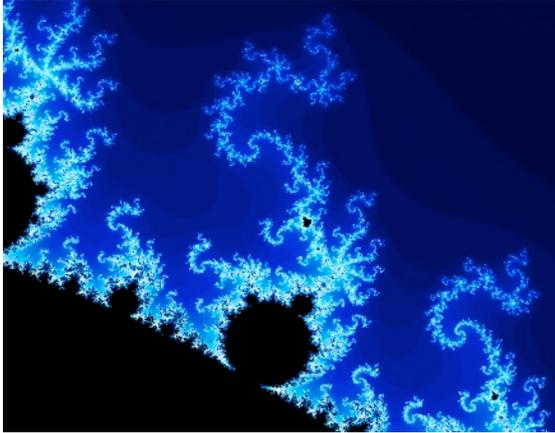




# I W C Newsletter

Concord House, 1407 Chapala St., Santa Barbara, CA 93101  
www.worldculture.org



*"The most incomprehensible thing about the world is that it is comprehensible."*

*Albert Einstein*

## The New Theory of Science

*Both programs at the Institute this month will call attention to recent scientific insights about the human brain and the material world. Included in the presentations will be questions about how much we can know through the methods of scientific research. We may expect scientists to offer us concrete facts and irrefutable theories designated as true. The following excerpt from Ernst Mayr's survey of biological research teaches us that such certainty is no longer a reasonable expectation of the results of scientific inquiry. More tentative propositions of statistically significant or probabilistic correlations are the accepted way of expressing the fruits of scientific research. We hope you can join in these two carefully prepared explorations into the science of "mind" and "matter".*

The Greeks always looked for rational explanations in the world of phenomena. The school of Hippocrates, for example, when trying to determine the cause of a disease, did not look for it in a divine influence but attributed it to natural causes such as climate or nutrition... The Greek philosophers, including Aristotle, were primarily rationalists. They thought — Empedocles being a typical example — that they could solve scientific problems simply by sharp reasoning, involving ordinarily what we would now call deduction. The undoubted success which these ancient physicians and philosophers had in their explanations led to an overrating of a purely rational approach, which reached its climax in Descartes. Even though he did some empirical research (dissections, for example), many statements of this philosopher read as though he had believed that everything could be solved simply by concentrated thinking...

*(Continued on page 3)*

*Photo credit (above): Mandelbrot set, Jim Loy's webpage.*

Theme for 2009: Expressions of Spiritual Striving

Aim 5: To deepen awareness of man's spiritual striving and its rich variety of expression in the religions, philosophies and literatures of humanity. —Declaration of Interdependence

## UPCOMING EVENTS

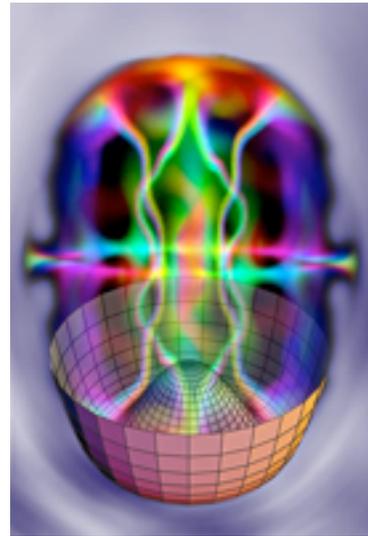


### **Neuroplasticity and the Possibilities of Brain/Mind Transformation**

**Forum: Saturday, November 7  
4:00 - 6:00**

**Concord House, 1407 Chapala St.  
Santa Barbara  
Speaker: Jonathan Colbert**

Join in this exploration of the new science of neuroplasticity and the possibilities for self-transformation indicated by research into the neural pathways, chemistry and DNA patterns in the human brain. Hear how mental disciplines such as meditation and psychological experience might "rewire" our brain. The forum will include a review of the provocative book by Sharon Begley, *Train Your Mind, Change Your Brain*.



### **Scientific Perspectives on the Fullness of the Seeming Void**

**Seminar: Saturday, November 21  
2:00-5:00**

**Concord House, 1407 Chapala St.  
Santa Barbara  
Speaker: Kim Miller**

This seminar will examine current scientific theories that delve into the nature of matter, the causes of the material world and the concept of "empty space". What is the significance of the theoretically-proposed Higgs particle as an integral and pervasive component of the material world? Do new technologies such as the Hadron Collider for the collection of experimental evidence confirm or negate the existence of the Higgs boson? Why are we seeing the controversial revival of old ideas such as ether?

*Photo Credit:* Visualization of vortices in a rotating Bose-Einstein condensate by the National Institute of Standards and Technology.

## New Theory of Science

Descartes endeavored to present only such conclusions and theories as had the certainty of a mathematical proof. Although there have always been some dissenters, the belief that a scientist had to supply absolute proof for all of his findings and theories prevailed until modern times. It dominated not only the physical sciences, where proof of the nature of a mathematical proof is often possible, but also the biological sciences. Even here, inferences are often so conclusive that they can be accepted as proof, as for instance the claim that the blood circulates or that a particular kind of caterpillar is the larval stage of a particular species of butterfly... So far I have referred to facts, and to prove whether or not an assertion corresponds to a fact can usually be done. In many cases, however, and perhaps in the majority of the conclusions of the biologists, it is impossible to supply proof of such certainty (Hume, 1738). How are we to 'prove' that natural selection is the directing agent guiding the evolution of organisms?

Eventually the physicists also realized that they

could not always give absolute proof (Lakatos, 1976), and the new theory of science no longer demands it. Instead, scientists are satisfied to consider as true either that which appears most probable on the basis of the available evidence, or that which is consistent with more, or more compelling, facts than competing hypotheses. Realizing the impossibility of supplying absolute proof for many scientific conclusions, the philosopher Karl Popper has proposed that falsifiability be made the test of their validity instead. The burden of the argument thus is shifted to the opponent of a scientific theory. Accordingly, that theory is accepted which has withstood successfully the greatest number and variety of attempts to refute it. Popper's claim also allows one rather neatly to delimit science from non-science: any claim which in principle cannot be falsified is outside the realm of science. Thus, the assertion that there are men on the Andromeda nebula is not a scientific hypothesis.

Falsification, however, is sometimes as difficult to provide as positive proof. It is therefore not considered the only measure for obtaining scientific acceptability. As the history of science demonstrates, when scientific theories were rejected, it was often not because they had

been clearly refuted but rather because an alternative new theory seemed more probable, simpler, or more elegant. Furthermore, rejected theories are often tenaciously adhered to by a minority of followers, in spite of a series of seemingly successful refutations.

The new theory of science, based on a probabilistic interpretation of scientific conclusions, makes it inappropriate to speak of truth or proof as something absolute.... It does not bother a scientist unduly that many of his generalizations are only probabilistic and that there is a remarkably high stochastic component in many, if not most, natural processes. Accepting great flexibility as one of the attributes of scientific theories, the scientist is willing to test numerous theories, to combine elements of different theories, and sometimes even to consider several alternate theories (multiple working hypotheses) simultaneously, while in search for evidence that would permit him to adopt one in preference to the others.

Ernst Mayr, *The Growth of Biological Thought: Diversity, Evolution, and Inheritance*, pp. 25-27, Harvard University Press, Cambridge, MA 1982

Contributed by Kim Miller

## In November

### Anniversaries

- 2nd George Boole, British mathematician, logician b. 1815  
 3rd Vilhjálmur Stefánsson, Icelandic explorer b. 1879  
 4th Will Rogers, Cherokee-American humorist, actor b. 1879  
 7th Marie Curie, Polish physicist, chemist, twice Nobel laureate, b. 1867  
 8th John D. Scotus, Irish theologian, philosopher d. 1308  
 8th Edmond Halley, English astronomer, mathematician, discoverer of Halley's Comet b. 1656  
 10th Martin Luther, German monk, theologian, reformer 1483  
 10th Johann Schiller, German poet, dramatist, philosopher 1759  
 11th Fyodor Dostoevsky, Russian novelist b. 1821  
 11th Maulana Abdul Kalam Azad, Muslim scholar, political activist, co-worker with Gandhi in the movement for Indian Independence b. 1888  
 12th Elizabeth Cady Stanton, American social activist b. 1815  
 12th August Rodin, French sculptor b. 1840  
 14th Charles Lyell, Scottish geologist b. 1797  
 14th Jawaharlal Nehru, Indian statesman, first Prime Minister of India b. 1889  
 15th William Herschel, German-born British astronomer b. 1738  
 17th Catherine the Great, Empress of Russia d. 1796  
 24th Benedict Spinoza, Dutch philosopher b. 1632  
 28th William Blake, English poet, painter, mystic 1757  
 28th Friedrich Engels, German social scientist, philosopher b. 1820  
 30th Mark Twain (Samuel Clemens), American humorist, author b. 1835  
 30th Jonathan Swift, Anglo-Irish author, cleric b. 1667

### Observances and Acknowledgements

- 1st All Saint's Day, a religious holiday honoring Christian saints  
 1st Michelangelo's Sistine Chapel paintings first exhibited to the public in 1512  
 1st/2nd (2009) Dia de los Muertos celebrated in Mexico, Spain, Brazil and other countries as a day for honoring the dead  
 4th Egyptian King Tutankhamen's tomb discovered 1922  
 8th French museum "Louvre" was opened to the public in 1793  
 8th X-rays discovered by Wilhelm Roentgen in 1895  
 10th Analytic geometry introduced by René Descartes in 1637

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## Annual Fundraising Drive Begins

Planning a new program for 2010 must be matched with the annual fundraising effort to support the Institute and its programs. The Board of Trustees estimates that we need to raise \$15,000 by December 15<sup>th</sup> to balance the books for this year and support next year's program. The Institute is supported solely by **voluntary** contributions. We want to keep our programs free and open to the public, but we have real world costs to cover such as insurance, maintenance and repairs for our beautiful building. Our program costs include some honorariums and travel expenses for presenters. We also need funds to expand our print publications and cover the copyright fees of proposed digital postings.

Please consider a [contribution](#). You can send your donation to the Treasurer, Institute of World Culture, 1407 Chapala Street, Santa Barbara, CA 93101. **All contributions and memberships received before December 15<sup>th</sup> will be tripled in value by a matching 2 to 1 grant offered by a friend of the Institute. In other words, for every dollar you give, the Institute will receive actually three dollars! Acknowledgement of your tax deductible gift will be sent to you promptly. We appreciate the generous contributions that have been placed in the donation box recently.**

Carolyn Dorrance  
 President, Institute of World Culture

## 2010 IWC Program

As we move towards the end of this year, we are actively planning the program for 2010.

All members and friends of the Institute are invited to join in imaginatively visualizing next year's program that promotes Aim # 3.

This aim seeks to "*Honour through appropriate observance the contributions of men and women of all ages to world culture.*"

Which men and women dedicated to the improvement of life and to the development of world culture would you recommend for study? What contribution to the IWC program would you like to make?

***It is not too late to share your ideas!!!*** Please make your suggestions for 2010 on the [form](#) that is available on the IWC Program page.

Please mail in your ideas to Carolyn Dorrance, Program Chair, 1407 Chapala St., Santa Barbara, CA. If you have any questions, please call 967-1055.

Thank you for your contributions.



### INSTITUTE OF WORLD CULTURE

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[information@worldculture.org](mailto:information@worldculture.org)

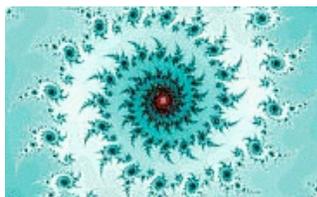
**Memberships:**  
[memberships@worldculture.org](mailto:memberships@worldculture.org)

**Website:**  
<http://www.worldculture.org/>

**PRISM Online**  
Community Calendar  
PRISM lists member-recommended community events of interest on the IWC website. Please e-mail suggestions to [donna@worldculture.org](mailto:donna@worldculture.org).

**eNewsletter**  
To contribute to the IWC eNewsletter, or to be removed from the list, please contact [gerry@worldculture.org](mailto:gerry@worldculture.org).

**Volunteer Efforts**  
The Institute offers its programs by means of voluntary efforts in time, money and work. To find out more, please contact [carolyn@worldculture.org](mailto:carolyn@worldculture.org).



### ***Looking Ahead*** ***"Spiritual Expressions*** ***in Art"***

**Seminar and Slide  
Presentation**  
**Saturday, Dec. 5, 2009**  
**2:00 – 5:00 pm**  
**Concord House,**  
**1407 Chapala Street, Santa**  
**Barbara**  
**Speaker: Joyce Johnson**

### **In November**

- 16th International Day of Tolerance first declared by UNESCO in 1995
- 17th 14th Dalai Lama enthroned in 1950 at age 15 as Tibet's head of state
- 17th Suez Canal opened in 1869 connecting the Mediterranean and the Red Sea allowing direct water transportation between Europe and Asia.
- 19th Gettysburg Address delivered in 1863 by Abraham Lincoln, the 16th U.S. President
- 20th Universal Childrens' Day first adopted by the U.N. General Assembly in 1954
- 24th Charles Darwin's On the Origin of Species published in 1859
- 25th (2009) The Hajj, annual pilgrimage to Mecca, the largest annual pilgrimage in the world and the fifth pillar of Islam
- 27th Thanksgiving Day celebrated in the U.S.
- 28th Royal Society first met in London, England in 1660