

"When you're one step ahead of the crowd you're a genius. When you're two steps ahead, you're a crackpot."
~ Rabbi Shlomo Riskin,
Lincoln Square
Synagogue, Feb. 1998

Phactum

The Newsletter and Propaganda Organ of the
Philadelphia Association for Critical Thinking
March 2012

editor: Ray Haupt email: phactpublicity@aol.com
Webmaster: Wes Powers <http://phact.org/>

PhACT Meeting - Saturday, March 17, 2012

at Community College of Philadelphia in Lecture Room C2-28 in the Center for Business and Industry
at the corner of 18th and Callowhill Streets. At 2:00 PM.

All are Welcome. This event is Free and Open to the Public. Handicap accessible.

Dr. David Cattell, Chairman of the Physics Department of Philadelphia Community College, will host
Physicist Tom Napier who will discuss

MCHUMOR.com by T. McCracken



"While we weren't able to negotiate a raise, we did get two 15 minute periods a day where you're allowed to tilt at windmills."

Cartoon by T. McCracken
<http://www.mchumor.com/>
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"The New Alchemy"

If we could release it on a small scale, energy from hydrogen fusion would supply mankind's needs for millions of years. Despite an expenditure of billions of dollars, controlled fusion remains a dream --- except in the minds of a few isolated experimenters and their ardent fans.

Tom will explain why physicists are skeptical of Cold Fusion and ask whether two old guys in Bologna can really put the oil companies out of business by the end of next year.

Tom Napier trained as a physicist in Scotland. He has worked for an English university and two European research organizations. He moved to the USA in 1981 where he developed equipment for scientific research and spacecraft communications.

He has been a free-lance writer since 1996 and a member of the Council of PhACT since its foundation in 1994. He has written extensively on free energy schemes.

Cold Fusion by Peter Sheil

Cold fusion's the new holy grail:
Cheap energy, always on sale,
From an atom's odd quirk —
But to get it to work,
For the moment, seems destined to fail.



Letters to the Editor

Editor: I liked Tom Madero's piece on "The Importance of Belief." (Phactum, February 2012) So much to discuss, so little room ...

Medero finds the lack of a school requirement in logic/critical thinking unfortunate, I agree. However, there would be so very many obstacles to imposing such a requirement, it's easy to understand the lack of one. A Jehovah's Witness woman once sincerely proclaimed to me that she WAS a Critical Thinker, and if she weren't, she would have readily accepted whatever dogmatic garbage the local, half-read believers offered, as opposed to the Truth: in which only the JW's ("worldwide") are enlightened. The practice of "Critical Thinking" is much like the terms "smart," "reasonable," or "honest;" in each case, it's quite difficult to find someone who DOESN'T consider that to be among their own desirable attributes. The trick, of course, is in getting everyone to agree on a common definition! This organization could probably benefit from some serious discussion among members to seek a consensus on what exactly the phrase means in the Association's name!

Also, I think that high school is far too late to begin such teaching. The classic children's books featuring Encyclopedia Brown were aimed at kids just learning to read, and even at age 50 I remember story lines that opened my mind at around age 5-7 (in one example, Brown proved "cave paintings" to be forgeries by pointing out that Stone Age humans never saw living dinosaurs, and so would not have painted people sharing scenes with them). "Scooby Doo" cartoons and movies expose young children to the important duty of debunking ghost sightings and related frauds! Sir Arthur Conan Doyle

may have had a few problems with his own personal credulousness, but his character Sherlock Holmes is a hero to elementary school kids in a pretty large portion of the world, specifically for his use of observation and logic.

I think that as soon as a child graduates from the marvel of repeatedly asking "Why?," and moves on to the more advanced inquiry of "How do you know...?," it's time to start teaching that child how to distinguish the credulous from the credible. Instead of wistfully trying to extend a kid's period of believing in Santa, the Easter Bunny, and the Tooth Fairy, wise parents should both welcome and reward the Critical Thinking processes that cause a kid to question those stories, and then lead their children into examining the more pernicious mythologies that permeate so-called adult society. The True Believers are out there proselytizing our children by age 5, and working hard to lead kids (Pied Piper fashion) into specific denominational Baptism by age 10; can we truly withhold responsible, rational rebuttal throughout THOSE formative years?

I'll look forward to more articles from Medero (and others?) on such interesting topics.

Paul Schueter III
Dallas, PA

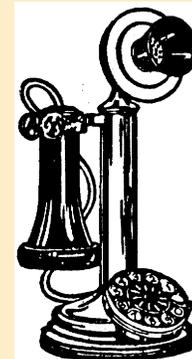
Editor: Some products labeled as homeopathic are not homeopathic. I've seen the word thrown around on products that would not be considered to be diluted. In the February 2012 Phactum, p. 5, you mentioned CharcoCaps as an unusual homeopathic product that might actually work, but it's not; it does work, but it's not homeopathic, at least with regard to the ingredient charcoal. Each capsule contains 260 mg charcoal; two 260 mg charcoal capsules has been the standard dose from long before they added "homeopathic" to the label.

Howard J. Wilk
Philadelphia, PA

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"This 'telephone' has too many shortcomings to be seriously considered as a means of communication. The device is inherently of no value to us."
~ Western Union internal memo, 1876.



Editor: You didn't bungle the usage of complimentary vs complementary in the January 2012 Phactum because you correctly reproduced the error as it appeared in the cited website. The only thing you might have done differently if you had been aware of the error is to put a [sic] after the complimentary to show that it was their error, not yours.

Howard J. Wilk
Philadelphia, PA

Editor: Something atheists/agnostics/humanists seem to lack, at least as far as I've seen, is a sort of "service" or "meeting" to offer a secular analog of religious services. Also tied up in that is a lack of the "priestly" or "pastoral" role, in which a respected community elder is looked to for advice, guidance, and community leadership. There's sort of something that approaches that in Unitarian Universalist meetings, and I'm told that Quakers have similar meetings. I guess it's tough to set up a leader in rationality and ethicality and responsible human emotionalism WITHOUT some sort of dogmatic, doctrinal organization behind him to lend him authority. Such a meeting would naturally lend itself to community debate re. gambling, or abortion, or legalizing pot, etc., in a way that several of Phactum's readers seem to dislike. Why would skepticism need to limit itself to debunking ghosts, weird critters, UFOs, and complementary medicine? Why CAN'T skeptics hash out more serious topics, addressing things that matter to communities and societies, seeking solutions and guidance from Reason rather than Scripture? Some guys seem to want to poke fun at the woo-woos, yet never have to face any serious challenges to their own biases and cherished doctrines, or have to evaluate their own lifestyles in a critical light. I think

there's a certain sort of person who flees from the preachiness of Church, yet they cling to "beliefs" in ways that they don't really want to analyze or admit

Well, there's not going to be any quick answer or solution to that, is there? I guess it's part of the cultural evolution we still need to work our way through. At least trends in apostasy and rationalism seem to be drifting in that direction.

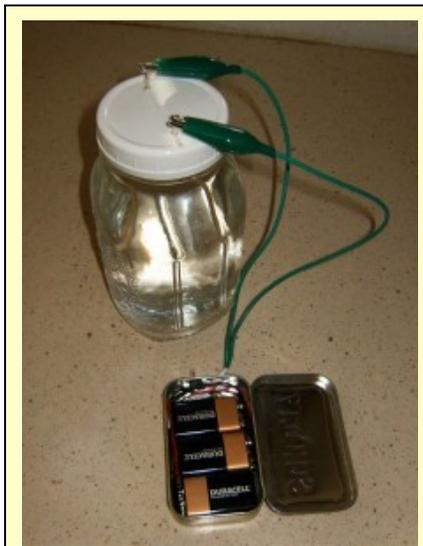
Paul Schlueter III
Dallas, PA

Editor's note: There does indeed seem to be a lack of "pastoral" support facilities for secularists, but it is not a total lacking. In the Philadelphia area there are at least two sources of "life passages" services. See the Freethought Society website: <http://www.ftsociety.org/menu/appreciation-of-secular-occassions/> and also the Humanist Association of Greater Philadelphia: <http://www.hagp.org/celebrant/>.

Editor: I receive a monthly newsletter/magazine from an organization that I belong to (I will conceal the name to protect

the guilty). The newsletter publishes a column of book reviews, which normally are pretty boring, but several months ago they published a review that really caught my notice, but not in a good way. The book details a method to produce home-brewed colloidal silver solution and sell it to the gullible for a tremendous markup. I thought your readers might be interested in my letter to the editor of that publication, which has just been published in their Letters column:

*As an adherent of evidence-based medicine (you know, the kind that actually works), I was appalled to read Mr. _____'s review in the November/December bulletin for the book *How and Why I Started My Own Colloidal Silver Home-Based Business* by _____. Mr.*



A homemade 27 volt colloidal silver generator. We recommend not bothering to do this.

Writing a Letter to the Editor of Phactum is much easier than pulling teeth!

Thoughtful Letters to the Editor and other Correspondence are highly valued for inclusion in Phactum. If you have interest in some matter that interests or bugs you, why not write your thoughts and share those thoughts with other Phactum readers? Writing is the perfect plan to ponder a problem, refine critical thinking skills, and perhaps enlighten others.

Articles, poetry, Letters and Rants to the Editor, spelling corrections, suggestions to improve Phactum, items for the calendar, and other matters of interest are wanted for Phactum. Topics in Science, History, the Occult, and Paranormal are very welcome, but please, no partisan politics.

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



_____ seems to think that it's a splendid idea to brew up this dubious potion at home and "huckster" it yourself, despite the fact that there's a total lack of credible evidence that colloidal silver can successfully treat or cure any condition, let alone the laundry list he mentions (cancer, HIV, diabetes, TB etc.) Not only that, but long-term silver ingestion can lead to a condition called argyria, in which silver salts deposit in the skin, eyes, and internal organs. This condition is permanent -- it cannot be treated or reversed. The skin can develop a bluish discoloration, and not like the big blue chick in *Avatar*, but an ashen grey-blue, which is a great look for your Hallowe'en zombie costume, but pretty repellent the rest of the year. It may be legal to sell this useless concoction, as long as you don't claim that it has any health benefits, but I believe it's highly unethical to: 1. Rip off the rubes; 2. Turn them into social pariahs whose bizarre appearance frightens small children. I earnestly hope that Mr. _____ will exercise more care in the future in his choice of books to recommend.

Elaine Brody, Registered Pharmacist
Paoli, Pennsylvania

Editor's note: For more on argyria and colloidal silver see this item at the Quackwatch website:

<http://www.quackwatch.com/01QuackeryRelatedTopics/PhonyAds/silverad.html>

Editor: I've always been skeptical of what seems to me to be a too-facile dismissal of a reported UFO as "just Venus". But then I read in *The Making of the Atomic Bomb* by Richard Rhodes this excerpt from a letter sent from J. Robert Oppenheimer to Eleanor Roosevelt after World War II:

"Very shortly before the test of the first atomic bomb, people at Los Alamos were naturally in a state of some

tension. I remember one morning when almost the whole project was out of doors staring at a bright object in the sky through glasses, binoculars and whatever else they could find; and nearby Kirtland Field reported to us that they had no interceptors which had enabled them to come within range of the object. Our director of personnel was an astronomer and a man of some human wisdom; and he finally came to my office and asked whether we would stop trying to shoot down Venus. I tell this story only to indicate that even a group of scientists is not proof against the errors of suggestion and hysteria."

Howard J. Wilk
Philadelphia

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Various Ruminations

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

Is Skepticism in a Rut?

In his letter on page 3 Paul Schlueter asks "*Why would skepticism need to limit itself to debunking ghosts, weird critters, UFOs, and complementary medicine?*"

It is a good question suggesting that skepticism as an intellectual movement is sometimes a bit stale, more fizz than bang. Personally I too get a bit bored, but also amused,

"Now, what I want is, Facts. Teach these boys and girls nothing but Facts. Facts alone are wanted in life. Plant nothing else. And root out everything else. You can only form the minds of reasoning animals upon Facts: nothing else will ever be of any service to them. This is the principle on which I bring up my own children, and this is the principle on which I bring up these children. Stick to Facts, sir!"

~ Charles Dickens, *Hard Times*, (1854)

2012 marks the 200th anniversary of the birth of Charles Dickens, born February 7, 2012 just seven days before Abraham Lincoln and Charles Darwin. A splendid week in history for significant births. The Phactum staff continuously channels Dickens, Darwin, and Lincoln to submit articles to Phactum, but so far no luck. We are investigating another approach.



by breathless reports of UFO and Bigfoot sightings, ghost hunting, dowsing and other fluffy pursuits.

Those particular things are for the most part harmless but if one were to dig deeply into any harmless loopy belief there



is generally at least some veiled financial aspect or physical danger. Bigfoot enthusiasm is mainly an amateur avocation and may well be a good thing in that it gets some people to socially venture to the outdoors. I see no use-

ful point in raining on that parade too vigorously unless tax payers money is being wasted on that pursuit. Two years ago a group from PhACT went on a tongue in cheek Jersey Devil Hunt, an exercise really no different than Bigfoot hunting. The Devil was not found but we did learn some local history and folklore and had fun doing so.

Consider though, that there are professional Bigfoot hunters who actually occupy seats in university science departments, teach students, and receive research grant money. Is such frivolous “research” even remotely ethical when that same money could be directed toward real science? Skeptics can and do point out this kind of misrepresentation of science and that is surely a good thing. Add Loch Ness Monster hunters to the same kettle, at least those within the last half century. Hopefully the financing of these “explorations” is private and not at public expense.

Now consider dowsing. For the most part dowsing is a harmless hobby of duffers with time on their hands. It might get them into the outdoors too which is no bad thing. More than likely dowsers have some overpriced metal detector or other device to find the target substance. Harmless. But not so fast. This harmless pursuit can be most deadly when applied to dowsing for landmines. It sounds absurd that a government or anyone else would apply so dodgy a “science” as dowsing to the delicate deal of de-fusing detonators, but that is exactly what has happened in various places around the world. In a short James Randi Education Foundation article written by Phil Plaitt this issue is briefly explained.

<http://www.randi.org/site/index.php/swift-blog/763-when-antiscience-kills-dowsing-for-bombs.html>

Bottom line to the JREF article: anti-science kills.

I am willing to put up with seemingly silly science in

skeptic publications if those articles help defang fraudsters and propels good science.

So is skepticism in a rut? No.

Dengue Fever Outbreak Predicted in Brazil

Brazilian health officials predicted last December (<http://vaccinenewsdaily.com/news/297223-dengue-fever-expected-to-spike-in-brazil/>) that a spike in incidence of dengue fever is expected in 2012. Fortunately the expected strain of the disease is not the most virulent and most victims are expected to recover. In terms of symptoms and discomfort the disease is similar to influenza, and like influenza the very young and very old are most at risk.



Dengue Fever Mosquitos (*aedes aegypti*) usually have black and white stripe markings.

Dengue Fever is a mosquito borne disease common in much of the tropics and sub-tropics, and in recent years has been spreading to increasing numbers of population centers in those areas. The main vector for dengue fever is the *Aedes aegypti* mosquito which lives mainly in urban habitats and breeds mostly in man-made containers. Unlike other mosquitoes *Ae. aegypti* is a daytime feeder; its peak biting periods are early in the morning and in the evening before dusk.

There is no specific treatment for dengue fever beyond bed rest, drinking plenty of fluids, and medication to reduce fever. Aspirin should not be taken. Vaccines are in development in various clinical trials and the most promising may be available by 2015. Perhaps the best public health precaution against this disease is for families to avoid standing water in their surroundings such as in containers and abandoned tires thus reducing mosquito breeding grounds.

Information overload

It our modern computer age we often are overloaded with information and often that information is misleading or polarized in such a way that reality is distorted. PhACT member Eric Hamell is aware of this situation and is organizing a meetup group to discuss the problem as it is laid out in a book by Clay Johnson, author of “*The Information Diet: A*

“In all science, error precedes the truth, and it is better it should go first than last.”

~ Hugh Walpole, English novelist, (1884 - 1941)

Case for Conscious Consumption". Wednesday, March 21, 2012 at 7:00 PM at Midtown II Restaurant, 122 S 11th St, Philadelphia, PA

For more information see:

<http://www.meetup.com/The-Philadelphia-Information-Diet-Meetup-Group/events/52656302/>

Institute for Religion and Science

The Institute for Religion and Science is a new intellectual venture in Philadelphia, hosted at Chestnut Hill College, aimed at the "constructive engagement" of religion & science throughout the Greater Philadelphia Area. Emphasizing an interfaith approach to this interdisciplinary area, the Institute is building a diverse Advisory Board and working on outreach programs to various religious and educational institutions in our Area.

IR&S launched its series of lectures on topics of religion and science in Fall 2011 and recently announced its new Spring 2012 lectures. These lectures are hosted by Chestnut Hill College and will be repeated at several area venues. They will offer opportunities for attendees, and especially students, to interact with the speakers.

There will be many events of interest to Critical Thinkers. For more information, please contact: Kathleen Duffy, SSJ, Ph.D., Director, at [\[tute4rs@chc.edu\]\(mailto:tute4rs@chc.edu\) Information can be found online at: <http://www.irands.org>](mailto:insti-</p>
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Too many clinical trials going unreported

This rather maddening item of what is but modern snake oil appeared in Dr. Stephen Barrett's Consumer's Health Digest of February 16, 2012.

Two recent analyses have found that most clinical trials registered at ClinicalTrials.gov did not have their results posted within a year after they were published and many were never posted. [Kuehn BM. Few studies reporting results at US government clinical trials site. JAMA 307:651-653, 2012]

<http://jama.ama-assn.org/content/307/7/651.full>

The Food and Drug Amendments Act of 2007 requires study sponsors or investigators to register any clinical trials that have a study site in the United States or will be conducted under an investigational new drug application from the FDA. This law also requires most investigators to post summaries of their results on within a year of study completion. Yet:

***One analysis found that 39% of trials were registered late and only 12% of completed studies had been reported and posted on time. [Law MR and others. Despite law, fewer than one in eight completed studies of drugs and biologics are reported on time on ClinicalTrials.gov. Health Affairs 30:2338-2345, 2011]*

INSTITUTE FOR RELIGION AND SCIENCE SPRING 2012 LECTURE SERIES

Events at Chestnut Hill College

Wednesday, March 21: "Near-Death Experiences, After Death Contacts and the Spirits of Sleep Paralysis: The Scientific, Spiritual and Clinical Interface," David Hufford, Ph.D., Senior Fellow, Samuelli Institute

Monday, April 2: "Reflections on Faith and Fossils," Peter Dodson, Ph.D., Dinosaur Paleontologist, University of Pennsylvania

Thursday, April 12: "Heaven and the Heavens," Edward Devinney, Ph.D., Astronomer, Villanova University

Events in alternate venues

Monday, April 16, 7 pm: "Reflections on Faith and Fossils," Peter Dodson, Ph.D., Dinosaur Paleontologist, University of Pennsylvania to be held at the Antoinette

Iadarola Center for Science, Education, and Technology
Lecture Hall at Cabrini College, Radnor, PA

Thursday, May 10: "Heaven and the Heavens," Edward Devinney, Ph.D., Astronomer, Villanova University to be held in the Barn at Pendle Hill Retreat and Conference Center, Wallingford, PA

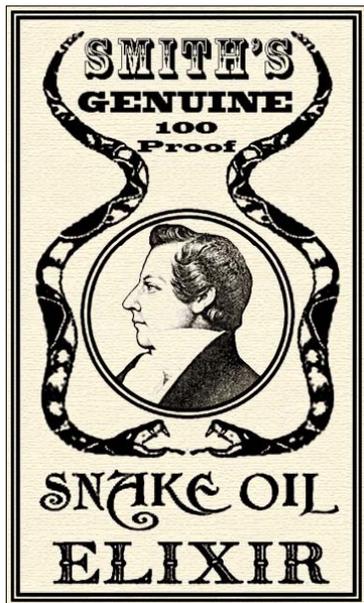
Reading Circle:

John Haught's Making Sense of Evolution: Darwin, God, and the Drama of Life will be the subject of a Reading Circle to be held monthly at the Walker Room, Logue Library at Chestnut Hill College. The first meetings are scheduled for Thursday April 19 and Thursday May 17, 6:30 pm – 8:00 pm. If you are interested in joining at this time, please email Institute4RS@chc.edu for more information.

<http://content.healthaffairs.org/content/30/12/2338.abstract>

***The other analysis found that only 22% had been reported and posted on time. [Prayle AP and others. Compliance with mandatory reporting of clinical trial results on ClinicalTrials.gov: cross sectional study. BMJ 344:d7373, 2012]*

http://www.bmj.com/highwire/filestream/554659/field_highwire_article_pdf/0.pdf



Timely and complete reporting are important for judging the effectiveness of treatments, and If reporting is not complete, the apparent tendency to report positive results more than negative ones ("publication bias") will make some treatments seem more effective than they actually are.

Maddening. What is going on at the NIH that clinical trials and various well funded studies are performed but results are not divulged? This is not a new

situation. In Phactum (September 2008, p.7,8 (<http://phact.org/data/phactums/Phactum%202008-09.pdf>) we discussed some aspects of NCCAM, the National Center for Complementary and Alternative Medicine, and we too noted the paucity of published results. We did identify 10 NCCAM funded Reiki studies where not one word regarding results of the studies was ever made available for inspection. What good are health related research projects when results are not divulged?

Recently, in the January/February 2012 edition of **Skeptical Inquirer**, authors Eugenie V. Mielczarek and Brian Engler, in an article entitled **Culling Non-Science From Scarce Medical Resources**, conclude "after nearly twenty years, \$2 billion of funding, over one thousand awards, and hundreds of clinical trials, it is obvious the mandate is flawed. The success of this use of scarce medical resources was measured by examining all awards by NCCAM, which were available and studying details of all awards from 2000-2011. The cost of these awards came to \$1.3 billion. This study found no discoveries in alternative medicine that would justify the current annual expenditure of \$134 million to maintain the existence of this center."

On the matter of Reiki the authors state: "The awards for Reiki included more than a quarter of a million dollars to determine whether waving hands over fatty rabbits will decrease their cholesterol. Did it? Almost ten years later, we still don't know."

Finally, the authors state: "The lack of publications in

peer-reviewed medical or science journals, and the failure to report clinical trials in scientific medical journals, demonstrates the failure of this expenditure of \$2 billion dollars over nearly 20 years to confirm cures based on cultural myths. Protests from the National Council against Health Fraud and other medical scientists have not been acknowledged by the Department of Health and Human Services (HHS) or its oversight committees in Congress. Worse, Congress has mandated into the 2011 Patient Protection and Affordable Care Act the tax burden of paying for urban legends and commercial interests.

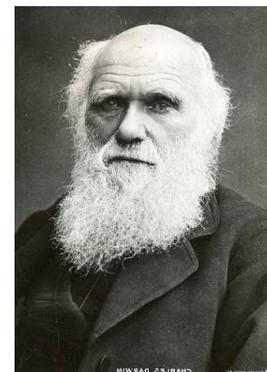
We strongly recommend that the National Center for Complementary and Alternative Medicine be defunded or abolished, and that responsibility for scientific testing of concepts of alternative medicine (integrative medicine) be absorbed into the administrative mantle of the other nineteen institutes and institutes at NIH. Further, we suggest that the continued funding of CAM concepts that have been shown to be ineffective be immediately discontinued."

Darwin Award candidate?

Get a load of this Associated Press news item from Colombo, Sri Lanka March 5, 2012.

It seems that a man in Sri Lanka wished to set the world record for being buried alive. Accordingly he was buried in a trench ten feet deep at 9:30 AM and was dug up at 4:00 PM the same day. He was unconscious and soon died. He was taken to a hospital where Dr. D.G. Costa said a post-mortem could not determine the cause of death and further medical investigations are being conducted.

The cause of death could not be determined? We somewhat brazenly suggest that he died from being buried for over six hours.



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Reiki Master?

Meeting Report(s) - February 2012

“Bioethics and the Evolution of Consciousness” Stacey Ake is Professor of Philosophy at Drexel University

PhACT wishes to thank Jaime A. Cuellar, Marko Kopij, and Samuel Bejin who prepared meeting reports and are Physics students of Dr. David Cattell at Philadelphia Community College.

Contributed by Jaime A. Cuellar

This is a summary of the PhACT meeting that took place on Saturday, February 18, 2012 at Community College of Philadelphia. The speaker was Dr. Stacy Ake of Drexel University.

Deep-brain stimulation, or DBS, is a surgical treatment where an electronic device is inserted into a patient's brain in order to send electrical impulses to different parts of the brain in an effort to treat certain 'untreatable' disorders, such as chronic pain, Parkinson's disease, epilepsy and even depression. In spite of the obvious benefits of curing, or in the bare minimum reducing the symptoms associated with these ailments, certain ethical disputes may arise, especially when taking in consideration the still highly experimental phase of DBS. Furthermore, these moral and ethical questions may appear even more serious as the incentives for deeper exploration of DBS's uses and advantages may not always be in the name of science. In addition to this, the bigger question develops, if DBS is proved to work without major side effects, who is then qualified or able to acquire the potential prosthesis and reap its benefits.



DBS-probes shown in X-ray of the skull. White areas around maxilla and mandible represent metal dentures and are unrelated to DBS devices.

The possible benefits of DBS are heartening and encouraging as they pose a viable way out of pain and suffering from seemingly incurable and/or untreatable diseases. This method of treatment may seem worthy to those in hopeless condition, and may therefore drive patients to ignore the evidently high risks of surgically drilling a hole through one's brain and implanting a pulse generator to directly change the patient's neural activity. For people afflicted by such diseases as Parkinson's, epilepsy and even depression, the highly intrusive surgical procedure may be but a simple and easy to overcome barrier on a path to good health. Through the use of electrical impulses in the brain, the body can be influenced by an exterior agent to stimulate the thalamus, the globus pallidus, or the subthalamic nucleus in an effort to cure the disease or at least relieve the patient of pain. This, however, raises a dilemma since patients may oftentimes ignore the risks, or simply not understand them fully enough to make an informed decision. The risks are so high that patients must sign countless consent forms, time and again with persuasive clauses in order to further stimulate patients' interests. Thus, in many minds the debate of revocation of informed consent vs. informed revocation of consent. Medical jargon can also inhibit patient awareness

of DBS; for example, how can a medical experiment be distinguished from a medical procedure to a patient, especially when that patient is in a 'hopeless' situation with no foreseeable cure.

Another ethical debate arises when we carefully examine the conditions under which the experimental procedures are brought about. Certain government vs. corporate disputes may arise which can dramatically affect the outcomes and consequences of the experiment, and most importantly the purpose and direction of the experiment. One specific example can be how much animal data must be presented in order to start human trials, as on hand corporate can push to a bare minimum of animal trials in an effort to maximize profit, however, federal laws may require more extensive data. This can also lead a conflict of interests from inside government as national and state legislators may have differences in judgment over various topics ranging from age limits and parental consents to safety tests. Moreover, some of these incentives can drive doctors and scientists to push subjects into the experiment, oftentimes giving patients false hope, or the illusion of possible results. MD's

can also give into extravagance, or in this case, giving patients too much hope in the experiment, or downright neglect in which doctors completely fail to report the risks associated.

Yet another ethical dilemma surfaces when a new technology is developed to treat health-related issues. As with any new technology, the cost of use can be too high for the average person to take advantage of, and it is by this predicament that health can be seen by many as a luxury, similar to one owning a yacht. Others can push government to increase spending and make new medical technology a public good, such as vaccines, while others may push for the same idea, seeing, instead, some of these diseases as public dangers and therefore a necessity for society.

In summary, DBS is a fresh new way to fight some of the world's toughest and mysterious diseases such as Parkinson's, chronic pain and even epilepsy, however, DBS does not come alone, but rather with it come many serious risks. These risks must be carefully examined by a patient in laymen terms so that he or she can make an informed decision. Other ethical dilemmas brought on by DBS can be economic as it is usually private corporations that foot the bill, and therefore expect quick results oftentimes, unfortunately, at the expense of science and the patient. In addition, doctors and scientists can be drive patients into the experiment for personal reasons, or at best for future patients without considering the present state of their own. Only the future will let us know if the benefits or even cures will finally outweigh the overlooked risks we are taking now.

Contributed by Marko Kopij

At February's Phact meeting, Drexel professor Stacy Ake spoke on "Bioethics and the Evolution of Consciousness", essentially discussing bioethical elements of the manipulation of our conscious self. That is, exploring a way to see if human behavior or a disease such as depression can be prevented or reduced with a brain implant such as an electrode. Primarily, Dr. Ake discussed how an electrode can be placed in the base of your brain can help stimulate or change/disable a particular illness such as Parkinson's or behavior related disease like depression.

The electrode seemed like a pretty neat idea in concept, however; there were various risks and disadvantages with it such as placing anything inside your brain seems rather risky and can cause damage or the fact that the electrode has a service life and has to be periodically replaced since its performance degrades over time, therefore costing more money in the long run and increasing the risk of possible brain damage due to the procedure.

The discussion soon took a turn to address the issue of gathering experimental data. Much of this discussion addressed the ethical elements of who would pay for the implant and if there would be people willing to be experimented on. As Dr. Ake pointed out, people who treat a certain disease are looking to cure it or disable it. Many times the doctors try many experimental procedures and do not tell the patient about it. Therefore, the electrode would be an experiment, but the ethical elements would be brought up that would lead to choices of telling the patient whether this is an experimental procedure or an attempted cure.

Another point was raised. Even if the patients agreed to the experiment, like any experiment there needs to be various tests, in this case to see the electrodes effectiveness. The electrode would be turned off periodically in order to gain data on its performance. What if the electrode worked for the patient and helped them overcome a disease of a disorder? Why would the patient want to have it turned off?

Furthermore, who would pay for such procedure? If a corporation pays, they would ask for a contract to be signed which would bind the patient to carry out the procedure that would involve the electrode, however; what if the patient wants out? Just like Dr. Ake pointed out, it's like "signing a contract that says do not untie me no matter how much I scream, but when tied up begin to kick and scream."

Nevertheless, much of the discussion of the meeting was about ethical elements of diseases and how they can be approached with an experimental treatment to patients. It was a mixed discussion about brain stimulated technology and the ethics of experimentation on patients with that technology.

Contributed by Samuel Bejin

As soon as I stepped into Dr. Ake's room as she was lecturing, I thought to myself "now here's someone who cares." She was talking about patients and their rights, how they think, what people think of them and how most react to certain situations. One of the lessons she targeted was Risks/ Benefits from patient/ Subject Perspective. For example, most patients want to be cured of something non-fatal as if their life depended on it. You would think that people would try to weigh the advantages over risks but, in fact, most people just want to be cured no matter what the outcome. Dr. Ake mentioned that we should consider the safety of the study and not the efficacy which I totally agree. It's always best to be safe rather than sorry!

One thing I found fascinating was when Dr. Ake was talking about epilepsy. Epilepsy is basically a breakdown of the nervous system and some researchers take advantage of those types of patients. It is hard to find a good treatment for that cause. How much animal data is needed to justify human trials? That shouldn't be the case at all. Perhaps criminals that are on death row could be tested. Positive results could justify further human trials.



2ND ANNUAL PHILADELPHIA SCIENCE FESTIVAL

NAME THAT BEER!

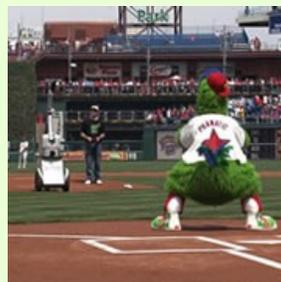
The brewmasters at Yards are again crafting a special batch of beer for the Philadelphia Science Festival. Last year it was a pale ale called "E=MC Beered." This year it's a nice bold Weizenbock. Want to help us name it? Cast your vote at Philly.com/food. Go ahead, um, "hop" to it.



BRAINS AND BRAWN

Tickets for our Signature Events won't go on sale until March - with one notable exception: Science Day at the Ballpark with the Phillies. This was the first event to sell-out last year, so visit here to get yours today.

Science Day at the Ballpark: Saturday, April 28 - 7:05PM (\$20 - \$30)



IT'S ALL FUN AND GAMES.

The Festival again kicks off with an enormous outdoor carnival around Logan Circle on the Benjamin Franklin Parkway. Science comes to life through hands-on interactives, exhibits, live performances, and demonstrations.

Science Carnival on the Parkway: Saturday, April 21 - 11:00AM-4:00PM (Free all day)



75+ PROGRAMS COMING SOON

Explore with your taste buds, meet science superheroes, see beauty in biomechanics and hear the science behind your favorite music. The 2nd Annual Philadelphia Science Festival will have something to excite every sense. Watch for a complete list of immersive, interactive programs - more than 75 in all! - coming to your inbox in mid-February. This year, we'll be requiring reservations to many of the events (even the free ones), so you'll want to register early.

In the meantime, join us on:

- ◆ Facebook (<https://www.facebook.com/PHLScienceFest>)
- ◆ Twitter (<http://twitter.com/phlsciencefest>)
- ◆ Foursquare (<https://foursquare.com/phlsciencefest>)
- ◆ YouTube (<http://www.youtube.com/user/PHLScienceFest>), where you can check out some great program recaps from 2011!

Lecture at Wagner Free Institute of Science

1700 West Montgomery Avenue, Philadelphia, PA 19121

phone 215-763-6529 · fax 215-763-1299

www.wagnerfreeinstitute.org

“Instructing Our Cells to Rebuild Our Bodies”

An illustrated presentation by Dr. James Gearhart, University of Pennsylvania

Weeknights at the Wagner lecture series **Thursday, March 15, 2012,**

presentation begins 5:30 PM

Few topics have had such a major impact on society as stem cell research -- and few discoveries hold such promise for the future of disease treatment. Dr. Gearhart, Director of the Institute for Regenerative Medicine at the University of Pennsylvania, led the research team that first identified and isolated human embryonic stem cells. His groundbreaking research has paved the way for the new field of Regenerative Medicine.

It was only in 1998 that Gearhart and his team isolated human stem cells. Since that time, the emerging field of Regenerative Medicine has rapidly grown and evolved. Regenerative Medicine looks at how cells and tissues are formed and how they can be repaired, regenerated, or replaced. By reprogramming stem cells for regeneration, the patient could essentially heal themselves by growing replacement tissues and organs. This field could profoundly change the way diseases are treated and solve problems of organ donor shortages and organ transplant rejection.

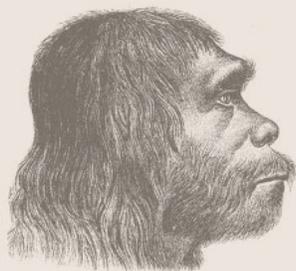
In his presentation, John Gearhart will shed light on the unique properties of stem cells, explaining what makes them so special and how they can be used for organ regeneration and improved drug development. He will also cover the evolution of stem cell research, the current status of the field of Regenerative Medicine and what lies ahead for clinical application.

The Wagner Free Institute of Science is honored to bring Dr. Gearhart here to speak to the public about his pioneering work. He shares a special connection to the Wagner – he spent a large portion of his childhood and young adult life in North Philadelphia while attending Girard College. William Wagner, the founder of the Institute, apprenticed for Stephen Girard for seven years and was inspired by his philanthropic contributions.

Dr. John D. Gearhart is the James W. Effron University Professor and the Director of the Institute for Regenerative Medicine at the University of Pennsylvania. He is leading the field of Regenerative Medicine with groundbreaking research on the basic science of stem cells, stem cell specialization, and the development of stem cell-based therapies for a number of diseases and injuries. He is among the most frequently consulted experts in the stem cell field. As an outspoken advocate for stem cell research, he is committed to educating the public and policy makers about the importance of this research, while also acknowledging and addressing the related ethical concerns.

The museum will stay open until 7 PM for this event. The Lecture begins at 5:30 PM. Come early to explore the Wagner's National Historic Landmark building and its unparalleled collections!

Admission is FREE. Donations of \$10 for adults and \$5 for students and seniors help support the mission. For more information please visit: www.wagnerfreeinstitute.org



Humanity's Bottleneck

By Paul Schlueter III

For several years now, paleontologists have postulated that *Homo sapiens*, our own species, once came very close to extinction, and that the entire breeding population dwindled to a mere handful.

A PBS series of documentaries titled "Human Origins," in three one-hour parts, details much of the current knowledge of our prehistory. In part three, the series describes how several of our ancestor species died off during a series of climate swings in Africa. Current speculation suggests that humanity came down to a mere 600 breeding individuals, almost all residing along the coastline of southern Africa. The theory is that *H. sapiens*, alone among our relatives, had an unique mental flexibility that allowed us to discover and exploit seafood resources, when many other inland resources were dwindling. Because seafood is high in Omega 3 and proteins, it helped to spur our kind to create the first preserved indications of symbolic and aesthetic thinking, in which we rapidly developed many specialized stone tools, first made shell decorations for our bodies, and first used red ochre (a natural mineral) for pigmentation. One famous chunk of ochre from the region and period was found to be cross-hatched in what were most likely decorative or symbolic artificial lines, deliberately carved by some ancient user.

In the August 13, 2011, *Science News*, Bruce Bower wrote "Water's Edge Ancestors," an in-depth synopsis of the latest conclusions of studies of the South African coastal region and beyond. In a cave at Pinnacle Point, South Africa, between 120Kya and 165Kya, one inland cave housed ancient *H. sap.* locals who made leaps in their artifact creation. Studied by Curtis Marean, of Arizona State University, this evidence has opened speculations that humans of the time might have learned to read lunar phases to anticipate "spring tides" (the time, twice each lunar month, when sun and moon pull together on the oceans, drawing tides out to the furthest point).

At the time, the world was going through a cooling phase, and sea levels were as much as 120 meters below today's. Cave PP13B, which now sits practically on the waterline, was then 2-5 kilometers inland. Indications are that shellfish, and later limpets and sand mussels, were a major portion of the natives' menu, supplemented by other inland food sources gathered from within a range of about a dozen kilometers.

H. sapiens originated around 200Kya, and African

climate swings began soon afterwards, lasting from 195Kya to around 123Kya. The ability of south shore humans to develop tide-tracking as a foraging aid appears to have made them the best-adapted to survival during the tough times that killed off nearly every other hominid on the continent (*H. erectus* had long before spread beyond Africa, into Europe, Eurasia, India, and, the far. East). An even-broader adaptability to whatever local environs we encountered probably helped *H. sapiens* to later spread across the rest of the planet, surviving while every other hominid lapsed into



This cave at Pinnacle Point in South Africa is the site of ancient human artifact findings as described in Bruce Bower's article in *Science News*. The complete article may be viewed at:

http://www.sciencenews.org/view/feature/id/332828/title/Water%E2%80%99s_edge_ancestors

extinction. *H. neanderthalensis* caves, dating to around 42Kya, contained remains of Mediterranean fish, dolphins, seals, and even mollusks, but apparently they lacked the huge shell middens (trash heaps) that characterize human seaside sites. It appears that humans were the only ones to effectively PLAN to exploit low-tide resources, while our closest ancient relatives simply lived in the moment, thus missing opportunities close at hand.

There remains some question as to when and where *H. sapiens* actually left Africa. Recent theories move the date

back from the usually-cited 45Kya to around 50Kya, which better fits the exodus of humans into the Philippines and Australia. Scientists are fairly certain that *H. erectus* only evolved into *H. sapiens* in Africa, and NOT in any of the other locations into which it had dispersed. Europe's *H. heidelbergensis*, and the successor Neanderthals, apparently evolved outside Africa, and *H. floresiensis* (the Hobbits) and a variant of *H. erectus* once called-Java man seem to have also evolved from early departures. However, *H. sapiens* emigrated entirely from Africa. It appears that we all come from just a relatively small, population that successfully adapted to South African coastal lifestyles when Nature made survival so difficult elsewhere.

Another find seems to indicate that the earliest Americans were indeed sea-farers. Jon Erlandson, from the University of Oregon in Eugene, reported in the March 4, 2011, *Science* that a pre-Clovis people populated the Channel Islands off California by 12.2Kya. His team has found stemmed stone points and crescent-shaped blades, lying among the bones of seabirds, seals and other sea mammals, and fish (shell middens are also present there). Those stone implements are nothing like Clovis tools, but rather resemble tools found in seaside sites all around both sides of the Pacific rim. Since sites of this cultural fingerprint date as far back as 35Kya in Asia (continuing up until around 15Kya), and as early as

14.5Kya in the Pacific Northwest, Erlandson argues that members of this distinct culture navigated the coastal region from Asia to South America over the millennia.

Since stone tools of the type made by this sea-faring culture appear at sites some way inland in the American West, they may well have ventured deep inland, perhaps to trade. The peopling of the Americas appears to have been far more complicated than ever thought before.

Because human prehistory covers a broad time period, much of which occurred when sea levels were much lower than they are today, scientists are intrigued by the idea that some of the most revealing sites of all could be deep beneath the waves today. It is possible for human divers to swim down to depths of around 100 meters, but only barely, and the time they may spend at those depths is extremely limited. Even if we manage to find underwater caves that earlier humans may once have occupied, excavating them would almost certainly require the use of robotic subs. We're developing such technology, but it is far from ready for the delicate task of doing archaeological research on ancient human remains. Much of the evidence we need to fill in the human story, particularly the part of it that took place in seaside locations long swallowed by ocean, remains tantalizingly just beyond our reach.

How We Know About Humanity's Bottleneck

Geneticists have established a somewhat consistent picture of how often evolutionary changes occur within the human genome. In a theory sometimes called "the Evolutionary Clock," they have attempted to average out the rate of mutations in DNA so they can estimate how long ago a particular mutation took place.

We can see, within the human genome, a certain degree of similarity that results from common ancestry. If we share traits worldwide, then those traits come from ancestors that preceded our dispersal. Traits unique to a single place/time are reliable indicators that descendants having those traits are descended from the line present at that place/time.

We recently discovered that a few faint traces of Neanderthal genes are present in the genome of every human group EXCEPT that which never left the sub-Saharan continent of Africa; from this, we can reliably conclude that humans interbred with Neanderthals a few times, as they migrated out of Africa, and have carried those traces ever since; however, humans FROM Africa remain unaffected, establishing the exodus as a reliable indicator of when the interbreeding took place. Similar methods have led scientists

to the conclusion that our genetic diversity SHOULD BE greater than it is, given the age of our species. The most likely way for this to have occurred was for our entire species to have descended from one relatively small, non-diverse population, which we've now traced to southern Africa.

Since successful mutations persist in the genome, they accumulate like edits in a written story. As subsequent copies preserve the sequence of edits, they continually acquire new edits too. Over time, it is possible to trace the sequence of edits by figuring which copies contain them, and which don't. If you make the assumption that the edits occur at a stable-rate, you can then extrapolate the time lapses between such "edits."

An alternative scenario, perhaps operating within the scenario of stable evolutionary processes, is the theory of "punctuated equilibrium." In this view, the genome is thought to remain relatively stable and unchanged for long periods, but those periods are then punctuated by sudden, abrupt, and dramatic bursts of mutation to several genes at a time. It may be that such bursts are caused by environmental

Phyletic Gradualism is the scientific theory that all creatures evolve through a slow and gradual process. Throughout time organisms undergo small adaptive changes in their behavior and physiology. As more time progresses, adaptations accumulate. Eventually enough small adaptations add up and a new species has been formed.

The theory of phyletic gradualism was first developed by Charles Darwin, one of the leading naturalists of the 19th century. The theory has gone in and out of favor since it was first proposed. In modern times it is one of the most widely accepted theories of evolution.

Punctuated equilibrium is the theory that evolution occurs in short rapid bursts of speciation, which are then followed by long periods of stasis. During stasis organisms remain relatively unchanged. The respected evolutionary biologist Ernst Mayr has theorized that these periods of stasis are the result of genetic and environmental constraints limiting change.

The theory was pioneered by Niles Eldredge and Stephen Jay Gould. Punctuated equilibrium is a theory designed to question the long standing convention of phyletic gradualism as the means of evolution. Yet no theory is perfect and punctuated equilibrium has been highly debated since its inception.

factors (exposure to radioactivity is one extreme example), but the theory also encompasses bursts which might occur spontaneously.

Lacking examples of the genome drawn from specific, independently established intervals of time, it is difficult to exactly determine the evolutionary pace of any line of organisms. Obviously, we know the most about species with very short generations, which we can study under controlled lab conditions. Examples of such species are the famous fruit flies, and the infamous antibiotic-resistant strains of bacteria. By observing such quickly evolving species, scientists try to extrapolate conclusions about how other species might evolve on a slower time scale of generations.

We do have a relatively well-established genetic clock for humanity across the past few thousand years, since we have been able to positively date representative human remains from very specific points in historical time. We have also used processes such as carbon dating, radioactive decay in associated earth deposits, and other methods (all of which have some "plus-or-minus" factor inherent in the results). Of course, the more examples that are studied, and the more the various methods of dating the samples are cross-referenced, the more precisely we come in estimating sample ages. However, DNA itself decays, so we are only able to "read" genomes less than about 40,000 years of age (we continually find ways to extend that time frame.)

Geneticists have still other methods which are more difficult to describe quickly. The methods of this, as in every other, science are carefully developed, and subjected to revision as improvements are developed. The long term development of highly-complex techniques is available for interested persons to study, and open to improvements as we learn more. It literally takes as much as a decade for any one individual to learn and fully understand the details of many of the specialized scientific techniques used today, but through the process of publication and peer review we can rely on other such specialists to help ensure accuracy and reliability in even the most arcane techniques.

When challenged by others with a vested interest in discrediting the body of evolutionary knowledge, we must rely on that portion of the well-backed scientific literature we

have reasonable access to. Through a process including genetic analysis, fossil examination, the dating of geological strata, and reasoned extrapolation from known data, specialists have reached a conclusion which is always subject to further refinement/revision as better evidence becomes available.

We do not simply "believe in" revealed wisdom from some mystical authority, nor anything remotely equivalent. Instead, we accept the best conclusions currently available from reliable experts, verified by other experts who watch over their methodologies; then, we operate with that understanding until a deeper understanding is demonstrated to be superior.

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

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The Philadelphia Sea Serpent

by Don Nigrone

According to the below December 6, 1831 article in the *Inquirer*, Philadelphia, PA, nothing less than a sea serpent was reportedly seen in the Delaware River off Arch Street in Philadelphia on December 3, 1831.

INQUIRER.

PHILADELPHIA.

TUESDAY MORNING, Dec. 6, 1831.

THE NEWS.

Some of the Jersey folk declare that, on Saturday, they saw the Sea-Serpent in the Delaware, between Arch street wharf and the opposite ferry-honse.— He appeared some thirty feet long, splashing like a steamboat, with his head and tail alternately three feet out of the water.

Mark Carwardine noted that adult belugas, the nearest of their five main populations being in the Gulf of St. Lawrence, are about 9 ¾ to 16 ½ feet long, whereas adult right whales, whose range includes the waters off the Delaware Bay, are from 36 to 59 feet long.

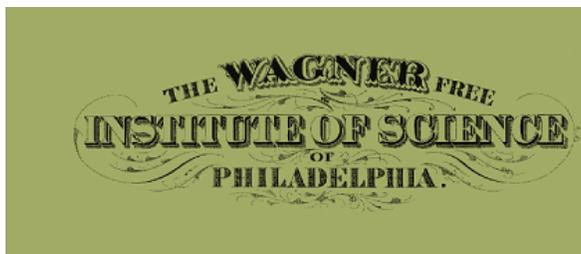
Thus, some people evidently did see a huge elongated marine creature swimming in the Delaware River off Philadelphia way back in 1831 but that critter was evidently a whale, maybe another errant right whale or even a beluga.

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This vacationing beluga whale was photographed in the Delaware River at Florence, New Jersey several miles upstream of Philadelphia, about a mile south as the crow flies from Pennsbury Manor, the mansion of Philadelphia's founder William Penn, constructed 1682 to 1686.

The Delaware River is fresh water at that point and likely was a threat to the whale's health. Food would have been abundant at that time of year during the annual shad migration. This particular whale, a 12 foot male about 30 years old, was known to Canadian Maritime Fishery authorities and had been named Helis. Helis had distinctive scars on his back and was first identified in the St. Lawrence River in 1986.





Wagner Free Institute of Science Adult Education Course Schedule Spring 2012 Courses

Wagner Free Institute of Science courses are open to the general public and are FREE and Open to the General Public, but donations are very appreciated. Courses are taught at the undergraduate level.

Introduction to Pollination Biology, Professor Tatyana Livshultz. 6 Wednesdays, March 21 - April 25, 2012, 6:30 - 7:45 PM. Independence Branch of the Free Library, 18 S. 7th Street (between Market and Chestnut). Pollination evolved 360 million years ago with the evolution of seed plants and is ubiquitous in all landscapes dominated by them. This course will survey the science of pollination biology, including the discovery of plant pollination in the late seventeenth century, plant adaptations to animal pollination and how they evolve, the diversity of pollinating animals, the many ways that plants manipulate animals to achieve pollination, and the importance of pollination to human society. No preregistration required.

Agricultural Science and Policy, Professor David Hewitt. 6 Mondays, March 26 - April 30, 2012, 6:30 - 8:00 PM. Pennsylvania Horticultural Society, 100 N. 20th Street (20th and Arch Streets). This course will provide scientific background to understand selected current issues in agricultural and food policy. Subjects will include ecology, physiology (plant and animal), genetics and molecular/cell biology and will be integrated into discussions of topics in fertilizer production and nutrient management and seed production and biotechnology. Other topics will be discussed.

Preregistration is required. You may register online at:

<https://events.r20.constantcontact.com/register/eventReg?oeidk=a07e5atznm93fafb8a5&oseq=>

or call (215) 763-6529, ext. 23.

How to Become a Certified Heinz NWR Weed Warrior



The mission of the John Heinz National Wildlife Refuge Weed Warriors is to enrich wildlife habitat within the Refuge by participating in the restoration of native plant communities. Weed Warriors recognize that these native plant communities are vital to supporting a rich and diverse population of native wildlife, including more than 300 species of birds. After taking an online training course and attending an in-house workshop and field training, Weed Warriors remove invasive plant species in plots they have adopted or along refuge trails.

Weed Warrior Volunteer Orientation online training can be found at <http://www.friendsofheinzrefuge.org/weedwarriors/intro.html>.

The in-house workshop and field training take place on the refuge. The next scheduled **Weed Warrior In-House Workshop and Field Training Course** will occur on Saturday, **May 26, 2012** from 9:00 am to 3:00 pm and this training will be offered again on **June 23** and **July 21**.

To register for training, please call the refuge at **215-365-3118**.

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, March 17, 2012 - Physicist Tom Napier, a long time member of PhACT, will discuss “**New Developments In Cold Fusion**”. This lecture is rescheduled because of a snow cancellation in January. It will not snow on March 17. In Lecture Room C2-28 in the Center for Business and Industry at the corner of 18th and Callowhill Streets. At 2:00 PM

Saturday, April 28, 2012 - Note: the April PhACT meeting will not be on the third Saturday of April as it would normally be scheduled. Topic TBA



Sunday, March 11, 2012 at 2:00PM at Central Library, 1901 Vine Street, 19103, 215-686-5322

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

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

Alain de Botton | Religion for Atheists: A Non-Believer's Guide to the Uses of Religion

Alain de Botton's aphoristic first novel, *On Love*, was a winking dissertation on romantic love, published when he was just 23. It was followed by several books that explored a philosophy of everyday life, including *The Architecture of Happiness* and *How Proust Can Change Your Life*, which have achieved bestselling status in 30 countries. He also founded and helps to run *The School of Life* in London, dedicated to a new vision of education on how to live well. In *Religion for Atheists*, de Botton offers a practical and provocative argument for religion as a secular resource, boldly encouraging non-believers to borrow from the great wisdoms and beautiful rituals of world religions for everything from building a sense of community to escaping 24-hour media consumption.

Monday, March 12, 2012 at 6:00 PM - Science on Tap takes place at 6pm on the second Monday of every month at National Mechanics, 22 South Third St., Philadelphia 19106

Science on Tap is a monthly gathering that features a brief, informal presentation by a scientist or other expert followed by lively conversation.

<http://scienceontapphilly.com/>

Bonnie Bassler, Squibb Professor in Molecular Biology, Princeton University (who discovered the way that bacteria communicate!) will present “**Tiny Conspiracies: Cell-to-Cell Communication in Bacteria.**” This science café is FREE, open to the public and is hosted by the Wagner Free Institute of Science.

Ages 21+ or accompanied by a chaperone 25 years or older

Tuesday, March 13, 2012 at 6:30PM at College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103, (215) 563-3737 x304

http://www.collphyphil.org/prog_calendar.htm

The Ethics of Using Prisoners as Sources of Cadaver Organs

Speaker: Arthur L. Caplan, PhD, FCPP

The movement to try and close the ever-widening gap between demand and supply of organs by creative strategies has recently arrived at the prison gate in the USA and other nations. While there is some enthusiasm for using prisoners as sources of organs, there are both practical barriers and moral concerns which make it likely that the use of prisoners will not and ought not contribute in any way to relieving the problem of organ shortage through cadaveric donation. Indeed it is time for the medical community to speak up in protest of the continued practice of retrieving organ parts in China and some other nations.

The **PhACT Calendar** is open to members and non-members who wish to announce meetings and events of other groups of which they are interested or affiliated. These events should be of some general interest to the Skeptical or Scientific community and should be within a reasonable radius of Philadelphia. Send submissions to the editor at phactpublicity@aol.com. Keep the announcements brief. Space is limited and insertions will be made on a first come-first served basis after the needs of PhACT are accomplished. Phactum does not accept paid advertising.

Sponsored by the College's Section on Medicine, Ethics, and the Law.

Free. To register: <http://cadaver.eventbrite.com/>

Tuesday, March 13, 2012 at 7:30PM at Central Library, 1901 Vine Street, 19103, 215-686-5322

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

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

George Dyson | Turing's Cathedral: The Origins of the Digital Universe

In the 1940s and 1950s, a group of brilliant engineers led by John von Neumann gathered in Princeton, New Jersey with the joint goal of realizing Alan Turing's theoretical universal machine—a thought experiment that scientists use to understand the limits of mechanical computation. As a result of their fervent work, the crucial advancements that dominated 20th century technology emerged. In Turing's Cathedral, technology historian George Dyson recreates the scenes of focused experimentation, mathematical insight, and creative genius that broke the distinction between numbers that mean things and numbers that do things—giving us computers, digital television, modern genetics, and models of stellar evolution. Also a philosopher of science, Dyson's previous books include *Baidarka*, *Darwin Among the Machines*, and *Project Orion*.

Tuesday, March 13, 2012 at 12:00 to 1:00 p.m. at the Chemical Heritage Foundation, 315 Chestnut Street, Philadelphia, PA 19106

Tel: 215-925-2222 •

<http://www.chemheritage.org>

Brown Bag Lecture - A talk by Rebecca Laroche

Continuing the work of an exhibition at the Folger Shakespeare Library from last year, this presentation places Robert Boyle's experiment "Of turning the Blew of Violets into a Red by Acid Salts, and to a Green by Alcalizate and the use of it for Investigating the Nature of Salts" in the context of the extensive archive of women's medical receipts. In the experiment, Boyle used the common medicine "Syrup of Violets" and its chemical sensitivity of turning color when introduced to acids and bases in developing an early pH indicator. When viewed next to the hundreds of relevant medical receipts, we discover that Boyle's experiment builds upon knowledge collectively held by women and men, including Alathea Talbot and Hugh Plat, in the making of the medicine.

Rebecca Laroche is professor of English at the University of Colorado at Colorado Springs. She has published articles on Shakespeare, early modern women's writing, medical history, and ecofeminism. In 2009, her monograph *Medical Authority and Englishwomen's Herbal Texts, 1550–1650*, appeared in Ashgate's series *Literary and Scientific Cultures of the Early Modern World*. Last year, she was the guest-curator of the exhibition "Beyond Home Remedy: Women, Medicine, and Science" at the Folger Shakespeare Library. The volume *Ecofeminist Approaches to Early Modernity*, which she co-edited with Jennifer Munroe, came out with Palgrave Macmillan in November 2011. She is currently working on a monograph on the importance of collective plant knowledge in Shakespeare's oeuvre.

Free and Open to the Public.

Wednesday, March 14, 2012 at 7:30 PM.

Philadelphia Nerd Nite, an evening of good food, beer, and science lectures, is generally on the second Wednesday of the month. Check the website for details at

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

Thursday, March 15, 2012 4:00 - 7:00 PM

- **Lecture at 5:30 PM** at the Wagner Free Institute of Science, 1700 West Montgomery Avenue, Philadelphia, PA 19121

215-763-6529 www.wagnerfreeinstitute.org

Weeknights at the Wagner

Instructing our Cells to Rebuild our Bodies

An illustrated presentation by Dr. James Gearhart, University of Pennsylvania

Few topics have had such a major impact on society as stem cell research - and few discoveries hold such promise for the future of disease treatment. Dr. Gearhart, Director of the Institute for Regenerative Medicine at the University of Pennsylvania, led the research team that first identified and isolated human embryonic stem cells. His groundbreaking research has paved the way for the new field of Regenerative Medicine.

Free and Open to the Public.

See [page 11](#) for more information.

Thursday, March 15, 2012 at 7:30PM at Central Library, 1901 Vine Street, 19103 215-686-5322

Elaine Pagels | Revelations: Visions, Prophecy, and Politics in the Book of Revelation

Elaine Pagels exploded the myth of the early Christian Church as a unified movement in her 1979 book *The Gnostic Gospels*, which won both the National Book Critics Circle Award and the National Book Award, and was chosen by the Modern Library as one of the 100 best books of the 20th century. Known for her work in translating the Nag Hammadi Library, she joined the Princeton faculty in 1982, shortly after receiving a MacArthur Fellowship. Her other books include *The Origin of Satan*; *New York Times* bestseller, *Beyond Belief*; and *Reading Judas*. In *Revelations*, Pagels examines the historical origin of the New Testament Book of Revelation and the roots of dissent and violence in the world's religions.

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

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

Tickets on sale January 12, 2012 at 10:00 a.m.

Thursday/Friday, March 15 and 16, 2012 10:00AM-3:00PM at The Franklin Institute Science Museum, located in Center City Philadelphia, at the intersection of 20th Street and the Benjamin Franklin Parkway.

Brain Awareness Fair

The Philadelphia Chapter of the Society for Neuroscience and The Franklin Institute present THE BRAIN AWARENESS FAIR. Local brain researchers will be on hand with models, demonstrations, and games to help you learn about your brain!

Free with Museum Admission

National Brain Awareness Week is March 12-18, 2012.

Nerd? We prefer the term
**INTELLECTUAL
BADASS**



SOCRATES CAFE is moderated by: Lewis Mifsud, Ph.D., P.E., a member of PhACT and of The American Academy of Forensic Sciences. At 7:00 PM every Monday evening except holidays (on Tuesdays after a Monday holiday) at the Springfield Township Public Library (215-836-5300) at 1600 Papermill Mill Road, Wyndmoor, PA. 19038. This philosophical discussions group is free and open to the public. Join us and share your critical thinking, questions and opinions.



PhACT Event

Saturday, March 17, 2012 - Physicist Tom Napier will discuss

The New Alchemy - Developments In Cold Fusion.

See Page 1 for more information

Saturday, March 17, 2012 at 1:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurelhillcemetery.org>

St. Patrick's Day Tour, Tastes and Toasts

You don't have to be Irish to be part of this festive St. Patrick's Day tour and reception. Though dead men tell no tales, there are two places that we can learn much about them: the wake-house and Laurel Hill Cemetery. Join us at the latter, as we celebrate the "spirit" of St. Patrick's Day, while honoring the heritage and accomplishments of our proudest Irish souls, now gone to their final reward. 'Tis a festive occasion to be enjoyed by the living, for earth has no sorrows that heaven cannot heal! No St. Patrick's Day would be complete without beer and Irish food; sample both at the after-tour reception in Laurel Hill's historic Gatehouse. The event will be led by Jerry McCormick of Six Counties' descent, and his rebel counterpart of native Irish birth, Bill Doran.

\$20/person; \$18/students and seniors; \$17/members. Advance registration is requested. Tickets can be purchased online, or by calling 215.228.8200.

Wednesday, March 21, 2012 at 7:00 PM at Chestnut Hill College, Commonwealth Chateau (Bldg. 20), Sugar Loaf Campus, 9230 Germantown Avenue, Philadelphia, PA 19118.

Institute for Religion and Science - <http://www.irands.org> "Near-Death Experiences, After Death Contacts and the Spirits of Sleep Paralysis: The Scientific, Spiritual and Clinical Interface"

David J. Hufford, Ph.D., Senior Fellow, Samuelli Institute
Free and open to the public.

Wednesday, March 21, 2012 at 6:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132.

<http://www.thelaurelhillcemetery.org>

Classy Broads and Daring Dames: The Ladies of North Laurel Hill

Laurel Hill Cemetery marks Women's History Month with a program honoring some of their most accomplished broads and dames. What do a Revolutionary War lady patriot, the first burial at Laurel Hill, a great-granddaughter of Benjamin Franklin, and a famous publisher and anti-suffragette have in common? The easy answer is that they are all buried in North Laurel Hill, the Cemetery's oldest section. Join us as we unearth their stories, along with those of other women whose contributions to science and other disciplines have made life as we know it possible. This inspiring tour appropriately takes place on the first full day of spring, and will conclude with a reception and toast to classy broads and daring dames of past and present. The walking tour will be led by independent researcher and Friends of Laurel Hill board president, Carol Yaster.

\$20/person; in honor of Ladies' Night at the Cemetery, women receive 1/2 off admission!

Advance registration is requested. Tickets can be purchased online, or by calling 215.228.8200.

Wednesday, March 21, 2012 at 12:00n - 1:00 PM at College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103, (215) 563-3737 x304

http://www.collphyphil.org/prog_calendar.htm

Food & Thought: "Practical Wisdom: The Right Way to Do the Right Thing"

Speaker: Barry Schwartz, PhD, Professor of Psychology, Swarthmore College

When our social institutions-hospitals, schools, courtrooms, or banks-are not giving us what we need, we reach for two tools to make them work better-more and stricter rules, and smarter incentives. In this talk Dr. Schwartz will argue that neither rules, no matter how strict, nor incentives, no matter how smart, can get us what we need. They are no substitute for virtue, and for the particular virtue that Aristotle called "practical wisdom." Indeed rules and incentives typically make the problem worse. Rules prevent people from developing the skill they need to do the right thing, and incentives undermine people's will to do the right thing. The argument will draw on examples from a variety of different social institutions, including medicine.

Fee for lunch. To register: <http://bschwartz.eventbrite.com/>

Wednesday, March 21, 2012 at 7:00 PM at Midtown II Restaurant, 122 S 11th St, Philadelphia, PA

The Information Diet and how we can apply it in our lives!

National Public Radio recently interviewed Clay Johnson, author of *The Information Diet: A Case for Conscious Consumption*. The essential idea is that our natural human tendency toward confirmation bias -- seeking information that will reinforce our beliefs while avoiding or discounting that which contradicts them -- is exacerbated by modern niche-marketed media, especially search engines and social networking sites that try to show us only what we "like," since that helps them sell more advertising. One consequence, harmful for democracy, is that people are balkanized ideologically, so that liberals hear only information that supports their liberalism, conservatives their conservatism, etc.

PhACT member Eric Hamell has started a meetup group to discuss and apply the ideas in the book so that we can become better information consumers. You can visit the page for its first meeting on 21 March -- and RSVP if you wish -- by following this link:

<http://www.meetup.com/The-Philadelphia-Information-Diet-Meetup-Group/events/52656302/>

Thursday, March 22, 2012 at 6:30 PM at College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103, (215) 563-3737 x304

http://www.collphyphil.org/prog_calendar.htm

Catastrophe and Survival: Yellow Fever and Philadelphia, 1793

The College of Physicians of Philadelphia, in cooperation with History Making Productions, is pleased to present a screening of the newest episode of the documentary series, *Philadelphia: The Great Experiment*, entitled *Fever: 1793* which chronicles the devastating and nearly catastrophic yellow fever epidemic which engulfed the city in the summer and fall of 1793 and returned in 1797, 1798 and 1799. The fever terminated Philadelphia's hopes to retain its role as the nation's capital, badly split the medical community over causes and cures, exposed major rifts in society over race and class and threatened to unravel the precarious threads that bound a young nation together. Only through heroic action and assumption of great personal risk, was Philadelphia even able to survive as a viable community. Matthew Clarkson, a relatively powerless mayor, organized volunteers including Richard Allen and Stephen Girard to take actions to care for the suffering, bury the dead and restore a measure



Benjamin Rush's tranquilizing chair.

Benjamin Rush's Tranquilizing Chair

of calm. Physicians like Benjamin Rush and William Currie persevered in the face of enormous patient caseloads, nearly total gloom and vicious personal attacks from within the medical community to treat victims and administer their therapies. Former slave Sarah Bass was on the front lines helping mostly white families in anticipation that she and many other black nurses would earn the respect and appreciation of their white neighbors, an aspiration not realized in the aftermath of the epidemic. In the end it was the public and civic response to the fever that most characterized the city, through the development of the first municipal water system, reclaiming the areas first planned by William Penn as public squares, implementing a quarantine hospital for immigrants and surging ahead with medical research and innovation.

In addition to presenting the episode and one or two accompanying webisodes, Sam Katz, Executive Producer and Director of the film, will speak about the project and engage in a Q&A session. Sam will be joined by Robert Hicks, PhD, Measey Chair for the History of Medicine, Director of the Mütter Museum & Historical Medical Library, and Helen C. Koenig, MD, MPH, an expert in infectious diseases, each of whom will bring a unique perspective to understanding the threat of major epidemics

to urban populations.

Free. To register: <http://phillyyellowfever.eventbrite.co.uk>

Friday, March 23, 2012 at 10:00am at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurehillcemetery.org>

Laurel Hill: The Hot Spots and Storied Plots

Join us 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 ultimate tour for first-time visitors to Laurel Hill, and anyone else who likes beautiful art, stimulating history, and just enjoying life...even amongst the dead. This walking tour will be led by artist and teacher, Terri Greenberg. 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.

\$8/general admission; \$5/members

Tickets can be purchased at the door, or in advance online, or by calling 215.228.8200.

Friday, March 23, 2012 at 5:30 PM to 7:30 PM at the American Philosophical Society, Benjamin Franklin Hall, 427 Chestnut Street, Philadelphia

To Free a Family: The Journey of Mary Walker by Sydney Nathans

Sydney Nathans is Professor Emeritus of History at Duke University.

The book explores the story of Mary Walker, an enslaved woman from North Carolina who in 1848 fled the Bennehan/Cameron family for refuge in the North—first in Philadelphia, then to Boston—and spent the next seventeen years trying to recover her family. Mary Walker was not reunited with her family until the end of the Civil War. What was it like for a mother to flee slavery, leaving her children behind? This story is anchored in two extraordinary collections of letters and diaries, that of her former North Carolina slaveholders and that of the northern family — Susan and Peter Lesley — who protected and employed her. Sydney Nathans' sensitive and penetrating narrative reveals Mary Walker's remarkable persistence as well as the sustained collaboration of black and white abolitionists who assisted her. Mary Walker and the Lesleys ventured half a dozen attempts at liberation, from ransom to ruse to rescue, until the end of the Civil War reunited Mary Walker with her son and daughter. The book is based in part on letters at the APS, where Peter Lesley was Secretary of the American Philosophical Society in the 1850s and 1860s, and on thousands of letters and diaries in the possession of Lesley descendants.

Unlike her more famous counterparts — Harriet Tubman, Harriet Jacobs, and Sojourner Truth — who wrote their own narratives and whose public defiance made them heroines, Mary Walker's efforts were wrenching and private. Her odyssey was more representative of women refugees from bondage who labored secretly and behind the scenes to reclaim their families from the South. In recreating Mary Walker's journey, *To Free a Family* gives voice to their hidden epic of emancipation and to an untold story of the Civil War era.

Free and open to the public.

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

Wednesday, March 28, 2012 at 7:15 p.m.

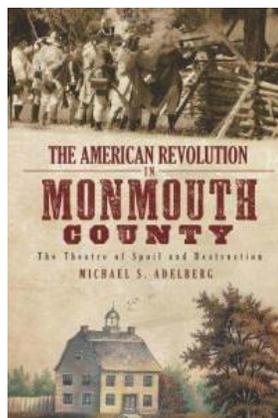
at Brittingham's Irish Pub and Restaurant, 640 East Germantown Pike, Lafayette Hill, Pennsylvania. (610)828-7351.

American Revolution Round Table of Philadelphia (ARRTOP)

<http://www.rrrtop.com/>

Michael S. Adelberg will speak on his book *The American Revolution in Monmouth County (NJ): The Theatre of Spoil and Destruction*

A group of members and most of the ARRTOP Advisory Board will meet for dinner at 5:30 p.m. at Brittingham's and we share dinner with our guest speaker and



you are cordially invited.

Meetings are free and open to the public.

Wednesday, March 28, 2012 at 11:00AM - 12:00 noon at the College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103, (215) 563-3737 x304

http://www.collphyphil.org/prog_calendar.htm

The Public Health Agenda for Pennsylvania

Eli N. Avila, MD, JD, MPH, FCLM, Secretary of Health, Commonwealth of Pennsylvania will join the Section on Public Health and Preventive Medicine at the College to outline his perspective on the public health issues of importance to the Commonwealth of Pennsylvania. Secretary Avila will then join a panel discussion with other public health physicians on the public health priorities for the Commonwealth as well as the Philadelphia and Southeastern Pennsylvania region. Beginning his post on January 18, 2011 as Pennsylvania's top health regulator, Dr. Avila is responsible for carrying out the Health Department's mission to promote healthy lifestyles, prevent injury and disease and to assure the safe delivery of quality health care for all Pennsylvania citizens.

Free. To register: <http://phagenda.eventbrite.co.uk>

Saturday, March 31, at 1:00pm at Laurel Hill Cemetery, 3822 Ridge Avenue, Philadelphia, PA19132. 215-228-8200

<http://www.thelaurehillcemetery.org>

Designing for the Dead: Art and Architecture of Laurel Hill

Noted architects like John Notman, William Strickland, Frank Furness, John J. McArthur, C.C. Zantzinger, Horace Trumbauer and Napoleon LeBrun competed fiercely for the chance to design for the dead. Join us on a walking tour of Laurel Hill Cemetery, where we will see monuments created by these early architects, as well as artists such as Alexander Milne Calder, his son Alexander Stirling Calder, and sculptress Harriet Frishmuth, whose works grace many of Laurel Hill's memorials. Tour stops will also include the gravesites of portraitist Thomas Sully and watercolorist William Trost Richards. The tour will examine changing tastes and fashions in grave markers over the past two centuries, from the classical obelisks and urns of the Federal period, to the richly decorated crosses of the Gothic Revival, to the massive mausoleums of the Gilded Age. This walking tour will be led by Tom Keels, noted author of such books as *Philadelphia Graveyards and Cemeteries*, *Forgotten Philadelphia: Lost Architecture of the Quaker City*, and *Wicked Philadelphia*.

\$12/person; \$10/seniors + students; \$9/members

Tickets can be purchased at the door, or in advance online, or by calling 215.228.8200.

Saturday, March 31 at Lecture at 1:00 PM. Museum is open 12:00 to 4:00 PM - at the Wagner Free Institute of Science, 1700 West Montgomery Avenue, Philadelphia, PA 19121

215-763-6529 www.wagnerfreeinstitute.org

Westbrook Free Lectureship 2012

The Sky is Falling: Whitenose Syndrome in Bats

Dr. Hazel Barton

University of Akron

Dr. Hazel Barton of the University of Akron will discuss *Whitenose Syndrome*, a disease threatening North American bat species with extinction. An expert on microbial life in caves, Dr. Barton is conducting research to find a cure.

Dr. Richard B. Westbrook, Trustee of the Institute from 1884 until his death in 1899, established the Westbrook Free Lectureship as a means to encourage open discourse on scientific subjects, especially "disputed questions in science and the theories of Evolution." Since 1912 when the series began, Westbrook lecturers have included some of the most distinguished scientists and scholars of the past 100 years, among them John Dewey, George Gaylord Simpson, and Margaret Mead.

Monday, April 2, 2012 at 7:00 PM at Chestnut Hill College, Commonwealth Chateau (Bldg. 20), Sugar Loaf Campus, 9230



Germantown Avenue, Philadelphia, PA 19118.

Institute for Religion and Science <http://www.irands.org>
"Reflections on Fossils and Faith"

Peter Dodson, Ph.D., Dinosaur Paleontologist, University of Pennsylvania

Free and open to the public.

Wednesday, April 4, 2012 at 6:30PM at College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103, (215) 563-3737 x304

http://www.collphyphil.org/prog_calendar.htm

Merger Games

Speaker: Judith P. Swazey, independent scholar and an Adjunct Professor of Social and Behavioral Sciences at Boston University Schools of Medicine and Public Health

Merger Games: The Medical College of Pennsylvania, Hahnemann University, and the Rise and Fall of the Allegheny Healthcare System by Judith P. Swazey (Temple University Press, 2011) is the riveting story of the ill-fated merger between Allegheny Healthcare System and Medical College of Pennsylvania and Hahnemann University. The case remains a controversial and highly-debated landmark in academic medicine mergers to this day. Join us as we host the author discussing her book and sharing her insight on this historic event.

Sponsored by the College and its Section on Medical History.

Free. To register: <http://mergergames.eventbrite.com/>

Friday, April 6, 2012 at 7:00 PM in the Greater Plymouth Community Center, 2910 Jolly Rd, Plymouth Meeting, PA.

Delaware Valley Amateur Astronomers

Rehab and Update of Franklin Institute'S 10-Inch Zeiss

Frederick Orthlieb, Professor Emeritus of Mechanical Engineering, Swarthmore.

Free and Open to the General Public

<http://dvaa.org>

Monday, April 9, 2012 at 6:00 PM - Science on Tap takes place at 6pm on the second Monday of every month at National Mechanics, 22 South Third St., Philadelphia 19106

<http://scienceontapphilly.com/>

"Mongolian Fish Hunt"

Mark Sabaj Pérez, Ichthyology Collection Manager at the Academy of Natural Sciences of Drexel University

Join Dr. Mark Sabaj Pérez as he shares tales of the Academy's ichthyological adventures in northern Mongolia. In 2006 Pérez led a team of American and Mongolian scientists that set out from Ulaanbataar to find the Amur catfish, the world's most northern catfish and smaller cousin to the giant Wels catfish made famous in many anglers' prized photographs. The challenges of Mongolian fieldwork ranged from outsmarting difficult transportation and fishing in icy rivers to enduring freak summer hailstorms and the endless drone of the Eagles' "Hotel California."

Follow the explorers' adventures as they traverse northern Mongolia on roads that don't exist and traipse through infinite herds of goats and sheep without the help of navigational aids...all to find one of nature's most elusive fish.

This month's Science on Tap is presented by the Academy of Natural Sciences of Drexel University

Ages 21+ or accompanied by a chaperone 25 years or older. Free.

Tuesday, April 10, 2012 at 6:30PM at College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103, (215) 563-3737 x304

http://www.collphyphil.org/prog_calendar.htm

Viewing of I Remember Better When I Paint

Speakers:

Anjan Chatterjee, MD, FAAN, FCPP, Professor of Neurology, and a member of the Center for Cognitive Neuroscience, and the Center for Neuroscience and Society at the University of Pennsylvania

Berna G. Huebner, President, Chair and Founder of the Hilgos Foundation

Join us for a viewing of I Remember Better When I Paint (French Connection Films and the Hilgos Foundation), an exceptional internationally noted documentary highlighting the positive impacts of the creative arts on Alzheimer's patients. Following the film, there will be a discussion with Berna G. Huebner, one of the film's writers and directors, and Anjan Chatterjee, MD, FAAN, FCPP, Professor of Neurology, and a member of the Center for Cognitive Neuroscience, and the Center for Neuroscience and Society at the University of Pennsylvania. The evening promises to be a dynamic exploration of the intersection between the creative arts and medicine. The film is narrated by Hollywood legend Olivia de Havilland.

Free. To register: <http://better.eventbrite.com/>

Thursday, April 12, 2012 at 7:00 PM at Chestnut Hill College, Commonwealth Chateau (Bldg. 20), Sugar Loaf Campus, 9230 Germantown Avenue, Philadelphia, PA 19118.

Institute for Religion and Science <http://www.irands.org>

"Heaven and the Heavens,"

Edward Devinnay, Ph.D., Astronomer, Villanova University

Free and open to the public.

Friday, April 13, 2012 -- Delaware Valley MENSA General Membership is generally on the 2nd Friday of the month. Check the MENSA calendar at:

http://dvm.us.mensa.org/calendar.shtml#gm_meeting

Saturday, April 14, 2012

**Annual Grand Army Museum Preservation Dinner
Cannstatter Volksfest Verein**

9130 Academy Rd. Philadelphia, PA 19114 - (215) 332-0121

Cost: \$40 per person - \$75 per couple. Choice of Beef, Chicken, or Salmon 11am open for book browsing, and signings; 12 noon cocktails; 1pm luncheon

2pm presentation: "Lincoln and the Civil War" by noted historian: Matthew Pinsker

Presentation of the 'Grand Army Award' for preservation efforts; Fundraiser raffle of prints; door prizes; books; sutlers; entertainment; fun!

To reserve contact: garmuslib@verizon.net; or call: 215-289-6484

Deadline: April 2, 2012

Saturday, April 14, 2012, 9:30 AM to 2:30 PM at the 1696 Thomas Massey House, Lawrence Rd at Springhouse Rd, Broomall, Pennsylvania.

Historian Dr. Clarissa Dillon will lead a workshop in cooking and food processing crafts using tools of the Philadelphia Colonial era. A suckling calf stomach will be processed using a receipt from the 18th Century to create the rennet needed to set a curd (the first step in cheese making). The workshop will cost \$35. Registration is necessary. Call Dr. Dillon (not the Massey House) at (610) 642-4269.

Monday, April 16, 2012 at 7:00 PM at The Antoinette Iadarola Center for Science, Education and Technology Lecture Hall, Cabrini College, 610 King of Prussia Road, Radnor, PA 19087

Institute for Religion and Science <http://www.irands.org>

"Reflections on Fossils and Faith"

Peter Dodson, Ph.D., Dinosaur Paleontologist, University of Pennsylvania

Free and open to the public.

Tuesday, April 17, 2012 at 6:30PM at College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103, (215) 563-3737 x304

http://www.collphyphil.org/prog_calendar.htm

The Robert L. Sadoff, MD, FCPP Lecture: A Prosecutor Takes a Hard Look at Ethical Issues

Speaker: Honorable Lynne Abraham, partner in Archer & Greiner, PC

In this year's annual Sadoff Lecture, Lynne Abraham will discuss the ethical issues she believes are essential for prosecutors to embrace and practice. Ms. Abraham will call on her many years of service as both

Common Pleas Judge and District Attorney of Philadelphia to illustrate her concerns.

Sponsored by the College's Section on Medicine, Ethics, and the Law.

Free. To register: <http://sadoff.eventbrite.com/>

Wednesday, April 25, 2012 at 7:15 p.m. at Brittingham's Irish Pub and Restaurant, 640 East Germantown Pike, Lafayette Hill, Pennsylvania. (610)828-7351.

American Revolution Round Table of Philadelphia (ARRTOP)

<http://www.arrtop.com/>

Bill Ochester will appear as Dr. Benjamin Franklin.

<http://www.bfranklinprinter.com/>

A group of members and most of the ARRTOP Advisory Board will meet for dinner at 5:30 p.m. at Brittingham's and we share dinner with our guest speaker and you are cordially invited.

Meetings are free and open to the public.

Wednesday, April 25, 2012 from 6:30 PM to 8:00 PM at College of Physicians of Philadelphia, 19 South Twenty-Second Street, Philadelphia, PA 19103, (215) 563-3737 x304

http://www.collphyphil.org/prog_calendar.htm

"Boy of Bone: Twelve Stories Inspired by the Mütter Museum"

"This latest horn was Madame Sunday's third." So begins Boy of Bone, K.R. Sands' collection of stories, each inspired by one of the exhibits at the Mütter Museum of the College of Physicians of Philadelphia. In a remarkable feat of atmospheric storytelling, K.R. Sands imagines the lives of the people suffering the conditions now on display. Horns grow on the face and hands of a seamstress in 1835 Paris. The sister of a fallen Civil War soldier endeavors to honor him with a book bound in his skin. And in the haunting title story, a little boy in Philadelphia, afflicted with a rare genetic disease, waits years for death as his muscles slowly turn to bone. In imagining the lives of those now on exhibit at the Mütter, K.R. Sands has created thrilling, utterly original stories that get to the heart of what it means to be human, with all its complications: suffering, joy, love, sorrow, and ultimately, death.

Join us for an illustrated talk on this new book and the exhibits in the Mütter Museum that inspired it. Artwork featured in the talk will include that of nationally acclaimed artist Jon Lezinsky, whose original digital collages illustrate the book, which will be sold on site. After the talk, author K.R. Sands will sign copies of the book, and the Mütter Museum will be open for free admission. Sales of this book benefit The College of Physicians of Philadelphia.

Speaker: K.R. Sands, Author, Boy of Bone: Twelve Stories Inspired by the Mütter Museum

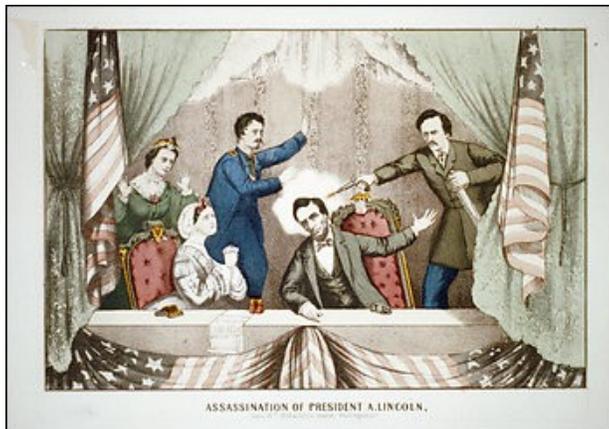
Free. To register: <http://boyofbone.eventbrite.co.uk>

Friday, April 27, 2012 at 6:00PM - 10:00PM 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

Murder at the Mütter™: President Lincoln Is Shot!

Join us for an interactive night of fun as we explore the forensics behind the assassination of President Abraham Lincoln! Following a live re-



enactment of the assassination, there will be a two-part investigation of the crime. In the first portion, guests will participate in the examination of the crime scene using forensic methods of the 1860s; in the second portion, guests will hear from a roster of contemporary forensic experts covering everything from ballistics, crime scene investigation, and blood analysis. The activities will be followed by a reception.

Sponsored by The College of Physicians of Philadelphia for the Philadelphia Science Festival. You must be 21 years-old or older to attend this event.

Admission fee. To register: <http://murderatmutter.eventbrite.com/>

PhACT Event

Saturday, April 28, 2012 - TBA

Note that this meeting is on the 4th Saturday of the month, not the usual 3rd Saturday.

April 28, 29, 2012

23rd Annual Neshaminy Civil War Reenactment (since 1990!)

'Spring 1862 Campaign: Kernstown & Winchester'

LIVING HISTORY & BATTLE REENACTMENT

NESHAMINY STATE PARK, BENSALEM, PENNSYLVANIA

Camps open 9AM - Battles at 2:00PM on Saturday and 1:30PM on Sunday

- Many authentic military and civilian reenactors are expected;
- Visit both Union and Confederate camps where troops will demonstrate military and camp scenes and discuss aspects of Civil War history
- See troops drilling, mounted cavalry, artillery
- Living history presentations, period music;
- Sutlers tent village selling period items, jewelry, crafts, military items, souvenirs etc.
- Food vendors plus picnic facilities
- Parking lots close to all of the action
- Fun and educational for every member of the family;
- Free Admission and Free Parking

Near Street Road Exit of I-95

FOR DIRECTIONS AND INFORMATION ABOUT THE PARK

<http://www.dcnr.state.pa.us/stateparks/parks/neshaminy.aspx>

Registration: www.neshaminyCWevent.org

Co-sponsored by: The 28th PA Regiment, the Army of Northern Virginia, The Historical Society of Bensalem Township, The Grand Army of the Republic Civil War Museum & Library, the Delaware Valley Civil War Round Table, Neshaminy State Park, and Waste Management, Inc. Information: call 610-291-0838 or e-mail: kcg28pvi@gmail.com

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/

Thursday, May 10, 2012 at 7:00 PM at The Barn, Pendle Hill Retreat & Conf. Ctr., Wallingford, PA
Institute for Religion and Science <http://www.irands.org>
"Heaven and the Heavens,"
 Edward Devinney, Ph.D., Astronomer, Villanova University
 Free and open to the public.

Saturday, May 12, 2012 at 12 Noon at Cedar Hill Cemetery, Philadelphia, PA.

Frankford Civil War Monument Graves Re-Dedication
The General Meade Society

Wednesday, May 16, 2012 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: "Snakes, Sex, Sushi, Saunas, and Spinach"

Speaker: Bennett Lorber, MD, FCPP, MACP, Thomas M. Durant
Professor of Medicine and Professor of Microbiology and Immunology at the Temple University School of Medicine; Chairman of the Board, The College of Physicians of Philadelphia

Although we don't often think about it, changes in society can have profound impacts on patterns of disease. In fact, our seemingly ordinary life choices can have harmful and lasting effects on the health of our communities. In this colorful, story-filled talk, Dr. Lorber uses real-life examples to show how travel, dietary patterns, use of leisure time, sexual behavior, medical progress, alternative medicine, the weather, and even politics can change patterns of infectious diseases.

Fee for lunch. To register: <http://lorber.eventbrite.com/>

PhACT Event

Saturday, May 19, 2012 - TBA

Sunday May 20, 2012 at 10:00 AM

Gravesite placement of veterans' flags at Laurel Hill Cemetery

Meet at the gatehouse of Laurel Hill Cemetery, 3822 Ridge Avenue, in Philadelphia {215-228-8200} at 10:00 AM. The group assembled will place US flags on the graves of veterans' of all wars. As time and manpower permit, the cemeteries to be covered include Laurel Hill, Mt. Moriah, Mt. Peace & St. James the Less. Refreshments and lunch provided. All welcome!

Wednesday, May 23, 2012 at 7:15 p.m. at Bringham's Irish Pub and Restaurant, 640 East Germantown Pike, Lafayette Hill, Pennsylvania. (610)828-7351.

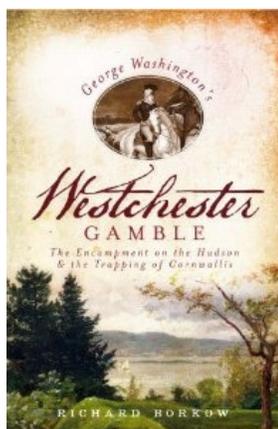
American Revolution Round Table of Philadelphia (ARRTOP)

<http://www.rrtop.com/>

Richard Borkow will speak on his book
George Washington's Westchester Gamble: The Encampment on the Hudson and the Trapping of Cornwallis

A group of members and most of the ARRTOP Advisory Board will meet for dinner at 5:30 p.m. at Brittingham's and we share dinner with our guest speaker and you are cordially invited.

Meetings are free and open to the public.



Saturday, May 26, 2012 at 9:00 AM to 3:00 PM at the John Heintz National Wildlife Refuge located near Philadelphia International Airport.
Weed Warrior Training Program. Learn about invasive species of plants and be part of a volunteer program to clear this NWR of those

plants. <http://www.friendsofheinzrefuge.org/weedwarriors/intro.html>.
 The refuge may be called at: 215-365-3118

Annual Memorial Day Observed at Historic Laurel Hill Cemetery, Philadelphia, PA. Sunday, May 27, 2012.

Recreating Original G.A.R. Decoration Day Service of 1868: The traditional Decoration Day service of the Grand Army Meade Post #1 will be recreated at Historic Laurel Hill Cemetery, 3822 Ridge Ave. Philadelphia on Sunday, May 27, 2012 at 12 noon. All are welcome to attend and participate in the ceremony.

Laurel Hill is the site of the first Memorial Day Observance in Philadelphia on this date in 1868.

Special bronze veterans' markers will be dedicated at the graves of veterans. Speakers, ceremonies and pageant will highlight this special ceremony. Afterwards the entourage will gather at the grave of General Meade, hero of Gettysburg to perform the traditional service to honor all veterans who fell defending the Nation. Wreath-laying, speeches, music and honor guards will enhance the ceremony.

Historical groups, veterans, and citizens are urged to participate. Wreaths, military contingents, color guards, music and period civilians are encouraged to participate.

Refreshments served after the ceremony. Tours of the historic cemetery available.

Co-sponsored by the General Meade Society of Philadelphia; Friends of Laurel Hill; American Legion Post #405; Post #1 Society, Union League; Anna M. Ross Camp #1, Sons of Union Veterans. For information, call: 215-228-8200

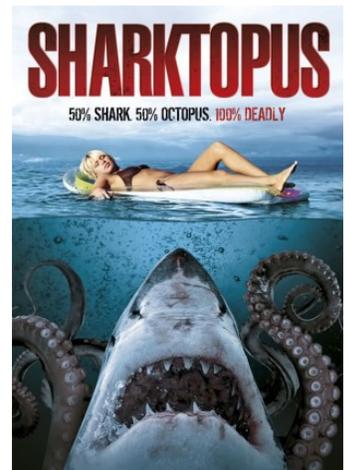
Thursday, May 31, 2012 from 6:30 PM to 10:00 PM at The Academy of Natural Sciences, 1900 Benjamin Franklin Parkway, Philadelphia, PA 19103.

Mega Bad Movie Night!!

Join us at the Academy after hours to watch this "awesomely awful" movie! The Academy's own experts will be on stage to comment on the many scientific absurdities--think Mystery Science Theater 3000! Sharktopus! Reception: 6:30* - 8pm *NEW earlier time! Grab some snacks and a beer, and then check out the many cool things on display at the Academy. We'll have some amazing shark and octopi specimens from our Ichthyology and Malacology collections.

Tickets are \$15 and should be reserved in advance.

For more information see www.ansp.org/environmental/



Wednesday, June 27, 2012 at 7:15 p.m. at Brittingham's Irish Pub and Restaurant, 640 East Germantown Pike, Lafayette Hill, Pennsylvania. (610)828-7351.

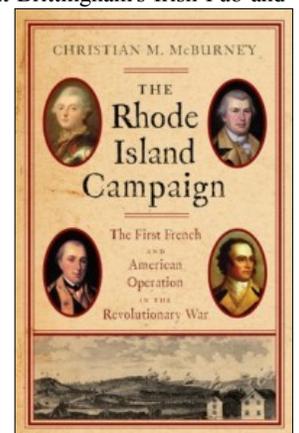
American Revolution Round Table of Philadelphia (ARRTOP)

<http://www.rrtop.com/>

Christian McBurney will speak on his book
The Rhode Island Campaign.

A group of members and most of the ARRTOP Advisory Board will meet for dinner at 5:30 p.m. at Brittingham's and we share dinner with our guest speaker and you are cordially invited.

Meetings are free and open to the public.



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

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

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

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

Mail checks to:
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Glenside, PA 19038

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Phone: _____ E_mail _____

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

PhACT's High School Science Fair Student Prize Funds

Prizes awarded in 2010	= \$ 300.00
Prizes awarded in 2011	= \$ 500.00
Total 2012 Prize Fund	= \$ 313.00

Please donate. Small contributions are preferred and donations in excess of the 2012 goal will be applied to the 2013 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. \$10 for students, email only. Donations are welcome.

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

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