

PHILADELPHIA, Nov. 17, 1869.

The snow storm changed to violent rain, with a gale of wind in the night.

Heavy Gale in Norfolk -- Loss of Life.

NORFOLK, Va., Nov. 17, 1869.

A heavy gale from the northwest swept over this city about four o'clock this morning. Many marine disasters along the coast are apprehended.

The Storm in Georgia.

AUGUSTA, Nov. 17, 1869.

There was a heavy storm of rain and wind here last night.

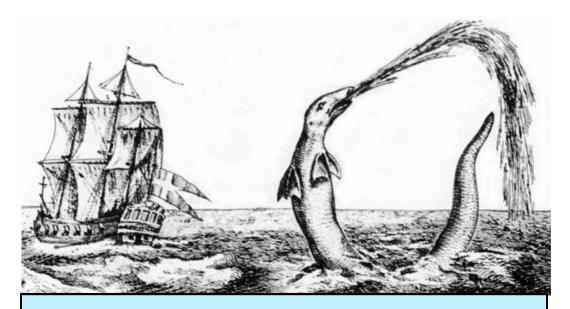


An early drawing of a sea serpent off Cape Ann, Massachusetts

And the next day's edition related that "The hurricane of Wednesday morning, which seems to have swept over a large portion of the country, east and north of us, was something terrible in its consequences." Hence, a ferocious storm, perhaps the one that struck the eastern United States on Wednesday, November 17, 1869, could have been responsible for these creatures having been found way out of their normal range. They might have followed the Gulf Stream up to the area off the Delaware Bay where the crew of the *Scottish Bride* saw these strange beasts on Tuesday, November 23, 1869 and mistook them for nothing less than terrifying sea serpents!

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

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Sea serpent as reported by Hans Egede, the Lutheran Bishop of Greenland, in 1734. Henry Lee, a 19th century English biologist and writer, suggested the giant squid as an explanation.

Homeopathy: Does it Hold Water? (or anything but)

By Thomas Kaznowski



As a child I used to be fascinated with the TV show *Ripley's Believe it or Not*, which would present case after case of some bizarre deformity leading to a man with goat horns or some astounding anecdote of a man who is magnetic, throwing the audience's concept of scientific understanding for a loop, and would send me to bed with the rather ambiguous, though tantalizing proposition, "believe it, or not". Now, I've always been, more or less, scientifically minded; that is I've always questioned the world around me and instead of relying explicitly on what my parents or friends or even teachers told me, I would use books and eventually the

internet to find what the experts had to say. Like most young people who are interested in science (and of course, science-fiction) I would actively seek out interesting information that tickled my curiosity, and as a result, I would often be fooled or fool myself into thinking that certain outlandish and unscientific things could be true. As I grew older, and continue to grow older, my abilities to critically think and

fully analyze things grow as well, and I've begun to realize that the path I walk is the path of science; that is, the systematic application of experimentation, replication, and evidence -based reasoning to determine what is real and what is not.

At this point you might be asking yourself, "What does this have to do with Homeopathy?", and I would answer that the ability to recognize what science really is, is the key to critically evaluating the claims made by homeopathy, and if evaluated properly it becomes clear that not only is there little evidence for its clinical effect, no established way that it could have any effect, but that continued funding and use of homeopathy is a flagrant misappropriation of limited resources, and also flat out dangerous. However, in order to really dissect this brand of pseudoscience we must have a taste of the proverbial Kool-Aid and explore what exactly homeopathy is, and the broad claims made by its proponents.

So, what is it? Well, in the late-18th century a German physician name Samuel Hahnemann developed an idea cul-

minating in his publishing in 1796 of a paper titled, Essay on a New Principle for Ascertaining the Curative Power of Drugs and in 1810 a paper titled, The Organon of the Healing Art. In essence what he argues is that, when taken in very small doses, virtually any substance that causes a physiological effect in an organism would actually reverse said symptom (Loudon, 2006). For example, if one is suffering from a reaction to Poison Ivy, the appropriate homeopathic treatment would be to take a very small dose of Poison Ivy, or anything that causes an itchy rash in a healthy person with the effect being an alleviation of the symptoms. Fur-

thermore, homeopaths claim that this works best if extremely diluted, often to the point that there are literally no more molecules of the "curative" substance in the remedy (Kayne, 2006, pp. 50-57). In addition, homeopathy claims that the potency of the remedy actually increases as the dilution is increased, in direct contradiction with the evidence presented by modern pharmacokinetics which has proven that a drug's potency is

has proven that a drug's potency is directly-, not inversely-dependent on dose, i.e. the higher the concentration of the drug, the more potent its effect, even if the relationship is non-linear (Mehvar, 2001, pp. 1-7).

Now that we've examined the underlying assertions of homeopathy, it's time to delve into the science. First, in order to properly evaluate the claims of a medicine we must examine what, if any, clinical effects can be observed and reproduced in a controlled setting; and we must also compare these effects to a placebo. The conclusion of a 1998 meta-analysis (which is basically a comprehensive study of many studies used to interpret the overall results) of homeopathic research reads as, "On balance, they do not suggest that homeopathic arnica is more efficacious than placebo" (E.Ernst, 1998). As it turns out, the publishers of this study highlight that despite having selected eight trials to represent the best methodology, "Most of these studies were burdened with severe methodological flaws." A branch of the U.S. Department of Health and Human Services known as the National



Center for Complementary and Alternative Medicine (NIH) has this to say about homeopathy, "Most rigorous clinical trials and systematic analyses of the research on homeopathy have concluded that there is little evidence to support homeopathy as an effective treatment for any specific condition" (National Insitutes of Health, 2012).

On the other hand, proponents of homeopathy might claim that despite this evidence, there are a few studies out there which conclude that there is some clinical effect, and that the scientific community simply ignores them. However, in order for a study to be considered when clinical researchers are forming an consensus, what's known as the "P-value" of the study must be low enough for researchers to say with confidence that the results were more likely to be

real, as opposed to the result of chance alone (Ronald A. Thisted. 2010). The P-value is a statistical tool, determined by the methodology used in the experiment, with statistically significant Pvalues typically falling below 0.05. Barring a long winded explanation, a P-value of 0.05 essentially means that you have a 5% chance of being wrong, and since so many studies are done, it is virtually impossible to not have studies which appear to show the "wrong" answer. When you throw away studies with too high a P-value to be considered significant, and average out the remaining stud-

ies, there seems to be no clinical effect of homeopathy in treating any condition. In sum, then, homeopathy shows no more effect than giving someone a glass of pure water and telling them there is medicine in it.

But, let's assume, for a few minutes that there is some clinical effect of homeopathy, or at least the "like cures like" principle, as the proponents assert; the next logical question would be, "How does it work?" First, let's quickly examine how the more familiar drugs, like Aspirin work. As previously cited, drugs, as modern pharmacology knows them have various specific mechanisms, but they all share the same principle of dose-dependency. That is, in order to have any effect the drug's concentration in the blood must exceed a certain threshold, and to increase the concentration is to increase the clinical effect (Mehvar, 2001). Homeopathy, on

the other hand, is not confined to the boundaries which limit accepted pharmacological modalities, and in fact, operate on the completely inverted principle of dilution *increasing* clinical effects (Kayne, 2006). The basic premise is that water has a memory of some kind, originally thought of as the ability to contain the "vital force" of compounds, and more recently it has been suggested that water can hold a sort of molecular structure over time (National Insitutes of Health, 2012). Modern biology has long since dismissed the notion of a vital force and instead explains the biological world in a physical context (atoms making molecules, molecules linking together to form structures, etc.) and modern physics asserts that liquid water does not form internal structures for any significant amount of time (Cowan ML, 2005). Accord-

Doctor, please tell me, does your medicines help? In the last two years I built a house and bought two cars!

Cartoon by Wolfi Korn www.clipproject.info Used by permission

ing to an easily calculable and equally pithy assertion on Wikipedia's page on homeopathic dilution, regarding the 30C dilution advocated by Hahnemann, "one would need to administer two billion doses per second to six billion people for 4 billion years to deliver a single molecule of the original material to any patient" (Wikipedia.org, 2013). Since homeopathy requires this principle of dilution and modern science cannot divine a possible mechanism of "remembering" what was previously dissolved within water, the principle has no physical explanation.

In the end, when combined with the fact

that there is no clinical evidence of efficacy and no physical explanation for the possible mechanisms involved, it takes little more than common sense to conclude that homeopathy as a modality for clinical treatment is as outdated and ineffective as many other modalities in existence at the time of conception, such as bloodletting or skull drilling. Proponents might then argue, "So what? So what if it doesn't really work? If it makes you feel better, why is that so bad?" In response, it could be said that as for food, water, and drugs, homeopathy is susceptible to improper preparation or handling resulting in unintended contents including heavy metals and harmful chemicals (World Health Organization, 2009, pp. 1-16). Since homeopathic dilutions are specifically manufactured and sold as remedies, it makes little sense to run the risk of exposure to harmful substances when the

benefits of the "remedies" are placebo-like at best. In addition to contamination, some dilutions are made from known poisons such as cyanide and if improperly diluted can cause harm or kill.

Time and time again, health organizations in governments around the world must use valuable resources to investigate sources of homeopathic dilutions which cause harm to people. In one such example a homeopathic treatment for the common cold made with dilutions of zinc compounds (which are considered allopathic drugs at normal concentrations) caused a loss of sense of smell in many users (Kuehn, 2009). After investigations determined that the dilution was not truly homeopathic, and that zinc is known to cause a loss of sense of smell, the FDA began yet another evaluation of the safety standards for homeopathy. Zinc compounds are used in many drugs regulated by the FDA; however, lobby groups speaking on behalf of the industry have made it very difficult for the FDA to regulate homeopathy, and many special exceptions are allotted for it, essentially opening loopholes in regulation through which these remedies pass unhindered. Reading between the lines, the industry managed to get a "FDA Approved" stamp to hide behind while avoiding many of the regulations imposed on other drugs. In addition to the physical dangers posed directly by homeopathic remedies, there is the issue of those who forego conventional treatment and use homeopathy as treatments for serious conditions such as cancer. Exposing the public to various substances toted as cure-alls leaves the door open for unscrupulous salesmen and misinformed or ideological physicians to convince patients to treat serious illness with what is essentially water instead of proven, science-based medicine. What's more, according to NIH director, Dr. Josephine Briggs, citing a 2007 survey done by the Centers for Disease Control and Prevention, Americans spent in excess of three billion dollars that year alone on homeopathy (NBC News, 2009). Add that sum to the untold millions spent on research (talk about beating a dead horse) and one is left with the question, "Could this money be spent more effectively?" In today's climate of economic challenges, shrinking research budgets, and limited economic mobility should we really be spending billions upon billions of dollars on magic potions when, with just a little more research, diseases like cancer and HIV infection can be eradicated like so many killers of the past?

No, we should not. Doctors and other medical practitioners should not have their time wasted on magic potions, snake oil, or cure-alls and the resulting damage caused by their use. Researchers trying to cure cancer should not be in competition for funding with mystics brewing magic water. Politicians should not be considering budgets that divert limited tax revenue to aid the cause of charlatans perpetuating a myth from a time long ago simply because the practice doesn't involve cutting a person or drilling into their head. Homeopathy is bunk, a fantasy of a long-dead purveyor of pseudomedicine in a time when the practice of any care was more dangerous than only giving water to a patient and assuring

them everything will be all right.

Throwing away billions of dollars a year of limited income, limited research grants, and limited tax revenue on this is a fool's errand; and allowing the unregulated administration of potentially dangerous substances as if they were medicine is about as irresponsible an action as a government can take. What's more, the perpetuation of a scam which preys on the fears and superstition of sick, vulnerable people is an abhorrent demonstration of bad morals and we, as a people, should be opposed to any such institution.

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Tom Kaznowski is a student at Community College of Philadelphia., is a biochemistry major, a skeptic, and a critical thinker. Tom has a science blog site at: http://s-bct.blogspot.com/

Anti-Vaccination Update

by Paul Schlueter III



There's good news and bad news on the battlefront of the vaccine wars. Nathan Seppa updated some of the most recent statistics in "More infants get vaccines late," his article in the Feb. 23, 2013 Science News.

On the good side, Seppa writes, "the public resistance to vaccines that emerged a decade ago appears to [be] subsid[ing]." He didn't discuss any of the reasons why this may be so, but we can hope that efforts from the skeptic community to educate parents about the pseudoscience behind the supposed vaccine/autism connection may have been somewhat successful.

On the bad side (and thus, the title of his article), a research report published in the Jan. 21, 2013 journal JAMA Pediatrics says that rates of delay in getting infants their routine shots have CLIMBED since 2004. It is reported that one eighth of vaccination delays were intentional (as opposed to inadvertent misses or lapses in insurance coverage).

Jason Glanz, an epidemiologist (and the JAMA Ped. article's co-author) from the Institute for Health Research at Kaiser Permanente (Denver) says, "Some parents see the bunching of recommended vaccinations as risky and try to space our their children's shots." This parental conclusion leads to what is sometimes called "alternative scheduling," a euphemism for parents' attempts to second-guess the scheduling established by medical experts.

Infants are scheduled to receive 23 shots during the first two years, immunizations against "diptheria, tetanus, pertusis, hepatitis, measles, mumps, rubella, polio, rotavirus, pneumonia, meningitis, and chickenpox." Glanz sympathizes to a point, conceding that "You can see the parents' perspective in saying that's a lot."

Seppa got a rebuttal argument from Edgar Marcuse, a physician from the University of Washington School of Medicine (Seattle): " ... timely immunization is important precisely because many of these diseases occur In the first years of life. There is no credible scientific evidence to suggest that putting off vaccination protects children." Marcus further argues, "Spacing out the vaccines delays protection, increases the risk that some vaccines will be omitted and increases the cost by requiring multiple visits without yielding any demonstrated benefit."

Ganz's published study reviewed vaccination records of 320,000 infants In eight managed care organizations across the U.S. They considered shots "on time" if they were given within one month of the scheduled dates. 49% of the children were more

DEADLY CHOICES HOW THE ANTI-VACCINE MOVEMENT THREATENS US ALL PAUL A. OFFIT, M.D.

Deadly Choices:

How the Anti-Vaccination Movement Threatens Us All.

By Paul Offit, MD

Publisher: Basic Books; 1 edition (December 28, 2010) Language: English Hardcover: 288 pages ISBN-10: 0465021492 ISBN-13: 978-0465021499

There's a silent, dangerous war going on out there. On one side are parents, bombarded with stories about the dangers of vaccines, now wary of immunizing their sons and daughters. On the other side are doctors, scared to send kids out of their offices vulnerable to illnesses like whooping

cough and measles--the diseases of their grandparents.

How did anyone come to view vaccines with horror? The answer is rooted in one of the most powerful citizen activist movements in our nation's history. In Deadly Choices, infectious disease expert Paul Offit relates the shocking story of antivaccine America--its origins, leaders, influences, and impact. Offering strategies to keep us from returning to an era when children routinely died from infections, Deadly Choices is a vigorous and definitive rebuttal of the powerful anti-vaccine movement.

than a month late for at least one vaccination, and of those, 20% were more than 100 days late, a period during which they were unprotected from the relevant disease. What is the bottom line? Ganz reports, "Children who had delayed vaccinations had fewer outpatient clinic visits but 20 to 30 percent more hospitalizations than did kids who were vaccinated on time."

It seems clear that the work isn't over for concerned skeptics. If you know someone who has a new baby, encourage them to closely follow the immunization schedule recommended by their pediatrician. It's one thing to miss an appointment and delay shots for a week or so, now and then; it's a whole other story for the parent(s) (particularly those not trained In medicine) to simply determine that they know better than the doctors. Missing initial immunizations delays protection needlessly; missing booster shots (particularly for extended periods of time) weakens the effectiveness of the booster, and may even require a repeat of the initial shot! If one-eighth of parents are shirking their responsibilities towards the health of their kids, and causing preventable hospitalizations in 10% to 15% of kids overall, there still seems to be a substantial public health issue that needs to be addressed.

Meanwhile, let's not forget about the ones who might still think vaccines are a conspiracy of Big Pharma and the medical establishment to pick their pockets; whether it's immunizations for the kids, or your own seasonal flu shot, these things are as important as the oil change and tune-up schedules for your precious vehicle. The people who KNOW what they're doing have figured out the most reasonable schedule for preventative care, and it's up to the rest of us to follow instructions and the schedules.

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Update to this article from the author:

In the April 19, 2013 issue of the Week, the following brief article ran on page 8:

"Swansea, U.K., Measles Outbreak: Hundreds of British children have come down with measles since November, thanks to parents who refuse to vaccinate their kids. An outbreak in Wales has sickened more than 600 children, while another in northeast England has stricken about 200. Many British parents still believe the discredited research by British scientist Andrew Wakefield, who in 1998 wrongly posited a link between vaccines and autism based on a study of just 12 children. The paper was retracted, and subsequent, much larger studies show no such link, but the belief lingers. 'We cannot emphasize enough that measles is an illness that can kill,' said Welsh health official Dr. Marion Lyons."

It appears that the game remains afoot!

Editor's notes:

1.) Baby dies of whooping cough (pertussis) in Orange County, Florida. This sad event happened mid-April of 2013. The parents chose to not have their child vaccinated.

http://www.wftv.com/news/news/local/baby-dies-whooping-cough-orange-co/nXXqP/

- 2.) From the World Health Organization
- Measles is one of the leading causes of death among young children even though a safe and cost-effective vaccine is available.
- In 2011, there were 158 000 measles deaths globally about 430 deaths every day or 18 deaths every hour.
- More than 95% of measles deaths occur in low-income countries with weak health infrastructures.
- Measles vaccination resulted in a 71% drop in measles deaths between 2000 and 2011 worldwide.
- In 2011, about 84% of the world's children received one dose of measles vaccine by their first birthday through routine health services up from 72% in 2000.

http://www.who.int/mediacentre/factsheets/fs286/en/

3.) About 1 of every 100 children infected with chickenpox will develop a severe lung infection (pneumonia), an infection of the brain (encephalitis), or a problem with the liver. Dangerous skin infections also can occur. Before the introduction of the vaccine, about 100,000 people were hospitalized and 100 people in the United States died each year of chickenpox, most of them previously healthy children. Adolescents and adults who develop chickenpox are also at high risk of developing serious complications.

http://www.intelihealth.com/IH/ihtIH/WSIHW000/9339/9704.html

PHACT CALENDAR

PhACT Events

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



Saturday, May 18, 2013 - PhACT Expedition to the Heinz NWR

On Saturday, May 18, 2013, you are invited to join PhACT for an expedition to the John Heinz National Wildlife Refuge at Tinicum where we will look for the Ape Boy of the Chester Swamps, a half-ape, half-human creature with thick reddish fur, something like a local Bigfoot, who is said to be lurking somewhere in the refuge. Our guide will be Don Nigroni who has hiked, biked and kayaked there for many years and is a volunteer Weed Warrior at Heinz. We will meet at the Visitor Center at 10:00 AM and will be hiking 3.3 miles around the impoundment. We may not find the Ape Boy but we will learn about the rich history and natural history of this urban wildlife refuge. Bring insect repellent, sturdy shoes, lunch, binoculars and a camera. The event is free. See page 1.

Saturday, June 15, 2013 - PhACT Picnic

Everyone is welcome to this easy going free event at Mondauk Commons Park in Upper Dublin. See Page 5 or more information.

Saturday, September 21, 2013 - AIDS Denialism - Nicoli Nattrass of South Africa will talk on AIDS denialism. Hundreds of thousands of people are thought to have died based on misinformation concerning AIDS and treatments. Learn about how science is reducing the deaths and spread of the disease even though irrationalism has been doing the opposite.

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 **phactpublic-ity@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, May 13, 2013 at 6:00 p.m.at National Mechanics, 22 S. Third Street, Philadelphia, PA 19106

Science on Tap

A monthly gathering that features a brief, informal presentation by a scientist or other expert followed by lively conversation. Good food and beer. Must be 21 or accompanied by parent.

Free and open to the Public.

http://scienceontapphilly.com/

Monday, May 13, 2013 @ 8:00 PM - 9:00 PM at Delaware County Institute of Science, 11 Veterans Square, Media, PA 19063

http://delcoscience.

Through the Eyepiece: the Life of Frances S. Keeley A lecture by Eric Marsh, Technology Officer, DCIS

Lectures are FREE and presented upstairs in the Lecture Hall. Doors open by 7:30 PM. Lectures begin at 8 PM.

Monday, May 13, 2013 at 7:30PM at the Free Library of Philadelphia, 1901 Vine Street, 19103 215-686-5322

Nathaniel Philbrick | Bunker Hill: A City, A Siege, A Revolution

The New York Times bestselling author of modern and authoritative historical narratives, Nathaniel Philbrick's works include the National Book Award-winning In The Heart of the Sea and Boston Globe Horn Book Award recipient Revenge of the Whale, which both recounted the mythically tragic 19th century sinking that inspired Melville's Moby Dick. Philbrick's other books include Mayflower, a Pulitzer Prize finalist; Sea of Glory, which circled the earth's oceans with the U.S. Exploring Expedition of the 1840s; and The Last Stand, a chronicle of the iconic clash at Little Bighorn in 1876 that gave birth to the legend of Custer's Last Stand. In Bunker Hill, Philbrick offers a fresh perspective on the first major battle of the American Revolution, closely examining the cataclysmic nature of how our country began.

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

Buy tickets online http://libwww.freelibrary.org/authorevents/

Horace W. Goldsmith Foundation Endowed Lecture

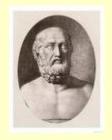
Wednesday, May 15, 2013 Lecture at 5:30 PM Followed by the Annual Members' Reception 7:00 - 8:00 PM at the Wagner Free Institute of Science, 1700 West Montgomery Avenue, , Philadelphia, PA 19121 ph 215-763-6529 www.wagnerfreeinstitute.org

The History of Museums

Pennsylvania

An Illustrated Lecture by DR. DAVID BROWNLEE, University of

SOCRATES CAFE is moderated by: Lewis Mifsud, Ph.D., P.E., a member of PhACT and of The American Academy of Forensic Sciences. At 7:00 PM every Monday evening except holidays (on Tuesdays after a Monday holiday) at the Springfield Township Public Library (215-836-5300) at 1600 Papermill Mill Road, Wyndmoor, PA. This philosophical discussions group is free and open to the public. Join us



and share your critical thinking, questions and opinions.

From the opening of Charles Willson Peale's Museum in 1786 to the inauguration of the new home of the Barnes Foundation on the Parkway in 2012, Philadelphia has been a center of innovative museum design. Museums have been built or reshaped in every era of its history, expressing the encyclopedic curiosity of the Enlightenment, the midcentury "workshop of the world," and the post-industrial "City Beautiful." Dr. David Brownlee will explore the forces that made Philadelphia a city of museums.

David Brownlee is the Frances Shapiro-Weitzenhoffer Professor in the History of Art at the University of Pennsylvania. He is a historian of modern architecture and urbanism whose interests embrace a wide range of subjects from the late 18th century to the present. His work is widely published and he has received three major publication awards from the Society of Architectural Historians. His most recent book is The Barnes Foundation: Two Buildings, One Mission (2012). Free and open to the Public.

Wednesday, May 15, 2013 at 7:00 PM at Frankford Hall on Frankford Avenue just north of

Philadelphia Nerd Nite .. be there and be square,

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

For more information see the website at http://philadelphia.nerdnite.com/updates/ The next Nerd Nite is Wednesday, June 12, 2013.

Open to the Public. Admission \$5.00 Wednesday, May 15, 2013 at 6:00pm, departing from Laurel Hill Cemetery's Gatehouse entrance at 3822 Ridge Avenue, Philadelphia, PA 19132. Free parking is located in the lot across the street from the

http://www.thelaurelhillcemetery.org/

OF BLESSED MEMORY:

Gatehouse.

JEWISH NOTABLES of LAUREL HILL CEMETERY

When Laurel Hill Cemetery was founded in 1836, its early popularity was, in part, tied to its support of democratic ideals: admission was free; personal expression was encouraged and, most importantly, religious affiliation did not matter. Men and women of all faiths, or perhaps none at all, would choose to make Laurel Hill their final place of rest. This walking tour of the cemetery will specifically highlight the lives and careers of many of the Jewish notables who impacted the history of Philadelphia. Discover their stories and explore their nineteenth, twentieth

A New Reading Circle: The Institute for Religion and Science.

Our Reading Circle is meeting from 6:30 pm – 8:00 pm beginning in November on the second Monday of the month in the William Walker Room of the Logue Library to discuss Ilia Delio's The Emergent Christ. If you are interested in joining us, please contact us at Institute4RS@chc.edu

See website: www.irands.org

and twenty-first century contributions to the city. The program will be followed by a light reception with wine and appetizers, and will mark Jewish American Heritage Month. By congressional resolution, May is the national month of recognition of the 350-year history of Jewish contributions to American culture, acknowledging the achievements of American Jews in fields ranging from sports, arts and entertainment to medicine, business, science, government and military service.

The cost is \$20/person; \$18/students and seniors; \$17/members. Reservations are suggested. Tickets can be purchased at the door, or in advance by phone (215) 228-8200 or online.

Guide: Carol R. Yaster

Wednesday, May 15, 2013 at 12:00n – 1:00PM 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

Food & Thought: Improving on Perfection: The Challenges of Curating Private Collections

Speaker: Derick Dreher, PhD, the John C. Haas Director of the Rosenbach Museum & Library in Philadelphia

When private collectors transfer their personal collection of art, rare books, or other objects to a public institution, they often transfer their personal values with it. This makes working with private collections a rewarding exercise that reveals all the quirks of the person(s) behind them. However, it can also be a major headache when private collections place stipulations on the use of the collection in the future. How can a public institution reconcile the private wishes of sometimes long-dead collectors with the need to grow and change?

Open to the public. Cost \$12.50 includes lunch. Register at: http://rosenbach.eventbrite.com/#

Saturday, May 18, 2013 at 9:30-2:30 at the 1696 Thomas Massey House in Broomall, PA

Historian Clarissa Dillon, PhD



Hands-on Cooking Workshop: Preparing a mid-spring meal in the 18th Century manner. For information and to register, call Clarissa Dillon (610) 642-4269

Sunday, May 19, 2013 at 1:00pm, departing from Laurel Hill Cemetery's Gatehouse entrance at 3822 Ridge Avenue, Philadelphia, PA 19132. Free parking is located in the lot across the street from the Gatehouse.

http://www.thelaurelhillcemetery.org/

ALWAYS on TAP:

A HISTORY of PHILADELPHIA'S WATER SYSTEM

Just as the Schuylkill River flows past Laurel Hill, the history of the Philadelphia water system also runs deep in the story of the cemetery. This walking tour of the site will pay homage to its permanent residents who invented the means by which the city receives its water today, and will cover even those early methods that weren't so successful. We will also explore how Philadelphia's growth hurt the water supply, and the colorful fights behind the making of a truly modern water system.

The cost is \$12/person; \$10/students and seniors; \$9/members. Tickets can be purchased at the door, or in advance by phone (215) 228-8200 or online.

Guide: Michael Lewandowski, P.E.

Friday, May 17, 2013 at 8:00pm, departing from Laurel Hill Cemetery's Gatehouse entrance at 3822 Ridge Avenue, Philadelphia, PA 19132. Free parking is located in the lot across the street from the Gatehouse.

http://www.thelaurelhillcemetery.org/

LUNAR STROLL:

PHOTOGRAPHING LAUREL HILL AFTER HOURS

Photo enthusiasts: grab your cameras, tripods and flashlights, and capture the ethereal wonders of Laurel Hill Cemetery after the sun goes down. During this guided stroll through the site's picturesque landscape, participants will visit some of its most photogenic spots and evocative statuary, while learning to paint with light using only a flashlight and



ambient iridescence. You will be over the moon with excitement once you see your unique images! You will also have experiences to share from this rare and intimate exploration of the cemetery long after its gates close for the night. Photography experience is recommended, but not required. Lunar Strolls will occur on the third Friday of every month from May through August.

The cost is \$15/person general admission. Advance reservations are required. Tickets can be purchased at the door, or in advance by phone (215) 228-8200 or online.

Guide: Emma Stern

PhACT Event

Saturday, May 18, 2013 at 10:00 AM

Come join PhACT for a seriously scientific expedition to the Heinz National Wildlife Refuge.

See page 1 for more details.

Tuesday, May 21, 2013 at 7:30PM at the Free Library of Philadelphia, 1901 Vine Street, 19103

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

Jeremy Scahill | Dirty Wars: The World Is A Battlefield

Jeremy Scahill is an award-winning investigative journalist and the author of the bestselling book Blackwater, about the world's fastest-growing private army and a powerful player in the War on Terror. A two-time recipient of the George Polk Award and a frequent contributor to the Nation, Scahill is a correspondent for Democracy Now! and a Puffin Foundation Writing Fellow at The Nation Institute. From Afghanistan, Pakistan, and Somalia, into al Qaeda-held territory in Yemen and beyond, Dirty Wars documents the new paradigm of the American battlefield. Based on interviews with CIA agents, mercenaries, and elite Special Operations Forces operators, Scahill reveals the dark human consequences of the wars the United States struggles to keep hidden.

Cost: FREE

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

Wednesday, May 22, 2013 at 12:00PM at the Free Library of Philadelphia, 1901 Vine Street, 19103

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

Mark Tercek | Nature's Fortune: How Business and Society Thrive by Investing in Nature

Mark Tercek is president and CEO of The Nature Conservancy, the global conservation organization. A former managing director for Goldman Sachs, where he spent 25 years, he champions natural capital. Tercek was appointed by New York Governor Andrew Cuomo to serve on the 2100 Commission, created in the wake of Hurricane Sandy to improve the state's infrastructure for future storms. He serves on the boards of Resources for the Future, the Nicholas Institute for Environmental Policy Solutions, and the Commission on Climate and Tropical Forests, and is a member of the Council on Foreign Relations. In Nature's Fortune: How Business and Society Thrive by Investing in Nature, he explores why nature is the foundation of human well-being and of utmost importance for economic progress.

Cost: FREE

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

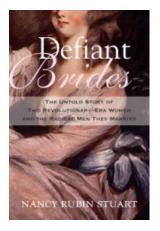
Wednesday May 22, 2013 at 7:15 PM at Saint Peter's Lutheran Church, 3025 Church Road, Lafayette Hill, Pennsylvania, 19444. There is a large parking lot across the street.

American Revolution Round Table of Philadelphia,

http://arrtop.com/

Nancy Rubin Stuart on her New book (April 2013) **Defiant Brides; The Untold Story of Two Revolutionary-Era Women and the Radical Men they Married.** She will becoming from Cape Cod to give this talk.

Free and open to the Publick.



Friday, May 24, 2013 at 10:00am, departing from Laurel Hill Cemetery's Gatehouse entrance at 3822 Ridge Avenue, Philadelphia, PA 19132. Free parking is located in the lot across the street from the Gatehouse. http://www.thelaurelhillcemetery.org/



General George G. Meade (1815-1872)

MONTHLY FOURTH FRIDAY TOUR SERIES:

HOT SPOTS and STORIED PLOTS

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

May's walking tour will take place on

The cost is \$8/person general admission; \$5/members. Tickets can be purchased at the door, or in advance by phone (215) 228-8200 or online. Guide: Terri Greenberg

Sunday, May 26, 2013 at 12:00pm sharp. Visitors can enter through Laurel Hill's Gatehouse at 3822 Ridge Avenue, Philadelphia, PA 19132. Free parking is located in the lot across the street from the Gatehouse.

http://www.thelaurelhillcemetery.org/ MEMORIAL DAY PARADE, SERVICE and RECEPTION

The traditional Decoration Day service of the Grand Army Meade Post #1

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

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

Master of Ceremonies: Andy Waskie, Ph.D.

Thursday May 30 5:30 PM-8:30 PM at The Academy of Natural Sciences of Drexel University 1900 Benjamin Franklin Parkway Philadelphia, PA 19103

Beyond Green: How can sustainable design transform our lives? Featuring Rob Fleming

Join us as we consider ways to lay the groundwork for new and transformative approaches to sustainable design that are ambitious, authentic, and ultimately lifesaving.

Growing numbers of people are embracing greening as a core behavior in the 21st-century economy. But are we doing enough? Given the increasing threats of human-induced global warming, sea level rise, catastrophic weather patterns, and habitat destruction, designers are under pressure to make significant developments in sustainable design.

The leap from the current low standards of greening to more ambitious sustainable design requires a fundamental shift to a regenerative model where buildings clean the air and water, send energy back to grid, and produce zero waste. Such a jump will require us to realize that we are living in a manmade climate that is hotter, less predictable than in previous years, and threatening to human existence. This conversation enables us to think beyond green as an afterthought as we use sustainable practices to demonstrate our own adaptation and resilience.

Registration begins at 5:30 p.m.

Program: 6–7:30 p.m.

Book signing and networking reception 7:30–8:30 p.m.

Light refreshments will be available.

Register: http://beyondsustainabledesign-eorg.eventbrite.com/

Saturday, June 1, 2013 at 1:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

http://www.thelaurelhillcemetery.org

1863: GETTYSBURG BEFORE and AFTER:

150th ANNIVERSARY EXHIBIT OPENING, TOURS, LECTURE, DINNER

From 2011 through 2015, states, cities and institutions across the United States, and including Laurel Hill Cemetery, will mark the Sesquicentennial of the American Civil War. Many of those men engaged in battle, fighting on the sides of both the Union and Confederacy, now rest at Laurel Hill. The site also holds sacred the remains of many prominent Civil War-era Philadelphians, including volunteer nurses, surgeons, and supporters of the war effort. In 2013, Laurel Hill will launch a commemorative 150th Anniversary Exhibit focusing on the principal participants in the events of 1863 – leading up to, including and following the Battle of Gettysburg. The exhibit will highlight an elite group of military figures and citizens whose contributions to the war and war effort together epitomize the stories of the peoples who lived during and through this stirring era in our nation's history.

The official exhibit opening will take place on Saturday, June 1 at 1:00pm, and will be followed by a day of commemorations and activities remembering the momentous year of 1863 in our nation's history. After an historic walking tour and wreath-laying at Laurel Hill Cemetery, attendees will travel to sister cemetery, West Laurel Hill, for an informative lecture presentation, and a tour of more prominent Civil War gravesites. The day will conclude with a casual cocktail and dinner reception inside West Laurel Hill's historic Conservatory.

The program will commence at Laurel Hill Cemetery, 3822 Ridge

Avenue, Philadelphia, PA 19132, and continue at West Laurel Hill, 215 Belmont Avenue, Bala Cynwyd, PA 19004. Participants will be responsible for their own transport (2 miles) between locations. Directions will be provided. Free parking is located in both cemeteries.

The full program, including exhibit opening, tours, presentation and dinner, will run approximately 6 hours. The cost is \$40/person general admission. Advance registration is required. Tickets can be purchased by calling (215) 228-8200 or online.

Guides: Andy Waskie, Ph.D. and Russ Dodge

Tuesday, June 4, 2013 at 7:30PM at the Free Library of Philadelphia, 1901 Vine Street, 19103

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

Jessica Wapner | The Philadelphia Chromosome: A Mutant Gene and the Quest to Cure Cancer at the Genetic Level

In The Philadelphia Chromosome, science journalist Jessica Wapner reconstructs the crucial breakthroughs in discovering the links between cancers and their genetic causes. The story unfolds over 50 years, from the first glimpse of a genetic mutation—dubbed the Philadelphia chromosome—in 1959 to determining its role in causing chronic myeloid leukemia and the development of a revolutionary drug that made this oncefatal cancer treatable with a single daily pill. Wapner's articles about healthcare and medicine appear in the New York Times, Scientific American, Slate, Science, and Psychology Today. Her writing on cancer research and treatment also appears in Oncology Business Review, Cure, and CR, and her blog, Work in Progress, focuses on the ethics and economics of drug development.

Cost: FREE

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

Wednesday, June 5, 2013 at 6:00 pm at University of Pennsylvania Museum, 3260 South Street, Philadelphia, PA 19104

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

"Great Battles: Moments in Time that Changed History" Evening Lecture

Hannibal's Secret Weapon in the Second Punic War

Hannibal, a Carthaginian commander who lived ca. 200 BCE, is considered one of the greatest military commanders in history. His use of the environment in his warfare against Rome in the Second Punic War-often called the Hannibalic War-set precedents in military history, utilizing nature and weather conditions as weapons to complement his generally smaller forces. This strategic marshaling of nature could be described as a "second, secret army," as demonstrated in his battles at Trebbia, Trasimene, and Cannae. Admission with advance registration: \$5, general public; \$2, Museum members; \$10 at the door based on availability. To register, visit www.penn.museum/ greatbattles.



Statue of Hannibal at the Louvre Museum in Paris. Public domain photo

Thursday, June 6, 2013 at

7:30PM at the Free Library of Philadelphia, 1901 Vine Street, 19103 http://libwww.freelibrary.org/authorevents/

Gordon Campbell | The Hermit in the Garden: From Imperial Rome to Ornamental Gnome

Distinguished historian Gordon Campbell is the author of numerous books on literature, art, history, and biography, including the bestseller Bible: The Story of the King James Bible. Professor of Renaissance Studies at the University of Leicester, he is a fellow of the British Academy and a former chair of the Society for Renaissance Studies. In 2012 he was awarded the Longman-History Today Trustees Award for a lifetime contribution to History. In The Hermit in the Garden, his interests in cultural history, architectural history, and designed landscapes converge in a study of the 18th-century craze for ornamental hermits in the grand gardens of Georgian England. Campbell traces the story of garden hermits from their distant ancestors in imperial Rome to their humble descendant, the garden gnome.

Cost: FREE

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

Saturday, June 8 at 8:00pm (with a prescheduled rain date of Saturday, June 15 at 8:00pm.) at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

http://www.thelaurelhillcemetery.org

GOTHIC AMERICANA FOLK and BLUES CONCERT:

presented by THE BAILEY HOUNDS

Philadelphia-based band, The Bailey Hounds, released their first fulllength album, Along the Gallows, in 2011 to much critical acclaim. Since then, their unique sound - mixing acoustic and electric, folk and rock have earned them a loyal and deserved following. They gained significant international attention after their live acoustic cover of Pantera's "The Great Southern Trendkill" was shared by Pantera on Facebook. The music of The Bailey Hounds has been described as Gothic Americana, influenced by folk and blues, but inspired by the macabre and melancholy, rendering a cemetery the most fitting of venues. Join us for this summer concert under the stars at Laurel Hill. Bring your own blankets or beach chairs, picnics, and/or beverages.

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

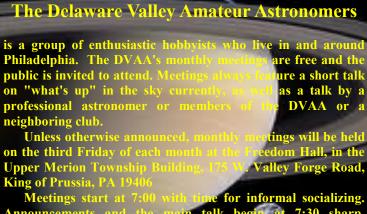
The cost is \$10/person general admission. Reservations are requested. Tickets can be purchased at the door, or in advance by phone (215) 228-8200 or online.

Monday, June 10, 2013 at 6:00 p.m.at National Mechanics, 22 S. Third Street, Philadelphia, PA 19106 Science on Tap

A monthly gathering that features a brief, informal presentation by a scientist or other expert followed by lively conversation. Good food and beer. Must be 21 or accompanied by parent.

Free and open to the Public.

http://scienceontapphilly.com/



King of Prussia, PA 19406

Meetings start at 7:00 with time for informal socializing.

Announcements and the main talk begin at 7:30 sharp.

Refreshments are provided. Upcoming club events are listed on the DVAA website: http://dvaa.org



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/

Tuesday, June 11, 2013 at 7:30PM at the Free Library of Philadelphia, 1901 Vine Street, 19103

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

Rick Atkinson | The Guns at Last Light: The War in Western Europe, 1944-1945

Pulitzer Prize-winning writer and military historian Rick Atkinson is the bestselling author of An Army at Dawn, The Day of Battle, The Long Gray Line, In the Company of Soldiers, and Crusade. He served as a reporter, foreign correspondent, and senior editor for 25 years at the Washington Post. His many awards include the George Polk award, the Gerald R. Ford Award for Distinguished Reporting on National Defense, and the Pritzker Military Library Literature Award for Lifetime Achievement in Military Writing. The Guns at Last Light: The War in Europe, 1944-1945 is the final volume in Atkinson's Liberation Trilogy, a sweeping narrative history of the U.S. military's role in the liberation of Europe in World War II

Cost: FREE

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

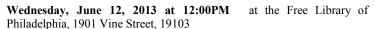
Wednesday, June 12, 2013 at 7:00 PM at Frankford Hall on Frankford Avenue just north of Girard Avenue.

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/
The next Nerd Nite is Wednesday, July 10, 2013.

Open to the Public. Admission \$5.00



http://libwww.freelibrary.org/authorevents

Gene Robinson | God Believes in Love: Straight Talk About Gay Marriage

The first openly gay bishop in the Episcopal Church, Gene Robinson served as the ninth Bishop of the Diocese of New Hampshire and is the world's leading religious spokesperson for gay marriage. He is a senior fellow at the Center for American Progress in Washington, D.C., where he works to develop policy about faith and LGBT issues, and a longtime advocate for antiracism training in the diocese and wider church. He is the co-author of three AIDS education curricula for youth and adults, as well as the book In the Eye of the Storm: Swept to the Center by God. Knitting theology with secular arguments, his new book makes a clear case for the necessity of same-sex marriage. Cost: FREE

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

PhACT Event

Saturday, June 15, 2013 - at 10:AM to 2:00 PM

The annual PhACT Picnic will be at Mondauk Commons Park in Upper Dublin, PA

See page 5 for more details.

Monday, June 17, 2013 at 7:30PM at the Free Library of Philadelphia, 1901 Vine Street, 19103

http://libwww.freelibrary.org/authorevents

Joseph Ellis | Revolutionary Summer: The Birth of American Independence

Award-winning author Joseph J. Ellis's shrewd analysis and lyric prose have made him one of the premier historians of early American history. Winner of the Pulitzer Prize for Founding Brothers and the National Book Award for American Sphinx, Ellis provides fresh insight into familiar subjects, from the life of Thomas Jefferson to the signing of the Declaration of Independence. Ellis received the Daughters of the American Revolution Award for The Passionate Sage, a biography of John Adams in which he brought to life the personality and achievements of America's second president. His other critically acclaimed books include His Excellency George Washington, American Creation, and First Family. In Revolutionary Summer, Ellis focuses on the political and military events of the dramatic summer of 1776.

Cost: FREE

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

Tuesday, June 18, 2013 at 7:30PM at the Free Library of Philadelphia, 1901 Vine Street, 19103

http://libwww.freelibrary.org/authorevents

George Packer | The Unwinding: An Inner History of the New America

With a "far more coherent worldview than most reporters" (The New York Times Book Review), George Packer writes extensively on foreign affairs. A New Yorker staff writer, Packer was honored with two Overseas Press Club awards in 2003 for his coverage of the war in Iraq and his reporting

Night Skies in the Observatory at the Franklin Institute Every second Thursday About Night Skies in the Observatory

Hosted by Chief Astronomer at The Franklin Institute, Derrick Pitts, the



Joel N. Bloom Observatory is open late to the public and offers 5 different telescopes for you to view celestial objects in the sky, including stars, planets, nebulae, and if conditions are right, a galaxy or two. The evening includes a Fels Planetarium show and a lecture or presentation (appropriate for ages 5 and up) on an astronomical or space science topic. The Observatory is staffed with knowledgeable observers and free star maps are provided. Meet

some BIG STARS on the second Thursday of each month at The Franklin Institute! Admission is \$5.00. Members are free. Advance reservations are not needed. Tickets are sold on-site when you arrive.

http://www2.fi.edu/exhibits/permanent/bloomobservatory.php

on the civil war in Sierra Leone. His books include the New York Times bestseller The Assassin's Gate: America in Iraq and Blood of the Liberals, winner of the Robert F. Kennedy Book Award. In The Unwinding, Packer tells the story of America over the past three decades, weaving together intimate stories of Americans with biographical sketches of the era's leading public figures.

Cost: FREE

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

Thursday, June 20 at 6:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

http://www.thelaurelhillcemetery.org

ALL DRESSED UP and SIX FEET BELOW:

THE MOVERS and SHAKERS of OLD PHILADELPHIA

While the movers and shakers of Laurel Hill Cemetery have neither moved nor shook for the better part of a century, their stories of power, influence and tremendous wealth still provide captivating fodder for a novel, soap opera or cemetery tour! Learn how the politicos and industrialists of Philadelphia's yesteryear used their positions, for better or for worse, to shape and reshape the city in this summer evening walking tour of Laurel Hill Cemetery. The program will be followed by a light reception.

The tour 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.

The cost is \$20/person; \$18/students and seniors; \$17/members. Reservations are suggested. Tickets can be purchased at the door, or in advance by phone (215) 228-8200 or online.

Guide: David Horwitz, Ph.D.

Friday, June 21 at 8:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

http://www.thelaurelhillcemetery.org

LUNAR STROLL:

PHOTOGRAPHING LAUREL HILL AFTER HOURS

Photo enthusiasts: grab your cameras, tripods and flashlights, and capture the ethereal wonders of Laurel Hill Cemetery after the sun goes down. During this guided stroll through the site's picturesque landscape, participants will visit some of its most photogenic spots and evocative



statuary, while learning to paint with light using only a flashlight and ambient iridescence. You will be over the moon with excitement once you see your unique images! You will also have experiences to share from this rare and intimate exploration of the cemetery long after its gates close for the night. Photography experience is

recommended, but not required. Lunar Strolls will occur on the third Friday of every month from May through August.

June's lunar stroll 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 \$15/person general admission. Advance reservations are required. Tickets can be purchased at the door, or in advance by phone (215) 228-8200 or online.

Guide: Emma Stern

Saturday, June 22 at 7:00pm (with a prescheduled rain date of Friday, June 28 at 7:00pm.) at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

http://www.thelaurelhillcemetery.org

MUSIC for the HEARING EYE: CONCERT ATOP the CRYPTS presented by THE DIVINE HAND ENSEMBLE In the fall of 2012, the Divine Hand Ensemble treated audiences at Laurel Hill Cemetery to the musical event of a lifetime. Their performance comprised the first time in 250 years that a program of funerary music was performed publicly and the first time ever in America! This summer, the Ensemble will be returning to Laurel Hill to enchant and delight with music unlike any other now being performed. Witness Mano Divina, leader of the Ensemble, harness electricity with his fingertips and draw music out of the air as master of the Theremin, an early electronic musical instrument controlled without discernible physical contact from the player. In addition to this rare instrument, the Ensemble includes a string quartet, classical guitar, two harps, a glockenspiel, a soprano and a tenor, together rendering an unforgettable listening experience. Bring your own blankets or beach chairs, picnics, and/or beverages.

The Divine Hand Ensemble's music has been described as hypnotic, breathtaking and mesmerizing, an "amalgamation of magic, science and music." The International Review Board notes them as "a must-see experience that will leave a remarkable impression for a lifetime." There are thus few more appropriately ethereal settings to take in the power of this performance than historic Laurel Hill Cemetery, where the Ensemble will be performing a selection of contemporary and classical compositions for the twenty-first century audience.

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

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

Monday, June 24, 2013 at 7:30PM at the Free Library of Philadelphia, 1901 Vine Street, 19103

http://libwww.freelibrary.org/authorevents

Margalit Fox | The Riddle of the Labyrinth: The Quest to Crack an Ancient Code

An award-winning journalist originally trained as a linguist, Margalit Fox is a senior writer at the New York Times. When archaeologist Arthur Evans unearthed the ruins of a sophisticated Bronze Age civilization that flourished on Crete, he discovered a cache of clay tablets written in 1450 B.C. Fox's new book The Riddle of the Labyrinth blends history, linguistics, and cryptology, in telling the story of the 50-year quest to decipher the mysterious ancient script known as Linear B found on these tablets. She is also the author of Talking Hands: What Sign Language Reveals About the Mind, the story of a remote Bedouin village with an unusually high incidence of deafness where relative isolation enabled the creation of an indigenous sign language.

Cost: FREE

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

Tuesday, June 25, 2013 at 7:30PM at the Free Library of Philadelphia, 1901 Vine Street, 19103

http://libwww.freelibrary.org/authorevents

Anchee Min | The Cooked Seed: A Memoir

"A wild, passionate and fearless American writer" (New York Times), Anchee Min is the author of Red Azalea, a memoir of growing up during the violent trauma of the Cultural Revolution, where Min spent time in a labor camp and was chosen for a lead role in a propagandist movie before the Mao communist regime collapsed. The book exists as "a powerful political as well as literary statement" (The New York Times Book Review). Min has since written six other works of historical fiction, including Becoming Madame Mao and Empress Orchid. Twenty years after the publication of Red Azalea, Min returns with the next chapter of her life story in The Cooked Seed, moving from the appalling deprivations of her birthplace to the sudden bounty of America, without language, money, or a clear path.

Cost: FREE

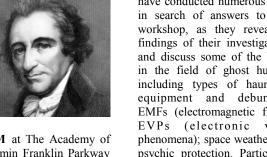
No tickets required. For Info: 215-567-4341.

Wednesday June 26, 2013 at 7:15 PM at Saint Peter's Lutheran Church, 3025 Church Road, Lafayette Hill, Pennsylvania, 19444. There is a large parking lot across the street.

American Revolution Roundtable of Philadelphia (ARRTOP)

http://arrtop.com/

Steve Gulick performing as Thomas Paine Free and open to the Publick.



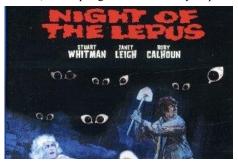
Thursday June 27, 2013 at 6:30 PM-10:00 PM at The Academy of Natural Sciences of Drexel University 1900 Benjamin Franklin Parkway Philadelphia, PA 19103

Mega-Bad Movie Night: Night of the Lepus

Join us at the Academy after hours to watch some "awesomely awful" movies. The Academy's own experts will be onstage to comment on the many scientific absurdities—think Mystery Science Theater 3000!

In this installment, we'll be showing Night of the Lepus.

In addition to the movie, Mega-Bad Movie Nights include cash bar and snacks, a sampling of the Academy's specimens, live animals, and the



opportunity to wander among the exhibits including Butterflies!

On stage commentators for June 27:

•Paul Callomon -Malacologist (seashell studying) British man famed for his opening remarks

•Ms. Teri Scott - snarky woman pulled from her

real job as Marketing Manager

•Mark Sabaj-Perez - Icthyologist (fish expert) you may remember from Mega-Piranha in 2011

Mega-Bad gets Mega-Better in 2013!

You asked and we listened! Our drink menu has just significantly expanded to include several beer selections and wine

You must be 18+ years of age to attend these events (and 21+ to drink).

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

http://www.thelaurelhillcemetery.org

MONTHLY FOURTH FRIDAY TOUR SERIES: HOT SPOTS and STORIED PLOTS

Join Laurel Hill Cemetery for this 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. BRAND NEW "Hot Spots and Storied Plots" will be presented monthly as part of Laurel Hill Cemetery's Fourth Friday tour series, which take place on the fourth Friday of every month at 10:00am. June's walking tour will take place on, departing from Laurel Hill Cemetery's Gatehouse entrance at 3822 Ridge Avenue, Philadelphia, PA 19132. Free parking is located in the lot across the street from the Gatehouse.

The cost is \$8/person general admission; \$5/members. Tickets can be purchased at the door, or in advance by phone (215) 228-8200 or online. Guide: Rich Wilhelm

Saturday, June 29 at 8:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

http://www.thelaurelhillcemetery.org

GHOSTS AMONG OUR GRAVES:

WORKSHOP and GHOST HUNT

presented by FREE SPIRIT PARANORMAL INVESTIGATORS

Is there anything on the other side? What becomes of our life energy after we die? Professional ghost hunters, Free Spirit Paranormal Investigators, have conducted numerous investigations of historic Laurel Hill Cemetery in search of answers to these questions. Join FSPI for this unique

workshop, as they reveal the findings of their investigations, and discuss some of the basics in the field of ghost hunting, including types of hauntings; equipment and debunking; EMFs (electromagnetic fields); EVPs (electronic voice phenomena); space weather; and psychic protection. Participants will then have the opportunity to experiment firsthand with ghost hunting equipment, while



joining FSPI team leaders on group investigations of some of the cemetery's most reportedly active sections. After the hunt, refuel with complimentary snacks and refreshments.

The program will take 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 \$30/person general admission; \$25 students, seniors and members. Advance reservations are requested. Tickets can be purchased at the door, or in advance by phone (215) 228-8200 or online.

Sunday, June 30 at 1:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

http://www.thelaurelhillcemetery.org

AMERICA'S SECOND WAR OF INDEPENDENCE: **LAUREL HILL'S 1812 VETERANS**

As part of continued commemorations of the Bicentennial of the War that has historically been referred to as "America's Second Revolution", the battle experiences, lives and deaths of the many War of 1812 Veterans buried in Laurel Hill Cemetery will be detailed. The War was the start of long and distinguished careers for some of these men, who would later go on to lead the United States military in conflicts such as the Mexican and Civil Wars.

The 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; \$10/students and seniors; \$9/members. Tickets can be purchased at the door, or in advance by phone (215) 228-8200 or online.

Monday, July 8, 2013 at 6:00 p.m.at National Mechanics, 22 S. Third Street, Philadelphia, PA 19106 Science on Tap

A monthly gathering that features a brief, informal presentation by a



scientist or other expert followed by lively conversation. Good food and beer. Must be 21 or accompanied by parent.

Free and open to the Public. http://scienceontapphilly.com/

Tuesday, July 9 at 6:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

http://www.thelaurelhillcemetery.org

THE NATURE OF A GREAT AMERICAN CEMETERY

In addition to containing the remains of some of Philadelphia's most beloved residents, Laurel Hill Cemetery preserves extraordinary natural history too, overflowing with trees of all kinds, weeds and wildflowers, birds and bugs, and animals by the score. On a lively walk across the grounds, Mike Weilbacher, Executive Director of the Schuylkill Center for Environmental Education in Roxborough, introduces you to the names and life stories of the cemetery's natural residents, from lowly clover flowers tucked in the grass to a massive sycamore tree anchoring the cemetery's

center. We'll also share some of the natural connections to acclaimed scientists interred there like David Rittenhouse and the Wistar family, and look for natural metaphors carved into the monuments (dung beetles, anyone?). It's a cemetery the way you've never seen it before: full of life. The 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 general admission. The program will be followed by wine and beer. Reservations are suggested. Tickets can be purchased at the door, or in advance by phone (215) 228-8200 or online.

Wednesday, July 10, 2013 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



Thursday, July 11, 2013 at 7:30PM at the Free Library of Philadelphia, 1901 Vine Street, 19103

http://libwww.freelibrary.org/authorevents

Gary Greenberg \mid The Book of Woe: The DSM and the Unmaking of Psychiatry

A practicing psychotherapist and science writer, Gary Greenberg probes the intersection of science, politics, and ethics. His book Manufacturing Depression, called "probably the most thoughtful book on depression ever written" (Psychology Today), is an investigation into ideas about suffering, its source, and its relief. Greenberg's other books include The Self on the Shelf: Recovery Books and the Good Life and The Noble Lie: When Scientists Give the Right Answers for the Wrong Reason. His articles appear in many academic and popular publications, including Wired, Rolling Stone, and Mother Jones. His new book is an exposé of the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders—the psychiatric profession's bible—and the flawed process by which mental disorders are invented.

Cost: FREE

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

Saturday, July 13 at 9:00pm, (with a prescheduled rain date of Saturday, July 20 at 9:00pm.) at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

http://www.thelaurelhillcemetery.org

CINEMA in the CEMETERY

Sit back and relax with a drink, some popcorn and some friends on this summer movie night under the stars. After the sun sets, the grainy joys of the film experience will be brought to audiences amid the historic tombs of Laurel Hill Cemetery. Bring your own blankets or beach chairs, picnics, and/or beverages.

Gates open at 8pm. Ticket holders can check in at Laurel Hill Cemetery's Gatehouse entrance, 3822 Ridge Avenue, Philadelphia, PA 19132. Free parking is located in the lot directly across the street from the Gatehouse. The movie to be screened will be announced shortly.

The cost is \$10/person general admission. Advance reservations are requested. Tickets can be purchased by phone (215) 228-8200 or online.

Thursday, July 18 at 6:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132, 215-228-8200

http://www.thelaurelhillcemeterv.org

WHAT'S in a NAME? THE FAMOUS PEOPLE NOT BURIED AT LAUREL HILL

An estimated 75,000 permanent residents now inhabit historic Laurel Hill Cemetery. They include illustrious names synonymous with America herself, such as George Washington and his wife, Martha. A bit later in national history when the Civil War erupted, Robert E. Lee was known to citizens on both sides of the Mason Dixon; his name now graces a

headstone in Laurel Hill. Fast forward to our contemporary culture; Indiana Jones and Harry Potter are household names. They are also names inscribed above earthy beds in Philadelphia's city of the dead. Learn the stories of the famous and the infamous, the real and the figurative folks of past and present not buried at Laurel Hill. The program will be followed by a light reception.

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

Guides: Terri Greenberg and Jeff Wiernik

Friday, July 19 at 8:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

http://www.thelaurelhillcemetery.org

LUNAR STROLL:

PHOTOGRAPHING LAUREL HILL AFTER HOURS

Photo enthusiasts: grab your cameras, tripods and flashlights, and capture the ethereal wonders of Laurel Hill Cemetery after the sun goes down. During this guided stroll through the site's picturesque landscape, participants will visit some of its most photogenic spots and evocative

statuary, while learning to paint with light using only a flashlight and ambient iridescence. You will be over the moon with excitement once you see your unique images! You will also have experiences to share from this rare and intimate exploration of the cemetery long after its gates close for the night. Photography experience is recommended, but not required. Lunar Strolls will occur on the third Friday of every month from May through August. July's lunar stroll 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 \$15/person general

admission. Advance reservations are required. Tickets can be purchased at the door, or in advance by phone (215) 228-8200 or online.

Guide: Emma Stern

Monday, July 22, 2013 at 7:30PM at the Free Library of Philadelphia, 1901 Vine Street, 19103

http://libwww.freelibrary.org/authorevents

Oliver Sacks | Hallucinations

In conversation with Anna Dhody, curator Mütter Museum

Known for his ability to describe the intricacies of the medical world using accessible and engaging prose, renowned neurologist Oliver Sacks is the author of numerous bestselling books that detail the inner workings of the brain, including Musicophilia, The Man Who Mistook His Wife for a Hat, An Anthropologist on Mars, and The Mind's Eye. Called "the greatest living ethnographer of those fascinating tribes who live on the outer and still largely uncharted shores of the land of Mind-and-Brain" (Guardian), Dr. Sacks illuminates what hallucinations reveal about the organization of the brain and why the potential for hallucination is a vital part of the human condition in his new book.

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

http://libwww.freelibrary.org/calendar/calbydate.cfm? ID=38291&SeriesID=PFLL

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

http://www.thelaurelhillcemetery.org

MONTHLY FOURTH FRIDAY TOUR SERIES:

HOT SPOTS and STORIED PLOTS

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

Guide: Kerry Bryan

Sunday, July 28 at 1:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200 http://www.thelaurelhillcemetery.org

"THE FRENCH CONNECTION" at LAUREL HILL

From its architecture (City Hall) to its avenues (Benjamin Franklin Parkway) to its events (International Flower Show) to its art (Rodin Museum), Philadelphia bears a French influence and presence that, in some respects, is rivaled only by Paris itself. This walking tour of Laurel Hill Cemetery will explore many of the notable French Americans who have helped to shape our region's culture and identity. Bon voyage! The 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, or in advance by phone (215) 228-8200 or online. Guide: Andy Waskie, Ph.D.

Thursday, August 8, 2013 at 7:30PM at the Free Library of Philadelphia, 1901 Vine Street, 19103

http://libwww.freelibrary.org/authorevents

Clark DeLeon | Pennsylvania Curiosities (Volume Four)

"Philadelphia's favorite columnist" (Philadelphia Magazine), Clark DeLeon wrote "The Scene," a beloved daily column in The Philadelphia Inquirer, for 20 years. In 2012, DeLeon returned to the Inquirer with a column entitled "A thousand heartfelt reasons to love Philadelphia" and a mission: "To love my city out loud. To help you love our city the way I do, by describing it the way I feel it, see it, experience it." He is a longtime commentator on local news stations and teaches at Montgomery County Community College. A "sage of Pennsylvania" (Los Angeles Times), DeLeon is the author of four books, including the Curiosity Series, a guide to quirky people, roadside oddities, and offbeat phenomena in the Keystone State. His new book is the fourth volume in the series. Cost: FREE

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

Thursday, August 15 at 6:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

http://www.thelaurelhillcemetery.org

THE STREETS of PHILADELPHIA:

PHILLY STREETS FOLLOWED BY PHILLY TREATS

Philadelphia's streets are as varied as her residents. Whether big and busy boulevards, quiet tree-lined lanes, or gray back alleys with asphalt as weathered as the old brick row homes that line them, each of our city's streets bears a story all its own. Many of those stories end at the same figurative stop sign, however. From Shippen Lane to Gratz Street, Rittenhouse Square to Wayne Avenue, their namesake and extended family origins now rest at Laurel Hill Cemetery. Join us on this twilight trip through Laurel Hill – Philadelphia's ultimate dead end – to learn more about how the roads upon which we live and travel earned their place on the map.

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

Guide: Pete Hoskins

Sunday, August 18 at 1:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

http://www.thelaurelhillcemetery.org

AGE of DISCOVERY:

EXPLORERS, INVENTORS and SCIENTISTS

The nation's Industrial Revolution of the 19th century was accompanied

by advances in many fields of scientific study. Following an illustrated lecture focused on this age of discovery, the gravesites of some of Philadelphia's notable explorers, inventors and scientists will be visited, among them: John Adolphus Dahlgren, inventor of a cannon bearing his name and the "Father of Naval Ordinance;" Robley Dunglison, the personal physician to President Thomas Jefferson and the "Father of American Physiology;" Charles Ellet, Jr., a civil engineer who was a pioneer in the construction of wire

suspension bridges, including the first at Fairmount; Thomas Godfrey, inventor of the sextant; Ferdinand Hassler, an explorer and the first superintendent of the U.S. Coast Survey; Elisha Kent Kane, Arctic explorer; Titian Peale, explorer and naturalist responsible for numerous illustrations of butterflies and moths; and Richard A.F. Penrose, Jr., an economic geologist who traveled to more than sixty countries to study their ore deposits.

This walking tour 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, or in advance by phone (215) 228-8200 or online. Guide: Jeff Wiernik

Friday, August 23 at 10:00am at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

http://www.thelaurelhillcemetery.org

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

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

Monday, September 9, 2013 at 6:00 p.m.at National Mechanics, 22 S. Third Street, Philadelphia, PA 19106

Science on Tap

A monthly gathering that features a brief, informal presentation by a scientist or other expert followed by lively conversation. Good food and beer. Must be 21 or accompanied by parent.

Free and open to the Public.

http://scienceontapphilly.com/

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\$10 for students which include	and would like to join/rejoin for the next year. The des e-mail delivery of Phactum. y annual membership is \$25. Checks should be pa	•
membership.	enclosed to pay for years ofenclosed for additional support dedicated for High School Science Fair prizes	Mail checks to: PhACT 653 Garden Road Glenside, PA 19038
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The Philadelphia Association for Critical

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

PhACT's High School Science Fair Student Prize Funds

Please donate. Small contributions are preferred and donations in excess of the 2013 goal will be applied to the 2014 Prize Fund or some other youth science education project not yet determined.

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

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

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

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

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Phactum Editor, Ray Haupt phactpublicity@aol.com

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